Chapter 76
Technology and the Urban Future in Developing Countries:
The Case of Africa

Antar A. AbouKorin
University of Dammam, Saudi Arabia

ABSTRACT

During the last century, population growth and rapid urbanization have been phenomenal in the developing world. Such rapid urbanization has created many urban problems on both local and regional levels. Technology has been a driving force for rapid urbanization in developed and developing countries. The main argument of this Chapter is that technology can be the answer to most of the urban problems associated with rapid urbanization in developing countries. In tackling this issue, a qualitative analysis of the literature review about technology and urban change, and a quantitative analysis of urban change patterns and challenges in Africa, as a group sample of the developing world, have been conducted. Then, the research recommends "Urban Decentralization" as a technology-enabled policy necessary for managing the urban future in developing countries. The research recommends "rural urbanization" and "small-size settlements' as necessary approaches for the efficient implementation of the proposed "Urban Decentralization" policy.

1. INTRODUCTION

The unprecedented population growth in developing countries during the last century has resulted in a rapid and massive urbanization in these countries. The other unprecedented change experienced in developing countries during that century is the spreading use of technology. The main argument of this Chapter is that technology is the main cause of rapid urbanization in developing countries, and that technology could be the main answer to rapid urbanization problems in these countries.

Thus, the main purpose of this chapter is to investigate the role of technology in shaping the urban future in developing countries and to define how technology could be utilized in solving future urban problems in these countries. In reaching these objectives, the chapter has been divided into three parts. Part One presents a qualitative inductive review of literature investigating the relationship between technology and urban change; then, it tries to provide a convincing answer to a reasonable question: is it rational to speak about technology impacts in developing countries?! In answering this question, this research presents a quantitative investigation of pace and scale of technology transfer and the diffusion of technology use in developing countries. Part Two presents a quantitative deductive investigation of urban change patterns and challenges in Africa, as a group sample of the developing countries. It starts by a quantitative analysis of urbanization trends in developing countries. Then, it presents a thorough quantitative examination of urbanization patterns and challenges in Africa.

In Part Three, the Chapter recommends "Urban Decentralization" as a technology-enabled policy effective in managing the urban future in developing countries. The research presented a qualitative review of literature about the advantages of "Urban Decentralization" for the developing countries and the expected role of future technological achievements in facilitating the adoption of such policy. In a further step to examine the role of future technology achievements in facilitating the application of "Urban Decentralization" policy in developing countries, the research presents the results of a forecasting survey of technology and urban development experts' opinions and expectation. The research also recommends "Rural Urbanization" and "Small-Size Settlements" as necessary approaches for implementing the proposed "Urban Decentralization" policy.

2. TECHNOLOGY AND URBAN CHANGE IN DEVELOPING COUNTRIES

This part aims to provide the theoretical underpinnings of the relationship between technology and urban change and how technology affects urbanization. In reaching its objective, this part starts by defining the main technology forces affecting urbanization and their direct urban impacts, and the role of globalization in this process. Then, it provides an analysis of how technology affects urban change patterns, regarding size and the spatial configurations of urban systems. Finally, and to validate the rationality of technology urban impacts argument in developing countries, it presents an investigation of technology transfer and diffusion of technology use in these countries.

According to UNDP 2001 report "Making New Technologies Work for Human Development", technology is seen to affect urbanization in three possible ways:

1. Through changing the social behavior and nature of human needs and aspirations, which in turn affect pattern of urban change,
2. Through improving the prevailing economic conditions, which in turn affects the pace and scale of urban change, and
3. Through introducing and improving many technological forces; mainly transportation, telecommunications, energy and urban utilities which yield direct physical urban changes (Figure 1).

28 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/technology-and-the-urban-future-in-developing-countries/206076

Related Content

Synchronicity and Group Ability to Autonomously Cluster Brainstorming Ideas
Joel H. Helquist, John Krusand Jay F. Nunamaker Jr. (2009). *International Journal of e-Collaboration (pp. 67-81).*
www.irma-international.org/article/synchronicity-group-ability-autonomously-cluster/37535

Social Media Marketing: Web X.0 of Opportunities
Lemi Baruh (2010). *Handbook of Research on Social Interaction Technologies and Collaboration Software: Concepts and Trends (pp. 33-44).*
www.irma-international.org/chapter/social-media-marketing/36016

Examining and Visualizing the Effects of Pedagogical Agents on Learning Outcomes
Lingling Louand Song Yang (2024). *International Journal of e-Collaboration (pp. 1-20).*
www.irma-international.org/article/examining-and-visualizing-the-effects-of-pedagogical-agents-on-learning-outcomes/343540

Interpretation Issues in Monitoring and Analyzing Group Interactions in Asynchronous Discussions
Tharrenos Bratitsisand Angelique Dimitracopoulou (2008). *International Journal of e-Collaboration (pp. 20-40).*
www.irma-international.org/article/interpretation-issues-monitoring-analyzing-group/1969

A Qualitative Study of Web-Based Knowledge Communities: Examining Success Factors
Hui Lin, Weiguo Fanand Zhongju Zhang (2009). *International Journal of e-Collaboration (pp. 39-57).*
www.irma-international.org/article/qualitative-study-web-based-knowledge/3933