



The values and benefits of environmental elements on housing rents



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ABSTRACT

The value provided by availability of environmental elements on human quality of urban life is difficult to assess and incorporate into urban planning and development. Researchers worldwide have seldom objectively factored these attributes into property pricing and associated decisions. This study contends that a better understanding of the effect of environmental elements requires systematic study of the relationship between objective and subjective measures of environmental phenomena and human responses. This paper summarizes the outcomes from applying Hedonic Pricing (HP) and Life Satisfaction (LS) methods – providing valuation in an increasingly expanding and privatized property Iranian market. A survey was carried out from 400 households that are more likely to make location choices and pay rent and property expenses in the city of Shiraz. The findings indicates that Shiraz neighbourhoods are likely to be characterized by deep environmental segregation. This study informs the decisions of policy makers and property developers regarding sales and purchases conversion, property development, urban nature conservation, and design of ecological green-space networks.

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1. Introduction

Parks and urban green spaces, local shopping centres and in general good environments provide amenities and services that fundamentally contribute to the Quality of Urban Life (QUL) (Ardeshiri, 2014; Chiesura, 2004; Marans, 2015; Shafer, Lee, & Turner, 2000; Van Herzele & Wiedemann, 2003). Due to their unpriced nature and largely intangible benefits, however, it is difficult to assess and quantify this contribution. Valuing the quality of urban life, cities and citizens is often neglected in urban planning and policy making related to development (McConnell & Walls, 2005; More, Stevens, & Allen, 1988; Tajima, 2003; Tyrväinen & Miettinen, 2000). In recent years, increasing concern about environmental quality has grown in tandem with rapid urbanization. National and local governmental officials are facing the challenge created by growing populations and expanding infrastructure, providing quality built environments which accommodate growth, satisfying the changing needs of existing populations and preventing urban environmental segregation. The study of

environmental segregation is an enduring feature of cities, the result of the distribution and availability of environmental elements, urban services and urban transformation in neighbourhood development. Previous research has highlighted that the economic structure of the city and the kind of restructuring that is going on are frequently seen to be among the most powerful forces (Musterd & Ostendorf, 2013) behind urban environmental segregation which can transform the quality of urban life (Caldeira, 1996).

In order to construct cognitive policies and decisions about developing the quality of the environment and preventing urban segregation among neighbourhoods, assessment of the urban environmental elements benefits, effects and its values is required. The concepts of urban environmental quality, liveability, quality of life and sustainability enjoy a great public popularity forming a central issue in research-programmes, policy making, and urban development. At least they do so in terms of the appearance of these terms in the respective literature. However, the manifestation and context in which environmental quality and quality of urban life is used in research and policymaking is seldom uniform. Various approaches have been proposed and tested, among which the hedonic pricing method widely applied in western countries to estimate the value of nature associated with settlements. For instance, the impacts of good urban environment within and near a

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development are examined for their impacts on housing prices to construct a housing price index (Anderson & Cordell, 1988; Bolitzer & Netusil, 2000; Bullock Craig H., 2008; Chattopadhyay, 1999; Chiesura, 2004; Geoghegan, 2002; Jim & Chen, 2006, 2009; Kong, Yin, & Nakagoshi, 2007; Luttik, 2000; Ogwang & Wang, 2003; Price, 2003; Schläpfer, Waltert, Segura, & Kienast, 2015; Tapsuwan & Polyakov, 2016). The life satisfaction approach represents a new nonmarket valuation technique built on the development of subjective well-being and quality of life research current in economics. This approach stands in a long tradition and debate of research measuring individual welfare.

This study aims to clarify the benefits and the values of environmental elements by investigating their impacts on residential rental pricing through a hedonic pricing method and life satisfaction approach in an Iranian city. Evaluating such benefits enhances understanding of the contribution of environmental elements on QUL and environmental welfare, as well as rental prices. In addition, such findings would throw light on urban segregation with regards to distribution of environmental and landscape elements as well as services within the urban neighbourhoods. The urban planning policy, however, often neglects the socio-economic value of environmental–ecological features. The results from this study will also help developers to rationalize investments and decision-makers to realize environmental improvement goals to prevent urban segregation. Finally this study will yield insights into theoretical modelling and applicability of hedonic pricing and life satisfaction method in Iran.

2. Research objective

In this study, environment refers to a local urban environment in which people are living. An urban environment is human built having population pressures. The quality of the urban environment as a living space for the people world-wide has emerged as an issue of fundamental concern for academic researchers, policy makers and citizens as the world's population largely lives in urban places.

