Rethinking Dubai's urbanism: Generating sustainable form-based urban design strategies for an integrated neighborhood

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ABSTRACT

Dubai needs immediate intervention to retrofit its current development strategies with a new emphasis on sustainability. Dubai's urbanization process compromised the environment to meet economic goals and housing necessities for citizens. This research asks, which form-based urban design strategies can most effectively deliver greater environmental, social, and economic coherence in Dubai's neighborhood development? Two rounds of the Delphi, a structured communication technique utilizing multiple rounds of questioning, were employed to obtain experts' advice on redefining urbanism in Dubai. Findings stress that for Dubai, the most sustainable neighborhoods will feature compactness, connectivity and multiple transportation options, diversity, culturally relevant urbanism, and climate-sensitive urbanism, all integrated in the urban fabric. Results confirm that sustainability cannot be studied in abstraction from context: experts identified various obstacles that the local context presents to the implementation of these principles. Developing and successfully implementing strategies to promote sustainability in Dubai is therefore a complex process that requires a shift in government priorities and cultural norms. The article argues that planners and officials should balance the claims of social, economic, and environmental sustainability rather than allowing economic strategies and social subsidies to dwarf environmental stewardship; planners must acknowledge all three factors equally and come up with context-relevant solutions and practical compromises. Officials should create a policy environment that supports such balance, and planners and officials should work together to institute a more transparent and inclusive process for making decisions about the built environment.

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1. Introduction

Gulf cities such as Dubai, Abu Dhabi, and Doha have experienced excessive development pressure over the last 20 years (Rizzo, 2014). Among Gulf cities, Dubai has received the most attention from scholars because it led the way in defining its brand of urbanism and bolstering its global image. In aspiring to dominance, Dubai pioneered the race toward swift development in the Gulf. Dubai has developed so quickly that Bagaeen (2007) described it as having undergone "instant" urbanism (p.174), in contrast to the long development process that has characterized most Western cities. The city had spillover effects on neighboring cities, leading Elsheshtawy (2010) to introduce the term "Dubaization" to describe the efforts of Gulf and world cities (e.g., Abu Dhabi, Doha, Cairo, Manamah, Istanbul, and Sofia) to imitate or surpass Dubai's model. This model embraces economic liberalism (Pacione, 2005, p. 256) and "bigness" (Koolhaas & Mau, 1995), including "megaprojects and spectacular architecture on a massive scale" (Ponzini, 2011, p. 252), a big capital, big corporations, and grandiose design aimed at conveying the image of a new kind of city for purposes of global branding and economic diversification (Acuto, 2010).

Dubai's urban landscape has been formed by the social and political economy of the place (Crot, 2013; Cugurullo, 2015). According to Pacione (2005), Dubai's housing policy and liberal market has engendered "demand-oriented planning" (Bagaeen, 2007, p. 175) aimed at creating "comfort zones" for citizens, affluent expatriates, and tourists (Acuto, 2010, p. 280). The proliferation of suburban neighborhoods for native citizens and high-end projects for expatriates highlights the exclusionary urban practices (Crot, 2013) that pose formidable challenges in large parts of Dubai (Pacione, 2005).

As Cugurullo (2015) has observed, the process of urbanization in the Emirates largely focuses on economic strategies and social subsidies for citizens; environmental concerns are either not prioritized or undeveloped. Government housing programs for native citizens stimulated suburban growth and reflected a commitment to certain kinds of social sustainability, such as ensuring the stability of the family structure and the wellbeing of citizens. The overarching aspiration of diversifying the economy, meanwhile, has stimulated the evolution of a new urban landscape that is massive in scale and privatized in nature (Machado, 2006). Exclusive rather than grassroots or inclusive decision-making

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has been the principal means of accelerating the city's development (Pacione, 2005; Bloch, 2010).

The present moment offers a unique opportunity for rethinking Dubai's urbanism. Like cities in the European Union and the United States, Dubai took a significant hit in the 2008 recession and consequently deferred much of its development agenda. As Bloch (2010, p. 949) noted, Dubai's real estate market experienced a "shake-up"; its financial reputation and image plummeted. But in November 2013, Dubai won its bid to host the World Expo in 2020 and, since then, has been recovering from its financial difficulties. How can the city use this period of recovery to re-strategize its growth in the direction of urban sustainability?

This paper is a case study of Dubai that describes the city's pressing development challenges and identifies strategies for designing a more sustainable development model than Dubai's current approach. These strategies were identified by collecting design recommendations from a panel of experts using two rounds of the Delphi, a method that structures a group of experts to explore ideas and facilitate problem solving (Landeta, 2005). The author solicited the insights of scholars and practitioners with the goal of identifying the five to ten most effective form-based urban design strategies that Dubai could adopt to create neighborhoods that integrate social, economic, and environmental sustainability. Experts also identified barriers that Dubai's context presents to the effective implementation of these strategies.

