

Edited Book

Sustainable Development Solutions for the Built Environment–Emerging Knowledge Systems

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Preface

The man-made environment is at a pivotal juncture. Our cities and human settlements are put under unprecedented pressure as the world becomes 'more urban' expected to reach nearly 70% by 2050. This will require innovative, sustainable and socially cohesive solutions. The rapid growth of cities, along with climate change, resource scarcity, and rising social inequality, is challenging our communities. Tackling these issues requires not just technical skills, but a transformation in our education, planning, design and construction of the built environment.

Sustainable Development Solutions for the Built Environment-Emerging Knowledge Systems brings together a diverse collection of scholarly contributions that explore the intersection of education, planning, technology, and social responsibility within the context of sustainable development. The current volume is anchored on the principles of the United Nations Sustainable Development Goals (SDGs) SDG 4 (Quality Education), SDG 9 (Industry Innovation and Infrastructure); Goal 11: Sustainable cities and communities); Goal 5 (Gender Equality). The chapters in our theoretical and practical insights for advancing sustainability of the built environment through interdisciplinary inquiry and context-sensitive analysis

Three key elements organized in the book. The first theme is, Technology and Education looks at how with the help of new digital tools, design thinking, experiential learning, critical pedagogy education for the disciplines of built environment can be transformed. The purpose of this module is to examine the application in teaching and practice of AI, Building Information Modelling and the like. All this to produce creative and ethically minded professionals that are technically competent to deal with sophisticated sustainability issues.

The second theme, Urban Ecology, focuses on the interaction of the urban systems with their environment. The contributions in this section address urgent themes related to climate change adaptation, sustainable mobility, urban governance, and the right to the city. By focusing on equity, inclusivity and ecological resilience, these chapters offer insights into sustainable cities and human settlements that are also just and livable for all.

The third one is technologies in the built environment, which refers to constructions, materials, and infrastructure used as enablers of construction. The chapters within this section demonstrate that technological advancement can help develop built environments that are resilient, resource-efficient, and equitable. They touch on a wide range of topics, including sustainable construction principles, life-cycle assessment, 3D printing, nanotechnology, and blockchain technology.

The contributions feature local perspectives on global questions using case studies from Kenya, Nigeria, and other developing contexts. The commitment of the their work is to decolonize knowledge production, centre community voices, and amplify solutions that are culturally relevant, contextually appropriate, and socially transformative.

We offer our sincere thanks to the authors for their academic rigour on sustainable development goal and sustainability ambassador programme implementation. We also appreciate the editorial and publishing team for their great support throughout. We hope that this volume will be of assistance to educators, students, researchers, practitioners, and policymakers working towards a more sustainable and equitable built environment for generations to come.

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