

Book Review

Book Review: Mertens, E. *Resilient City Landscape Architecture for Climate Change*; Birkhäuser: Basel, Switzerland, 2022; ISBN: 978-3035622348

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Today, a majority of the global populace resides in urban areas and requires healthy surroundings to prosper and fulfill their potential. Landscape architects, who are skilled at designing, constructing, and maintaining outdoor spaces, play a vital role in this context. Their expertise is particularly crucial when it comes to addressing the ever more demanding and significant planning and designing challenges that cities face, particularly during the era of climate change.

Elke Mertens, a professor of landscape architecture at Neubrandenburg University of Applied Sciences in Germany, recently authored a book titled “Resilient City Landscape Architecture for Climate Change”. The book examines eleven cities across North and South America and showcases landscape architecture projects that these cities have undertaken to prepare for climate change and mitigate its impacts. The author visited each city in 2018 and 2019, documenting various landscape architecture projects and other climate initiatives. She also interviewed multiple landscape architects, city officials, and research institutions to gain a deeper understanding of the efforts being made to address climate change in these cities.

The book is structured into three sections, with the initial part focusing on the theoretical basis of resiliency in urban development and the significant role played by landscape architects in improving urban resilience.

The second part of the book is the main focus and consists of 11 chapters, each of which highlights a specific city in North or South America, such as Toronto, Vancouver, New York City, Detroit, Houston, Bogota, Medellin, Rio de Janeiro, Manaus, Brasilia, and Montevideo. The author describes the efforts being made by these cities to address the challenges posed by climate change, with a particular focus on protecting their inhabitants and urban infrastructure. Through detailed accounts of each city’s climate change adaptation plans and strategies, the author highlights how they are working to reduce greenhouse gas emissions and enhance their resilience to extreme weather events.

The second section of the book provides examples of innovative approaches to urban adaptation in North and South American cities. The projects and research discussed in this section showcase diverse and pioneering ways of improving urban resilience through the use of green infrastructure, in anticipation of the foreseeable consequences of climate change. The projects described include the use of air-conditioning, which has led to a significant increase in energy consumption; buildings elevated on stilts to cope with rising sea levels; and the humidification of outdoor spaces to maintain a healthy and comfortable living environment.

The author uses various case studies to illustrate the multiple benefits of vegetation in improving urban resilience to climate change. However, only a small number of the climate change adaptation plans featured in the book explicitly recognize the advantages of green infrastructure or advocate for functional green planning. Additionally, only a few cities, such as Toronto, Vancouver, and Medellín, emphasize the significance of public



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green spaces and provide specific details regarding planting boxes, appropriate substrate for street trees, and maintenance requirements based on tree species and age.

Climate change also puts additional stress on the existing trees by introducing new pests and diseases, affecting humidity levels and water availability, which can affect the health of trees. It is important for the relevant authorities to have adequate financial resources to plan for and maintain existing trees and plant new ones. The author cites examples such as Toronto's Complete Streets, Vancouver's Stanley Park, and the Rain Gardens in New York City and Montevideo as good examples of how to respond to these challenges.

The book showcases various instances of green infrastructure that not only accumulate water but also offer regulated drainage. These examples comprise Hunter's Point South Park in New York City, Campus Martius Plaza in Detroit, Buffalo Bayou Park in Houston, Parque 93 in Bogotá, Green Corridor and Parque del Río in Medellín, and the central green areas and residential parks in Brazilian cities. In addition, the book features Porto Maravilha region and Corredor Verde Recreio in Rio de Janeiro as well as the urban parks in Montevideo, albeit to a lesser extent.

In this part of the book, the author provides detailed information about various landscape architecture projects. For instance, Hunter's Point South Park and Governors Island in New York City are presented as examples of well-designed and built parks that proactively address the impacts of climate change. The author explains that these parks have been constructed in a way that takes into account predicted sea level rises and saltwater flooding, with critical areas and vegetation placed above the flood line. The parks can handle floodwater influx and manage runoff without damage, while still accommodating a range of uses. Consequently, both parks have become popular attractions for visitors.

The book not only focuses on the physical aspects of climate change but also the social and cultural dimensions of resilience. The author emphasizes the importance of involving the urban population in making cities more resilient. To this end, the book highlights academic institutions and research initiatives such as the CALP research group at the University of British Columbia, which have developed citizen-centered media such as the Future Delta video game and Citizen's Toolkit for climate-smart action at the neighborhood level. The book also describes examples of where people can directly engage with the issue, such as the rain gardens of Levy Park and Midtown Park in Houston or the water features of the Parque de los Deseos in Medellín, which help educate children about the importance of water.

Elke Mertens explores how roadways can be transformed into green spaces that encourage climate-friendly mobility, such as cycling, rollerblading, and skating. Roadside greenery, including trees, rain gardens, and rainwater harvesting facilities, can transform simple roadways into streetscapes that reduce the impacts of climate change and still serve as urban connectors. By improving the quality of these spaces, they can be turned into local places for people to meet in their neighborhoods or in the city. There are many examples of such opportunities for climate-friendly enrichment of streetscapes, such as Toronto's Complete Streets and Green Streets initiatives, Times Square in New York City, the Ciclovía in Bogotá, Parklets in Montevideo, and Medellín's rail-based public transit network and system of cable cars.

The book concludes with a lengthy conclusion section that is largely supported by online sources and references. In this final section, the author makes a final argument for the importance of landscape architecture in enhancing urban resilience against the challenges of climate change.

In conclusion, the book provides 300 colored illustrations that showcase projects and lessons that can be used as models for other cities. The presented approaches and plans demonstrate new landscape architecture that can make a significant contribution to climate adaptation. It highlights the factors that should be taken into account when designing and developing climate-resilient open spaces. The collaboration with other disciplines is of particular importance, and landscape architects can take the lead in this aspect.

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