Analysis of the Delphi results identified eight principles that are most likely to help Dubai create neighborhoods that are environmentally, socially, and economically sustainable. Of these eight, experts identified five principles as most important: compactness, connectivity, diversity, culturally relevant urbanism, and climate-sensitive urbanism. This article discusses these five principles in turn, including obstacles that Dubai's unique context presents to their implementation. The article then turns to the challenges of implementation: in light of the obstacles that the local context presents, how can Dubai move toward implementing these principles?

2. Background on Dubai's urbanism

2.1. Growth & challenges

In the mid-twentieth century, Dubai was a small, fairly self-sufficient, integrated fishing village that reflected the surrounding traditional society. In the 1990s, Dubai branded itself as a global showcase and, since then, has experienced massive development. Literature on Dubai indicates that the city has undergone four phases of urban expansion: (1) slow expansion, from 1900 to 1955; (2) compact development, from 1955 to 1970; (3) suburban growth, from 1970 to 1990s; and (4) globalization, from 1993 to the present (Elsheshtawy, 2004; see Fig. 1).

Beginning in the 1980s, during the third phase of growth, an abundance of resources from oil spurred a period of growth characterized by a preference for sprawl over compactness: local neighborhoods spread out and expanded in scale (Velegrinis & Katodrytis, 2015). The government continues to support the expansion of low-density neighborhoods and shows no signs of altering this policy orientation. Housing subsidies are a key part of the social contract between the government and its citizens, and generous economic benefits and housing incentives are critical for retaining the status quo decision-making regime (Crystal, 1995). Housing subsidies for native citizens represent a "politics of differentiation" and "state-devised socio-spatial segregation" (Crot, 2013, p.2821) that natives consider essential to the preservation of their heritage in the face of a dramatic influx of expatriates (Pacione, 2005; Crot, 2013).

In the 1990s, to reduce its reliance on dwindling oil reserves, Dubai set out to become a global city (Pacione, 2005). Like other cities that aspire to become global hubs (Rofe, 2003), Dubai has reconfigured city spaces to attract international capital and has allowed market forces
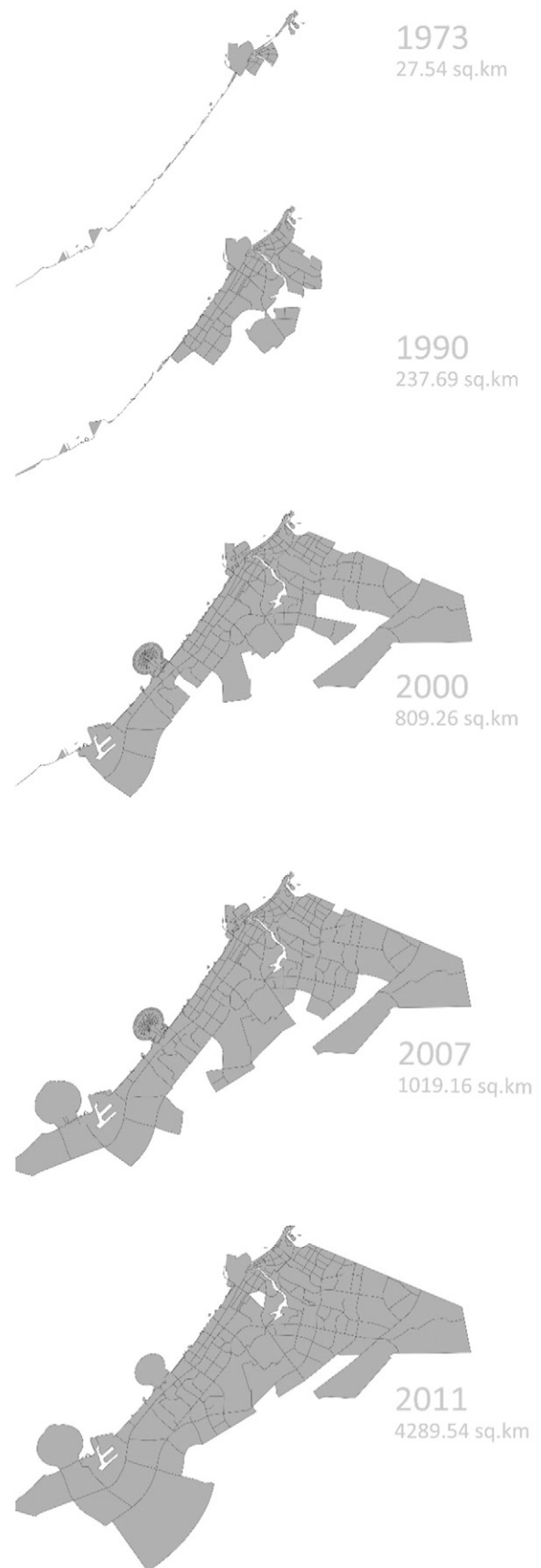

Fig. 1. Dubai's urban growth since 1973. Diagrams were developed using iglutropical satellite images (http://www.passportdiary.com/category/tropical/)(Developed by Khaled Alawadi & Asim Khanal, MSc student).