

# Resilience of Informal Areas in Megacities – Magnitude, Challenges, and Policies

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# Resilience of Informal Areas in Megacities – Magnitude, Challenges, and Policies

Strategic Environmental Assessment  
and Upgrading Guidelines to Attain  
Sustainable Development Goals

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# Preface

It all starts with a question! Is the world turning progressively to be predominantly urbanized? Are megacities resilient to withstand the devastating impact of global climate change and horrible severity of the Coronavirus (COVID-19) that hit the world since the end of year 2019 till the moment? The ongoing SARS-CoV-2 pandemic coupled with climate change are having confounded impacts on all nations, communities, cities, and sectors, especially on densely populated informal urban areas that lack appropriate infrastructure and basic needs! For instance, the confinement and lockdown measures imposed by all governments globally, especially in Brazil and India (among the top five hit countries as per fourth August 2021), left approximately 60 million workers without jobs and money. Informal settlements and urban slums are growing fast worldwide despite governments, local authorities, and international institutions' efforts to curb their expansion. These slums form about 30 percent of the world's urban population (1033 billion dwellers); thus, causing major challenges to local governments.

With the number of people living in slums in the developing countries reaching 60 percent of its urban population, mainly in Southeast Asia and sub-Saharan Africa, these slums are very vulnerable to climate change and variability—due to multiple factors, existing stress, and low adaptive capacity and measures in addition to COVID-19 impacts. Not only that but also climate change is heavily affecting informal areas economically, socially, and geographically (migration). We all witnessed the severe impacts of climate change in recent years and notably in July 2021, mainly the devastating floods in Germany (with a total destruction cost of 5 billion € alone), Belgium, the Netherlands as well as in China and India, in addition to the forest fires in Cyprus, Italy, and Lebanon as well as Greece and Turkey. Hence, it is inevitable and climate change is impacting the global economy, communities, and cities in many sectors; nevertheless, we are also so alarmed by the scale of urban slums in megacities amidst COVID-19, global economic slowdown, and climate change risks.

Currently, the prime concern is how to mitigate the severity of the pandemic, climate change, and attain sustainable development goals (SDGs) through goal 3—Good Health and Well-Being and goal 11—Sustainable Cities and Communities, which governments' efforts globally have been hindered by COVID-19 crises.

Therefore, the authors intended to write this book due to the importance of the topic globally and one of the prime issues tackled by leading international institutions like the United Nations, the World Bank, OCED, and ICLEI—Local Governments for Sustainability as well as the International Institute for Sustainable Development (IISD) in Canada, C40 Cities Climate Leadership Group, etc.

In writing this book, the authors thought that the topic of the book is of a prime importance globally at the moment, especially with reference to urban slums upgrading after the UN-Habitat New Urban Agenda and amidst cities race to resilience campaign launched to mobilize action ahead of COP 26 in the UK. Thus, we wrote this book to focus mainly on informal urban areas or settlements and slums in megacities worldwide to understand the metaphor and diagnoses of their sprawl, causes, and current situation as well as the issues concerning global informal settlements (slums) and slum dwellers, the information needed to comprehend the upgrading process in a sustainable way, yet deduce the current gap in the process. We also analyze the exact variables of informal settlements and slums as well as the importance of the participatory approach in slums' upgrading (GIZ and Sir Norman Foster Models), embracing urban clearance as a strategy for urban slums upgrading to deduce solutions for slums' challenges. Additionally, we highlight the interwoven connection between urban slums and sustainable development goals (SDGs) focusing on the importance of sustainable development indicators (SDI) in upgrading process as well as urban development and informal settlements and slums amidst COVID-19, and the impact of climate change on urban slums.

One of the challenges deduced from the literature in this book is that the topic occupies a large scale; therefore, we dived in to read intensely in the literature, research deeply to address such a topic briefly, coherently, and holistically. This was a time-consuming task, plus COVID-19 pandemic lockdowns have delayed the process of writing this book, but the authors managed to overcome such challenges. Another defy is that Africa and Asia are home to the majority of informal settlements and slums globally, where slum dwellers estimated at more than 900 million persons live under the absence of basic services and insufficient infrastructure. This has also triggered the authors to write this book. Additionally, the current upgrading policies and mechanisms need to address the Strategic Environmental Assessment—SEA, as a tool, integrate it in the process with SDGs, specifically; goal 1—No Poverty, goal 2—Zero Hunger, goal 6—Clean Water and Sanitation, goal 10—Reduce Inequalities, and goal 11—Sustainable Cities and Communities.

This book concentrates on informal urban areas or settlements and slums in megacities and how resilient they are, particularly the sustainability of the upgrading process worldwide and in Egypt. The aim is to scale up infrastructure to be resilient in order to withstand the severe impacts of climate change as well as natural disasters in slums, in addition to the effects of the COVID-19 crisis in many large slums worldwide like India, Brazil, and Sub-Saharan Africa.

The book portrays a comprehensive overview, innovative approaches, and sustainable solutions to assist the reader in facilitating and comprehending the content, which is structured into two main parts. The first part presents some of the key issues related to informal settlements and slums around the globe, mainly in urban

areas and their infrastructure to identify sprawl factors, slums' challenges, and highlights upgrading processes, while emphasizing on policies and governance role towards achieving slums' resilience. Also, part I covers the exact variables of informal settlements (slums) and presents global case studies of upgrading urban slums areas. While the second part highlights the importance of sustainable development principles (SDP) for upgrading informal urban areas. Large segments of this part are devoted to understanding the most affecting factors that deal with informal settlements and slums, and how societies face such phenomena and the ordeal of poor living conditions; yet it presents the various values of urban slums areas, which could be of economic, social, and cultural values in some particular urban areas. In addition, the work by example approach is also depicted in part II to present the effort pursued in Egypt to eradicate dangerous and fragile urban slums as part of the national upgrading projects in addition to other approaches concerning the adaptive measures in Kibera slum in Kenya and the case study of Maspero Triangle in Cairo.

With contributions from the lead author; an international and national expert who has more than 30 years of experience in higher education, government, senior management, and consultancy in strategy and policy related to sustainable urban development, sustainable energy policies, and climate change mitigation and adaptation; this book portrays an important and indispensable knowledge resource on the topic of *The Resilience of Informal Areas or Settlement and Slums in Megacities—Magnitude, Challenges, and Policies*.

Authors strongly believe that the book will be a valuable source to governments, policy-makers, professionals, and research centers, libraries, and academicians as well as researchers and students who are interested in this field in addition to industry stakeholders involved in the upgrading process of the informal settlements and slums coupled with climate change adaptation amidst the coronavirus (COVID-19) pandemic and global crises.

You are most welcome to contact the lead author through e-mail address: [maboulnaga@eng.cu.edu.eg](mailto:maboulnaga@eng.cu.edu.eg) to share your thoughts and comments, while you are reading this book or afterward. I assure you to get back to you in a speedy manner.

Cairo, Egypt

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