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Brownfield regeneration in Europe: Identifying stakeholder perceptions, concerns, attitudes and information needs

Erika Rizzo[a], Marco Pesce[a], Lisa Pizzol[a], Filip Mihai Alexandrescu[a,b], Elisa Giubilato[a], Andrea Critto[a], Antonio Marcomini[a,*], Stephan Bartke[b]

[a] Department of Environmental Sciences, Informatics and Statistics, University Ca' Foscari Venice, Calle Larga S. Marta 2137, I-30123 Venice, Italy
[b] Helmholtz Centre for Environmental Research – UFZ, Permoserstr. 15 – 04318 Leipzig, Germany

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ABSTRACT

Brownfield areas are a major concern in Europe because they are often extensive, persistent in time and compromise stakeholders' interests. Moreover, due to their complex nature, from the decision-making point of view, the regeneration of brownfields is a challenging problem requiring the involvement of the whole range of stakeholders. Many studies, projects and organisations have recognised the importance of stakeholder involvement and have promoted public participation. However, comprehensive studies providing an overview of stakeholders' perceptions, concerns, attitudes and information needs when dealing with brownfield regeneration are still missing.

This paper presents and discusses a participatory methodology applied to stakeholders from five European countries to fill this research gap, to develop a system to support the categorisation of the needed information and to support the understanding of which typology of information is the most relevant for specific categories of stakeholders also in relation with their concerns.

The engagement process consists of five phases: (i) planning and preparatory work, (ii) identification of stakeholder categories, (iii) engagement activities (e.g. focus groups and workshops), (iv) submission of a questionnaire and (v) provision of feedback to the involved stakeholders.

Thanks to this process, appropriate stakeholders have been identified as well as their perceptions, concerns, attitudes and information needs. Stakeholders' perceptions proved to be different according to the country: German and Italian stakeholders perceive brownfields as complex systems, where several issues need to be addressed, while Romanian stakeholders consider contamination as almost the only issue to be addressed; Czech and Polish stakeholders address an intermediate number of issues. Attitudes and concerns seemed to be quite similar between countries. As far as information needs are concerned, similarities between some groups of stakeholders have been noticed: site owners and problem holders are primarily interested in information on planning and financing, while authorities and services providers are interested in more technical aspects like investigation, planning and risk assessment. Some outstanding outcomes emerged from the scientific community and research group, which showed an interest for remediation strategies and options and socio-economic aspects.

The research outcomes allowed to create a knowledge base for the future development of tailored and customised approaches and tools for stakeholders working in the brownfield regeneration field.

1. Introduction

De-industrialisation and abandonment of productive and mining sites have produced many brownfield areas all over Europe, which represent a major concern for many countries and municipalities. In fact, these sites have adverse effects not only on the economy and environment, but also on the social well-being and quality of life of a region (Alloway, 1995; CLARINET, 2002; Bartke et al., 2013). They are characterised by complex interactions, as indicated by the definition provided by the Concerted Action on Brownfields and Economic Regeneration Network (CABERNET), which defines brownfields as sites that "have been affected by the former uses of the site and the surrounding land; are derelict or underused; have real or perceived contamination problems; are mainly in developed urban areas; require intervention to bring

* Corresponding author. Fax: +39 0412348584.
E-mail address: marcom@unive.it (A. Marcomini).

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them back to beneficial use" (based on the original CLARINET definition – cf. Oliver et al., 2005).

This complexity requires considerable efforts to successfully initiate and complete brownfield revitalisation processes, including a proper strategy for the involvement of a considerable number of stakeholders with potentially divergent interests (Alexandrescu et al., 2014b; Schädler et al., 2013; Alexandrescu et al., 2012; Schädler et al., 2011; Agostini et al., 2007; Bardos, 2004). Reed et al. (2009) speak of stakeholders as any organisation, group or person who takes an interest in a project, or those who have the ability to influence its outcomes. Often, experts and decision makers are understood to be key stakeholders in terms of their perceived critical role in initiating and guiding the redevelopment process. Notwithstanding, the present work will emphasise and recognise the substantial role of the other stakeholders, too.

The involvement of stakeholders in all phases of the regeneration process has been recognised as an important prerequisite towards improving the acceptance of the decision-making process (Cundy et al., 2013; REVIT, 2007b; RESCUE, 2005). Moreover, at the institutional level, the awareness of the importance of an effective stakeholder involvement led to the promotion of public participation at brownfields and contaminated sites (Gallagher and Jackson, 2008), especially at local and site specific levels. A notable example is the REVIT project (REVIT, 2007a), which encouraged stakeholder involvement, public discussion and local participation in some European cities and urban areas affected by the presence of brownfields (Stuttgart in Germany, Nantes in France, Tilburg and Hengelo in the Netherlands, Medway and Torfaen in the United Kingdom). These activities concluded in the definition of shared redevelopment strategies, stimulated inhabitants to participate in the planning and in the execution of projects, enhanced effective communication and built the needed relationships with future generations (REVIT, 2007a). Sparrevik et al. (2011) present a study, where stakeholders were involved in order to collect and evaluate factors affecting their "risk perception of contaminated sediment disposal that occurred during a remediation project in Oslo harbor, Norway". Cundy et al. (2013) describe the importance of stakeholder engagement when implementing green versus other remediation options at contaminated sites.