QUL depends on quality of the environment. There are physical, biological, psychological, economic and social needs in a person's life met by resources from environment. QUL, from the standpoint of environment, is the degree to which the environment has capacity to provide resources necessary to meet the needs of human life (Bubolz, Eicher, & Sontag, 1979). The demand for environmental resources is always growing, but there is serious degradation in the capability of the environment to provide these resources. QUL is affected by the increasing gap between demand and supply of resources. Residents care about the appearance of buildings, public spaces, residents, proximity to shops, schools and parks, access to work the absence of crime and other nuisances. Nevertheless, the quality of a neighbourhood extends beyond daily experience.

Neighbourhood quality plays an important role for development, city officials, planners, realtors and researchers. In order for their construction projects to succeed, developers must understand the types of locations and amenities most valued by buyers. City officials sometimes upgrading neighbourhoods to combating social ills. In order to realise this, the planners preparing the upgrades must first learn about the qualities that are missing. Realtors, acting as intermediaries between buyers and suppliers of dwellings, assess the quality of neighbourhood before assigning a list price to a dwelling. Sociologists, geographers, economists and other scholars working in the wider field of urban studies are interested in the reasons why households relocate, why those relocating choose particular destinations and how the surrounding area figures into the housing price. Therefore, the main objective of this study is to present how environmental evaluation technique can be used as a tool to help the urban management system, developers, city

officials, planners, realtors and researchers with policy making, decision making and city management procedures. In addition, it will help readers to evaluate environmental elements as a non-market good along with the priorities among the residents. It will represent the number of people willing to pay for urban services in their rent price and underscore the in the quality of urban life.

3. The statement of the problem and review of the literature

Shiraz is the sixth most populous city in Iran and the capital of Fars province. The population is 1.5 million and it is located in southwest Iran on the Roodkhaneye Khoshk (Dry River) seasonal river. The city of Shiraz includes 9 diverse zones (zones) (Fig. 1) in terms of their history and socioeconomic characteristics. Shiraz citywide planning authorities and municipalities are facing a particularly challenging task distributing the required environmental elements and services important to levels of satisfaction and QUL. This is a critical since the literature highlights that, while distributing capital and urban services among different municipalities, environmental segregation may occur.

Caldeira (1996) monitored spaces for residence, consumption, leisure and work arguing that abandoning the traditional public sphere due to insecurity, fear of violence, and lack of urban services makes it difficult to maintain the principles of environmental quality and quality of life which have been among the most significant organizing values of modern cities. Caldeira (1996) continued and mentioned that as a consequence, the character of public space and of citizens' participation in public life has changed. Over the past several decades, sociologists and demographers have devoted considerable attention to describing patterns of residential choice. In the 1990s this work mostly took the form of "locational attainment" models (Logan & Alba, 1993), which regress socio-demographic attributes of census households onto univariate measures of neighbourhood composition (e.g., median income, proportion black, etc.). In the 2006, Crowder and his colleagues used explicit measures of mobility from the panel's income study to examine correlations between respondents' wealth, income, race/ethnicity and the probability of moving into or out of a neighbourhood characterized by its economic composition (Crowder, South, & Chavez, 2006; South, Crowder, & Pais, 2011). People attach meanings to the spaces where they live in flexible and varying ways and the factors influencing these readings and uses are endless. However, urban services with relative stability and rigidity are materials in neighbourhood environment that shape and bind lives determining the types of encounters possible in public environments. Contemporary urban segregation is complementary to environmental elements, services distribution and environmental quality. On the one hand, having access and approximation to services; On the other hand, the quality of these services becomes the context in which different neighbourhood stereotypes generate. The discussion and comparison of urban environmental elements and service availability and its quality can influence these topics in a society and quality of urban life. For example, position in the housing market, school participation, labour market, low security or even restricted socio-cultural integration affect the neighbourhood (Musterd & Ostendorf, 2013). It would be possible to argue that local participation between policy-makers and residents is increasingly necessary to make environmental elements and services available, make those neighbourhoods liveable and improve the quality of urban life.

Gaskin, Dinwiddie, Chan, and McCleary (2011) conducted a study on "Residential Segregation and Disparities in Healthcare Services Utilization". They used office based location and accessibility as one of five measures of health care usage, the zip code to control for residential segregation. The finding from Gaskin et al.

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