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People's movement patterns in space of informal settlements in Cairo metropolitan area



Abdelbaseer A. Mohamed *

Urban Planning Department, Faculty of Engineering, Al-Azhar University, 1 Al-Mukhayam Al-Daem St. of Al-Nasr Rd, Nasr City, Cairo 11651, Egypt

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Abstract This paper shows the comparative analysis of two informal areas representing two typologies of informal housing in Cairo metropolitan area. Ezbet Bekhit is an example of informal areas built on state-owned desert land, while Abu Qatada is a different example built on former privately-owned agricultural land.

The purpose of here is to reveal social differences through differences in spatial patterns. The challenge is to view settlement community as a spatial system through spatial configuration. Virtual gate method was employed to get data on people's movement, while space syntax was used to analyse the spatial of configuration of the two areas. The results showed that there is a significant positive relationship between pedestrian movement pattern and spatial accessibility. In Ezbet Bekhit, association was found at both a settlement and city wide scales, while in Abu Qatada correspondence was found at a city wide context only. The findings also showed that there is different gender movement in settlement spaces. Differences in cultural movement pattern are also observed in the two areas, where some categories of people avoid meeting some other in Ezbet Bekhit or local people intermingle with non-local in Abu Qatada. This in turn influences social issues such as feeling of safety.

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1. Introduction

Informal settlements dominate mode of urbanization in Greater Cairo Region (GCR). Urbanization occurs usually on the outskirts of the urban mass, on privately-owned

ex-agriculture land, and on desert land. The phenomenon of informal settlements began in GCR after the Second World War as a result of migration from rural areas in Delta and Upper Egypt to Cairo. Migrants were looking for better job opportunities, where salaries were higher than in other Egyptian cities, after the launch of industrialization policy by the president, Gamal Abdel Nasser. Most of migrants were young men with simple needs which helped them to share rented flats or rooms in the historical districts. After saving some money, some migrants were able to buy and build upon lands located in the outskirts of the city where land prices were cheaper than the central districts. In parallel, the phenomenon of scattering

* Address: Abo Hariz Village, Kafr Saquir, 44671 Sharkia Governorate, Egypt. Tel.: +20 55 310 30 13, +20 106 116 0727 (mobile).
E-mail addresses: abdo121@windowslive.com, abdelbaseerelsayed@gmail.com.

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state-owned land began to emerge in the peripheral eastern part of Cairo—such as Mansheit Nasser [11].

The first phase of urban expansion on agriculture lands began during 1960s in the western (Boulaq El Dakrou, Munira, Waraq al-Arab) and northern (Shubra al-kheima, Matariya) parts of the city. Farmers were persuaded to sell their lands, as investment in building projects was more lucrative than the revenues from farming. Rapidly, the villages surrounding Cairo were engulfed by the urban fabric of the city as a result of increased urbanization from the villages and the city itself [11]. Seemingly, the process of absorption is not typically taking place. Expressed simply, some informal areas are well embedded in the city's structure, while others are poorly embedded in their urban context and stand apart from the surrounding urban patterns. How far the variation in configuration can explain social differences? The main premise to be tested in this paper is that various attributes of spatial accessibility influence people's movement patterns in and around the quarter. This paper is divided into three parts: first, it analyse the urban layout of two areas (Ezbet Bekhit in Mansheit Nasser district, and Abu Qatada in Boulaq El Dakrou district) at both a settlement level and a city wider context; second, it conducts movement observation and explore the relationship of different categories of people in terms of their movement pattern; and third, it investigates the degree of association between movement pattern and spatial aspects.

2. Theoretical foundations

Space syntax, originated and developed in the 1970s at the Bartlett Unit for Architectural studies, University College, London [4,5,13], attempts to define society, through space. In other words, it tries to define people relations through relations between street segments in urban grid to each, so it is a graph-based theory. The virtual community is produced based on the spatial configuration, the relation between two spaces taking into account at least third space and at most all other spaces in the system, of space [5]. Expressed more simply, space syntax found a consistency between the pattern of social relations and the pattern of relations created by the spatial formations [12].

