

## Chapter 5

# Applications of Crowdsourcing in Sustainable Urban Development Planning in Developing Countries

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### ABSTRACT

*To efficiently manage growth and changes arising from rapidly increasing population and urbanization trends, developing countries need to employ appropriate tools to analyze the key issues involved. Globally, crowdsourcing is increasingly being applied to facilitate sustainable urban development (SUD) planning process. Crowdsourcing has already proved capable of generating new models for urban planning and governance that source and mobilize diverse social actors working toward sustainable and innovation-oriented urban space. However, few studies have explored crowdsourcing applications in SUD planning in developing countries. Therefore, based on desktop study, this chapter examines applications of crowdsourcing in SUD planning in developing countries. The chapter reviews the conceptual and historical foundation of crowdsourcing, and highlights some exemplary applications of crowdsourcing in SUD planning worldwide. It then discusses the challenges and potentials of crowdsourcing as a tool in planning for SUD in developing countries and concludes with future research directions.*

### 1. INTRODUCTION

Urban areas around the world are growing at a rate never experienced before. The most important driving force behind urban growth is population increase. Over the past three decades, the number of urban residents in the developing countries has more than doubled (Soltész, 2010). The UN projected that by 2030 Asia and Africa alone would be home to additional 2.5 billion urban dwellers or about 90% of global urban population growth, and that 37% of the increase in global urban population by 2050 is expected to happen in China, India and Nigeria alone (UN, 2015). High birth rates, explosive rural-urban migration,

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extreme poverty, high unemployment rates, social exclusion and inequality, increasing crime, inadequate social services, dilapidated infrastructure, and unfavorable business climates are the characteristics of urbanization in several developing countries (Abubakar & Dano, 2018). Developing countries are nations with lower living standard, human development index and degree of industrialization compared to the developed countries. In many of these countries, cities suffer from widespread environmental deterioration, including water and air pollution and soil contamination, and health conditions are often far below decent standards (Abubakar, 2011; Soltész, 2010).

Nonetheless, cities are the global economic avenues for production, innovation and trade, and they will continue to substantially influence the economic, sociocultural, and environmental sustainability of our societies (Abubakar et al., 2016; Stratigea et al., 2015). Urbanization can only be sustainable in developing countries if there is the political will to empower residents to solve their own problems in partnership with local authorities and to actively participate in decision-making processes affecting their lives (Abubakar & Aina, 2016; Benna & Garba, 2016). In the twenty-first century, if cities are not only to survive and prosper but also to be lively and inclusive they must undergo a major transformation, which cannot be effectively achieved without innovative tools and commitments. This requires finding ideas and answers to urban problems from stakeholders that are outside the boundaries of planning agencies (Seltzer and Mahmoudi, 2012). One of the innovative tools that is progressively being applied in planning for sustainable urban development (SUD) throughout the world is crowdsourcing (Certoma et al., 2015; Mirbabaie et al., 2016; Misra et al., 2014).

Crowdsourcing as one of the major techniques for open innovation involves handing out a challenge or a problem to a sizeable and diverse group of people, hoping to arrive at novel solutions more robust than those found within an agency or organization (Brabham, 2009; Howe, 2006). Through crowdsourcing, citizens can contribute in SUD process in several ways. Many planning objectives and tasks can be achieved when essential ideas, content or services are obtained from a large group of people. Crowdsourcing can also help overcome some challenges of SUD process, including lack of or restricted access to data, limited financial, technical and managerial resources and challenges in urban governance (Abubakar & Aina, 2006). However, there are few studies that explored crowdsourcing applications in developing countries (Ingwe, 2017; Papadopoulou & Giaoutzi, 2014; Roth et al., 2013). In a review of 346 articles on crowdsourcing published from 2006-2012, Hossain and Kauranen (2015, p. 6), found that more than three quarters are from developed countries and that only three developing countries (China, Brazil and South Korea) are among the top 20 countries in terms of authorship of the articles. Even among the few studies on crowdsourcing in developing countries, very few have explored its application in SUD planning. This chapter, therefore, address this research gap by analyzing the potentials and challenges of utilizing crowdsourcing in planning for SUD with emphasis on developing countries.

Based on desktop study, data were collected from secondary sources such as journal articles, textbooks, official reports and website contents. Data analysis involves qualitative content analysis where themes related to the objectives of the paper were generated from the reviewed documents and then synthesized. This chapter is presented in six sections. Section two reviews the concept of and lays the historical foundation of crowdsourcing. Section three highlights some exemplary applications of crowdsourcing for SUD planning. This is followed by underscoring the challenges of applying crowdsourcing in planning for SUD in developing countries in section four. Section five discusses some potentials for utilizing crowdsourcing as a tool in planning for SUD in developing countries. The paper concludes with future research direction in section six.

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