Habitat International 45 (2015) 72–81

Contents lists available at ScienceDirect

Habitat International

journal homepage: www.elsevier.com/locate/habitatint

Post-industrial landscapes as drivers for urban redevelopment: Public versus expert perspectives towards the benefits and barriers of the reuse of post-industrial sites in urban areas

Luís Loures [a, b, *]

[a] C3i, Polytechnic Institute of Portalegre, Portugal
[b] CIEO – Centre for Spatial and Organizational Dynamics, UAlg, Portugal

ARTICLE INFO

Article history:
Available online 17 July 2014

Keywords:
Post-industrial sites
Urban transformation
Barriers to redevelopment
Benefits of redevelopment
Public versus expert opinion

ABSTRACT

Generally located in advantageous locations near city centers or along waterfronts and supported by existing infrastructure, post-industrial landscapes constitute environmentally impaired resources that need to be returned to productive uses, and reintegrated into the surrounding community. However, the complexity of any post-industrial redevelopment project, evident in the number of different ways in which it is described both in the literature and by designers and developers who work and/or analyze these landscapes make post-industrial redevelopment difficult to accomplish. Considering the purpose of the present research, it was necessary to use several methods throughout the investigation, including quantitative and qualitative research methods divided in two main sections: literature review and case study research. Considering the collected data and the performed statistical analysis, it is possible to conclude that, thought there are strong relationships between several of the identified benefits and barriers, the survey revealed distinct perceptions about the benefits and the barriers associated to post-industrial redevelopment between the general public (i.e. redeveloped post-industrial site users) and redevelopment experts, idea which is of utmost importance considering that designers tend to be primarily focused on aesthetics, leaving society's other main goals to secondary status, and that planning and landscape redevelopment activities are increasingly becoming less the result of design and more the expression of economic and sociocultural forces. Moreover the performed analysis showed that while for the general public the main barriers to post-industrial redevelopment are the potential for biological, physical and chemical impacts, and the uncertainty about liability and cleanup issues; for experts the main barriers are the high redevelopment costs; and the challenges in obtaining financial support. Regarding the main benefits while for the general public, the creation of open green spaces and the creation of jobs are the most important ones, for experts they are associated with the possibility to reduce urban sprawl, and encourage recreation and connectivity.

Introduction

The transformation of landscapes worldwide has raised global concerns increasing the need to rethink landscape and protect the environment. This is especially true for previously developed areas that are now abandoned or underused. Instead of consuming green lands, the brown lands need to be redeveloped and given new life, achieving a more sustainable urban setting (De Sousa, 2003; Loures, 2011; Panagopoulos & Loures, 2007; Portney, 2003). In this regard, land transformation policies have been considered an important tool for urban containment, fostering urban redevelopment and revitalization (Adams & Watkins, 2002: Urban Land Institute, 2004; Willem, 2009). However, these contributions and the principles they integrate have not been adequately assessed regarding post-industrial land transformation efforts. Still, this approach may be considered a proficient approach to address urban sprawl, increasingly viewed as significant and growing land-use problem that encompass a wide range of social, economic and environmental issues (Bengston, Fletcher, & Nelson, 2004; Brueckner, 2000; Johnson, 2001).

The relevance of these land transformation projects and approaches are increasingly recognized and recommended since "*nearly every significant new landscape designed in recent years*

* Escola Superior Agrária de Elvas, Quartel do Trem, Avenida 14 de Janeiro s/n, 7350-903 Elvas, Portugal. Tel.: +351 965193379.
E-mail address: lcloures@gmail.com.

http://dx.doi.org/10.1016/j.habitatint.2014.06.028
0197-3975/

occupies a site that has been reinvented and reclaimed from obsolescence or degradation, as cities in postindustrial era remake and redefine their outdoor spaces" (Reed (2005: 15). Still, demolition and abandonment were and continue to be fairly common approaches to deal with these post-industrial landscapes that no longer serve their original productive functions (Rea, 1991: 48). However, the creation of new and more specific legislation, and the public pressure related with the need to redevelop these landscapes, created a momentum to enhance post-industrial landscape redevelopment, considered by several authors as unrealized resources for initiating urban regeneration and ecological restoration (Allen & Linden, 2002; Backhaus & Murungi, 2002; Brebbia, Almorza, & Klapperich, 2002).