Hillier and Hanson [5] studied the implications of the physical dimension of space. They criticized the naïve descriptions of the city depending on simplified linguistic concepts such as hierarchies and regularized geometries [8]. These naïve descriptions may be resulted from the lack of the means to describe complexities of the urban environments. According to Hillier and Hanson [5] movement is generated naturally by the spatial configuration of the urban environment. In other words, 'natural movement' is generated automatically depending on the underlying degree of accessibility [6]. Previous studies of space syntax found that about 60–80% of the differences in

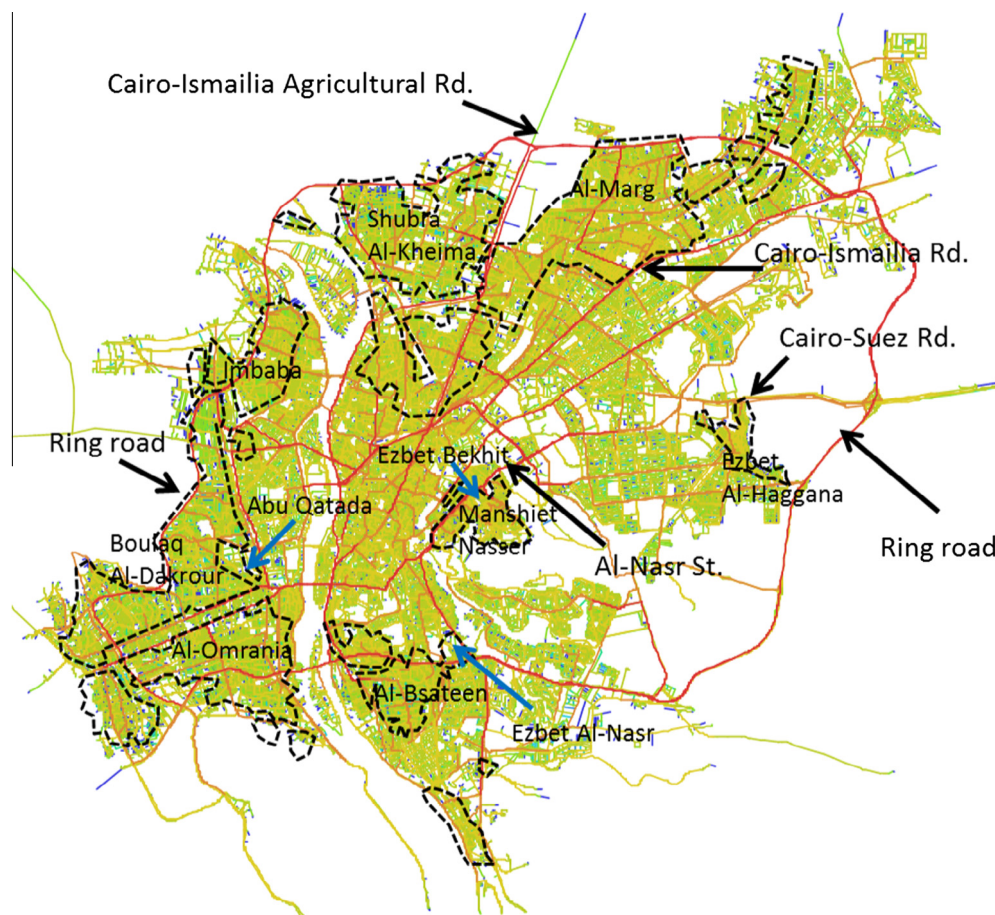


Figure 1 Angular global choice Rn showing the location of Ezbet Bekhit and Abu Qatada within the context of Cairo metropolitan area (location of informal areas is encircled in black. Red is highly accessible, while blue is weakly connected). *Source:* Authors.

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