INTRODUCTION

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Surging population numbers and the resulting emergence of megacities represent a new phenomenon of the 21st century, occurring on a rapidly growing scale. It brings both numerous challenges and opportunities to the economic development of nations and world development at large, ones which have yet to be fully explored.

Megacities, that is, cities which encompass over 10 million inhabitants — and which may in some cases contribute more than one-third of the domestic product of the countries where they are situated — are becoming unique entities in their own right, challenging the developmental policies, governance, and cohesion of states. Their distinct character very much depends on the region where they are located, the advancement of the economies they are part of, and the role they play as an agglomeration. The differing speeds of their expansion and differing maturity of the urbanization processes they are part of mean that they face different challenges in their development and governance, ranging from the economy, labour market, housing, urban infrastructure, and connectivity, to their energy supply, security, the scope of poverty, environment, society, and public sphere, etc. On the other hand, the surge in population numbers in the megacities will also bring certain new opportunities for fostering innovation and also improving education and public services — especially in

Africa and Asia, where such objectives might be easier to achieve with greater concentration. The scale of intensification in the challenges, opportunities, or even threats related to the emergence and rise of megacities here depends on the conditions in which these agglomerations have been formed or are forming, especially in terms of the dividing line that runs, with a certain simplification, between the developed and developing worlds. Crucial importance should be attributed here to governments and the determination they show in understanding particular threats arising from the rise of megacities and finding the ways to mitigate them and in exploiting the chances resulting from the unprecedented demographic potential. Nevertheless, various megacities, be they mature ones — like Tokyo, the North American megacities, or the European cases — or emerging ones, can provide lessons for governance in numerous countries where they are currently growing, shedding light on the issues they may face in the future and thus offering a chance to alleviate or leapfrog them. Accordingly, the complexity of megacities requires a broader approach in order to comprehensively grasp examples of best practices in governance as employed by countries in different regions and at different levels of economic development.

This volume thus takes a multidisciplinary and interdisciplinary approach to the subject of megacities, gathering together insights from scholars, researchers, and practitioners on the growing megacity phenomenon. It examines both the major new challenges that the expansion of megacities brings for development at large and the opportunities they might create for the public good. As such, the book fits into a broader discussion on the ongoing transformation of the world economy, in which megacities are becoming important players. Consequently, the views presented in the book vary from conceptual deliberations on the phenomenon, highlighting its complexity, to examinations of certain challenges megacities pose to societies, the environment, the economy and different levels of government, to analyses identifying particular opportunities and proposing certain solutions, and to case studies highlighting lessons learned and best practices. This comprehensive approach, it is hoped, will help provide a more global perspective on megacities, taking into account both the similarities and the differences between megacities around the world.

The book is structured in four interconnected parts. The first part serves as an introductory and conceptual background, highlighting *The Complexity of and Challenges in the Emergence of Megacities*. It opens with an empirical analysis by Jerzy Kleer and Katarzyna A. Nawrot on the demographic changes in the world economy, especially as pertains to urban growth and the rise of megacities, while setting the background for an introduction to an integral theory of megacities. That is followed by a theoretical study by Jerzy Kleer on the degradation of the public sphere in megacities, and by a conceptual and theoretical discussion of the developmental processes in metropolises and megacities offered by Piotr Korcelli and Ewa Korcelli-Olejniczak. The issues undertaken further range from the problems of governance and challenges faced by public authorities of megacities, explored by Tadeusz Markowski, and different patterns of megacities' development, presented by Zygmunt Ziobrowski. The section further examines the challenges and threats the emergence of megacities brings for economies, the environment, and societies in a detailed analysis by Konrad Prandecki, Wojciech Kazanecki, and Sylawia Śmietanko and then continues with the topic of air pollution in megacities and its consequences for human health, considered by Agata Penconek, followed by a philosophical discussion on the impact of megacities on human nature by Maria Szyszkowska. The different aspects tackled in this section of the volume are interconnected and are observed — *albeit* to differing degrees — irrespective of the regional or national context, and thus highlight crucial aspects in the development of megacities.