Even though the above described examples clearly demonstrate the importance of stakeholder involvement, nevertheless stakeholder engagement is only one of multiple factors for success in brownfield regeneration decision-making processes, and lately some concern that stakeholder engagement is not living up to some of the claims made is emerging (Reed, 2008). Additionally, inevitable trade-offs have been identified between certain stakeholder requirements on the one side and on the other side the pursuit of a normatively defined sustainable regeneration (Bartke and Schwarze, 2015).

Moreover it has to be taken into consideration that, even though the regeneration of brownfield sites can offer immense development potentials including economic, social and environmental benefits (De Sousa, 2002; Lange and McNeil, 2004; Carrol and Eger III, 2006; Ganser and Williams, 2007; Chen and Khumpaisal, 2009; Strazzera et al., 2010; Syms, 2010; Schädler et al., 2011; Wang et al., 2011), still the exploitation of these benefits is hampered by uncertainties and information asymmetries (Gross and Bleicher, 2013; Bartke, 2011; Schädler et al., 2012). Environmental contamination may not be clearly detected, stakeholders' attitudes on a redevelopment might not meet the municipalities' nor the investors' interests. Despite the social desirability, brownfield sites are not perceived as an economically attractive solution for regeneration in the eyes of investors when compared with greenfield sites, as the latter do not require private or public intervention (Thornton et al., 2007; Bartke, 2013).

Furthermore, the availability of information on European brownfields and their regeneration is not always satisfactory to support successful decision making processes. On the one hand, there is a dearth of data on the scale of brownfield sites for a large portion of Europe (Oliver et al., 2005). On the other hand, there is a relative wealth of information on regulations, strategies, guidelines, tools as well as case studies pertaining to brownfield regeneration for several European countries, but this wealth of information is not used in its entire potential (Bartke et al., 2013).

Consideration and integration of the two above described issues, i.e. the importance of stakeholder involvement and the importance of availability and provision of useful information, is considered to be beneficial for successful brownfield regeneration decisional processes since it allows to identify all stakeholders involved in the decisional process and to be sure that all of them have access to the information they need to clearly communicate with each other and to take informed decisions.

This paper aims to present and discuss a participatory methodology for identifying brownfield regeneration stakeholders, for collecting and analysing their perceptions, concerns, attitudes and information needs and for finding out what information is most relevant for their communication and decision-making process.

Accordingly, this paper focuses, first, on what the main categories of stakeholders are, also in terms of stakeholder group perceptions, attitudes and concerns with regard to brownfield sites. Second, it aims to identify a specific range of information needs (included under specific categories) for these stakeholders as well as the information that they deem most critical. Third, this paper investigates whether specific stakeholder concerns are associated with certain information needs.

Within this main aim, a focus will be dedicated to highlight which information needs are the most important, useful and critical for specific categories of stakeholders, in order to define a categorisation system for the collection of information on brownfield regeneration.

The developed methodology has been applied to stakeholders from the case studies of the European project TIMBRE, located in the Czech Republic, Germany, Poland and Romania, as well as to stakeholders from Italy.

In the following, this methodology of stakeholder engagement is introduced and its five proposed phases are described. Next, the case studies are presented. Section 4 will provide an in-depth overview on the results and discussion, before a final section will outline the conclusions.

2. Methods: the stakeholder engagement methodology

The proposed methodology for the identification and analysis of perceptions, concerns, attitudes and information needs of stakeholders involved in the brownfield regeneration process consists of five phases: (1) planning and preparatory work; (2) stakeholder identification and selection; (3) workshops and focus groups; (4) web-based questionnaire and (5) feedbacks to stakeholders. The main results expected from the methodology will be derived from the second, third and fourth stages of the engagement process. More exactly, the second stage will help to develop a comprehensive list of stakeholders potentially involved in brownfield regeneration. As part of the third and fourth steps, the stakeholders' profiles will be identified, along with their perceptions, concerns and attitudes on brownfield regeneration. Within these stages, the focus will also be on recognising information needs and highlighting which are the most important, useful and critical for specific categories of stakeholders and in relation with the identified concerns. The final result achieved within these two stages will be to classify the collected information needs within a categorisation sys-