In fact, generally located in advantageous locations near city centers or along waterfronts and supported by existing infrastructure, these landscapes constitute environmentally impaired resources that need to be returned to productive uses, and reintegrated into the surrounding community (Ekman, 2004). However, the complexity of these land transformation projects, evident in the number of different ways in which they have been characterized, both in the literature and by designers and other specialists who worked and/or analyzed them, make post-industrial redevelopment difficult to accomplish. Apart from the eminent contamination and liability issues present on many of these sites (Alberini, Longo, Tonin, Trombetta, & Turvani, 2005; Gibbons, Attoh-Okine, & Laha, 1998; McGrath, 2000), post-industrial redevelopment processes have to consider planning, real estate transaction and land use aspects (Amekudzi, 2004; De Sousa, 2002, 2006), plus community and economic development matters (De Sousa, 2006; Kaufman & Cloutier, 2006; Ozdil, 2006; Paull, 2008), among others. Nonetheless, questions such as: What should be done with these landscapes? Which functions might these areas acquire in the future? What makes these spaces underutilized? What obstacles and barriers keep these landscapes from being transformed? Who is responsible for transforming them? Who is best qualified to do it? Is this process a single profession endeavor? Which are the main benefits of redeveloping these spaces? Remain to be answered.

In this regard it is urgent to rethink the way in which our urban areas are growing and the different forms to reuse previously developed landscapes, instead of consuming new ones. Increasing public discontentment towards derelict landscapes augmented the urgency to develop new methodologies and frameworks for both post-industrial land transformation theory and practice. However, since positive and negative impacts may vary from one landscape to another, it remains a challenge and a task for those aiming to transform these landscapes to develop a more systematic and theoretically fruitful methodology that incorporates both economic, socio-cultural and environmental aspects, public needs and will, and the knowledge about local characteristics, effects and impacts of post-industrial landscape transformation projects. As Thayer (1994, in Tymoff, 2001: 1) mentions "*Why diagnose if not to cure? Why reveal if not ultimately to heal?*".

Considering this background and the current need to enhance the reuse of post-industrial sites, particularly the ones located in urban areas, this research intents on the one hand to highlight the importance to redevelop these landscapes, identifying not only the benefits that arise from their redevelopment, but also the main barriers inherent to current approaches to post-industrial land transformation, and on the other hand to address the differences between public and expert perspectives regarding the identified post-industrial redevelopment benefits and barriers, considering at the same level, economic, social, and environmental aspects.

Materials and methods

Considering the purpose of the present research a significant amount of time and attention was dedicated to the development of the methodological framework, since the study required the use of several methods throughout the research, including quantitative and qualitative research methods. In this regard the general research methodology (Fig. 1) was divided in two main sections: literature review and case study research which were the basis and the foundation for the development of the investigation, which might be schematized as follow:

In summary, the methodology was based on the following steps:

i) **Literature review** – with the intention of covering a wide range of issues, the literature review considered the changes in patterns and processes which happened throughout the deindustrialization process and the state-of-the-art regarding the connection of planning and design issues with the main public and private benefits and barriers of post-industrial redevelopment.

ii) **Case study selection and analysis** – the selection of the case studies was an essential component of the research. The process was based in the collection and analysis of as much post-industrial land transformation projects as was possible, within the boundaries set by schedule, focusing on relatively recent projects, in which it was possible to clearly identify, on the one hand the main barriers and setbacks faced both by designers and redevelopers, and on the other hand, the direct and indirect benefits enabled by post-industrial redevelopment projects under analysis. Considering these principles and even if there is an inevitable value judgment in any process to ascertain relative importance, this method was considered to bring a degree of objectivity and transparency to the assessment, enabling the selection of the cases that respond better to the research objectives. Additionally, considering that throughout the present research, multiple-case studies were analyzed, it was essential to establish a specific protocol, which according to (Yin, 1994) integrated an overview of the case study; several case study questions related to the research objectives; and a guide for the case study report.

iii) **Identification of the main barriers and benefits of post-industrial land transformation** – considering the different types of data collected throughout the analysis (i.e. literature review and information collected throughout the analysis of the selected case studies), several heuristically driven factors, considering both the barriers and the benefits of post-industrial landscape transformation/redevelopment were identified and briefly explained.

iv) **Public versus expert perspectives regarding the main barriers and benefits of post-industrial land transformation** – considering the identified barriers and benefits a survey was developed both to site users of some of the analyzed redeveloped post-industrial sites (general public) and to designers, project managers and developers responsible for the analyzed redevelopment projects (experts).

v) **Data analysis** – once collected the data regarding the survey instrument, statistic analysis was developed using first the Microsoft Office Excel 2007 spreadsheet to organize the collected data, and then the computer statistical analysis programs, SPSS (Statistical Package for Social Sciences), version 17.0 for Windows, and SAS (Statistical Analysis System), version 9.1.3 (TS1M3) for Microsoft Windows.