The second part of the volume aims to confront certain *Opportunities in the Development of Megacities* from various regional, national, and multidisciplinary perspectives. Feng Wenmeng presents the Chinese perspective with its distinctive characteristics of urbanization in one of the fastest and largest emerging market economies, indeed the one with the largest number of existing and projected megacities. The Indian context is further examined by Gaurang Rami and Yogesh Vansiya. This is followed by an African perspective presented by Katarzyna A. Nawrot, Calestous Juma, and James Donald, arguing that despite the rising challenges that emerging megacities in developing countries face, they have a chance to alleviate them by repositioning a megacity towards innovation ecosystem. Jessen Page, in turn, investigates the issue of energy in megacities and the

possibilities for the successful transition of a megacity towards a Smart City. What future lies ahead for megacities in Europe is discussed lastly in this part by Jerzy Kleer and Katarzyna A. Nawrot.

The third part of the volume serves as a diverse set of selected megacity *Case Studies*. They examine Tokyo — the biggest megacity to date, with depopulation problems faced by Japan, and Delhi — a rapidly growing megacity in one of the most populous developing countries, presented in comparative analysis by Katarzyna A. Nawrot; Shanghai as an example of a megacity with Chinese characteristics and the world's first megalopolis, explored by Bogdan Górlaczyk; Mexico City analyzed from the perspective of sustainable development by Urszula Żuławska and Elżbieta Żuławska-Sobczyk; Dhaka — a fast-growing South Asian megacity examined by Adnan Morshed; Lagos, serving as a case from Africa, presented by Malwina Bakalarska, and New York as an American example and a city of progress, argued by Bohdan Szklarski and Piotr Szyja. The cross-country analysis aims to grasp the various challenges faced by megacities in countries of differing levels of development and urbanization, while referring to the problems and issues undertaken in the first two parts of the volume, thus providing implications and lessons learned for the best practices in megacities development and governance.

The fourth part of the book — the *Epilogue* by Jerzy Kleer and Katarzyna A. Nawrot — gives the final conclusions to the volume.

This book originated from the Committee of Future Studies “Poland 2000 Plus”, Polish Academy of Sciences. While undertaking the project “Global Threats as Barriers to Development” in collaboration with Poland's National Security Bureau and under the patronage of the President of the Republic of Poland, the Committee recognized the developmental problems of the largest cities as being among the most important and therefore deserving of separate attention. The Committee thus concluded that in the context of global threats and challenges, special attention needs to be paid to the dynamic development of urban areas, especially the problems that are engendered by the rise of “megacities” in the world economy. Consequently, the Committee has devoted a great deal of attention to the problem of megacities, followed by a conference in November 2014 and the first edited volume entitled *Megamiasta przyszłości — Szansa czy zagrożenie rozwoju* [Megacities

of the future: Chances or threats to development] published in Polish in 2015. The importance and dynamics of the megacity phenomenon encouraged the researchers from the Committee to reach out to a growing community of researchers working on megacity issues, and the present volume represents the ultimate result, including some original, revised contributions from the above Polish volume, supplemented by contributions of international experts in the field, for which the editors would like to express their gratitude.

All in all, the contributions in the book touch upon many of the problems that humanity faces in the future, given that continued urbanization is a foregone conclusion. Urban centres continue to attract people in search of work and better living conditions, and the largest cities are also growing dynamically through their own natural population growth, especially in developing countries. Cities are becoming global cities, and through their development of their surrounding regions they are also giving rise to megaregions, which will form a global network of megaregions.

The ongoing rise of megacities leaves us without a doubt that they, as well as their connectivity and networks of interdependencies, will play a growing role in the contemporary world economy. Thus, the phenomenon requires in-depth studies of multidisciplinary and interdisciplinary character, attempting to capture its complexity while yielding better understanding of the challenges and opportunities they might bring for the world community. It is to this more in-depth understanding that the various chapters of this volume aim to contribute.

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