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Viewpoint

Stock measurement and regeneration policy approaches to 'hardcore' brownfield sites: England and Japan compared

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ABSTRACT

This paper discusses key contextual differences and similarities in a comparative study on brownfield regeneration in England and Japan. Over the last decade, the regeneration of large-scale 'flagship' projects has been a primary focus in England, and previous research has discussed policy issues and key barriers at these sites. However, further research is required to explore specific barriers associated with problematic 'hardcore' sites suffering from long-term dereliction due to site-specific obstacles such as contamination and fragmented ownership. In comparison with England, brownfield regeneration is a relatively new urban agenda in Japan. Japan has less experience in terms of promoting redevelopment of brownfield sites at national level and the specific issues of 'hardcore' sites have been under-researched. The paper reviews and highlights important issues in comparing the definitions, national policy frameworks and the current stock of brownfields.

Introduction

Both the public and private sectors in England have been increasingly engaged in the regeneration of brownfield sites over the last decade, and the reuse of such sites has been strongly linked to a wider policy agenda in creating sustainable communities (Dixon et al., 2007). In Japan, although the regeneration of brownfield sites is a relatively new 'urban agenda', awareness of the reuse of such sites has been gradually increased through the introduction of UK and U.S. influenced-thinking and policy development (Yasutaka et al., 2007; Kurose and Murayama, 2006; Miyagawa and Nakayama, 2001). More importantly, the introduction of the Soil Contamination Countermeasures Act (SCCA) by the Japanese Government in 2003 was instrumental in promoting the investigation of soil contamination. Historically Japan suffered from environmental pollution disasters (e.g. Toyama and Minamata incidents) caused by the rapid growth of industrial activities during the 1950s and 1960s. Environmental legislation was originally based on the Polluter Pays Principle (PPP) during the 1970s, and the Basic Environmental Law and accompanying legislation was finally launched in 1993 (Dixon et al., 2010). In England environmental pollution has been historically dealt with by a number of individual Acts, but the Environmental Protection Act (1990) Part 2A was the first holistic legislation which identified and regulated the remediation of contaminated land. Japan's SCCA in 2003 is therefore the 'equivalent' of the UK's EPA Part 2A in 1990 (Dixon et al., 2010).

However, both England and Japan have so far placed much emphasis on the redevelopment of large scale 'flagship' projects rather than dealing with problematic 'hardcore' sites. In England, 'hardcore' sites were referred to those which had been vacant or derelict for nine or more years (English Partnerships, 2003, p.8). In such sites, a combination of site-specific factors (e.g. ground conditions, high remediation costs, weak real estate market, inadequate infrastructure, and fragmented ownership) imposed extensive constraints on the regeneration process (Thornton and Nathanail, 2005). In England an average site of 'hardcore' sites is 8.3 ha and 2000 sites are estimated (Lambert Smith Hampton, 2005). These sites are located in a relatively isolated or marginal location, and many developers are unwilling to undertake the regeneration of risky brownfield sites. Although strong support from the public sector is essential for regenerating 'hardcore' sites, these sites have not been separately treated from other brownfields within planning policies promoting brownfield regeneration. In both countries, 'hardcore' sites pose a particular issue, particularly in the context of an economic recession which makes it less likely that marginal sites will be cleaned up and redeveloped, and the recent economic downturn in England has clearly brought a further adverse economic impact on such sites (Dixon et al., 2011). Compared with England, Japan has been already in recession since the middle of 1990s which made it difficult to regenerate even flagship sites,

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and almost inevitably 'hardcore' sites were not a primary focus for regeneration therefore.

The content of this publication is based on a research project comparing the regeneration of 'hardcore' brownfield sites between Manchester (England) and Osaka (Japan) (Dixon et al., 2010). A recent paper by the same authors (Dixon et al., 2011) introduced critical success factors in urban brownfield regeneration with reference to 'hardcore' sites in city-level comparative case studies. This paper builds on this work by focusing on the main contextual differences and similarities in a comparative study of brownfield regeneration in England and Japan. The paper firstly clarifies the definition of brownfield and 'hardcore' sites and discusses national policy frameworks underpinning the brownfield regeneration. It then analyses the current stock of brownfield using published data by the both Governments. In the two countries different concepts of understanding brownfield and the recording criteria have been posited, and the database systems for estimating the current stock also vary. This paper aims to shed light into these problematic issues in the comparative study.

Definitions of brownfield and 'hardcore' sites

In England the use of the term 'brownfield' has historically often conveyed negative connotations and there was a lack of a universally agreed or accepted definition of brownfield during the early part of the 1990s (Alker et al., 2000). The Central Government therefore provided a cogent definition of Previously Developed Land (PDL) (or brownfield) in 'Planning Policy Statement Note 3 (PPS3): Housing' (DCLG, 2006, See Table 1). PDL has become the basis for the statistics collected for the NLUD (National Land Use Database) which comprises records of parcels of vacant and derelict land and buildings as well as those currently in use with potential for redevelopment. In 2009 some 61,920 hectares of land in England were recorded as PDL and 54% of which were vacant or derelict (HCA, 2011a). It should be emphasised that the fact of contamination was not recorded in the NLUD. As Adams et al. (2010) maintained, English policy emphasis was placed not on the reasons why land became vacant or derelict, but rather on the processes by which it might be put to beneficial use.

In contrast, the concept of brownfield in Japan has mostly evolved with a strong emphasis on averting the health risks associated with vacant or derelict sites. The focus was placed on ways of tackling the soil contamination rather than on proposing future uses of brownfield sites (Otsuka and Abe, 2008). A publication by Japan's Ministry of the Environment (MoE) introduced the definition of brownfield as "lands which are unused or with extremely limited use, compared to their intrinsic value because of existence or potential existence of soil contamination (MoE, 2007, p. 1)". This definition is largely drawn from the U.S. definition provided within the Small Business Liability Relief and Brownfields Revitalisation Act (U.S. Environmental Protection Agency, 2001).

In terms of 'hardcore' sites, English Partnerships (2003, p.8) defined it as land that has been vacant or derelict for nine or more years. This definition was based on research by Roger Tym and Partners (2001) for English Partnerships which identified a 'hardcore' site as a previously developed site of 2 ha or more which is vacant or derelict in 2002 and was already in that condition on or about 1 April 1993 (the date of the Derelict Land Survey) (Dixon et al., 2011). In addition to the length of dereliction, PDL has been also categorised according to the impact of site abnormals, and 'hardcore' sites are placed under Category 3 (Fig. 1)[1] where site abnormals (i.e. additional cost incurred when developing PDL) would exceed the anticipated value of the completed development. 'Hardcore' sites are considered as relatively small in size and long-term derelict sites with contamination and these sites are generally unattractive to the market where there is no realistic profit, therefore potentially posing tremendous difficulties for developers seeking to undertake the regeneration process.

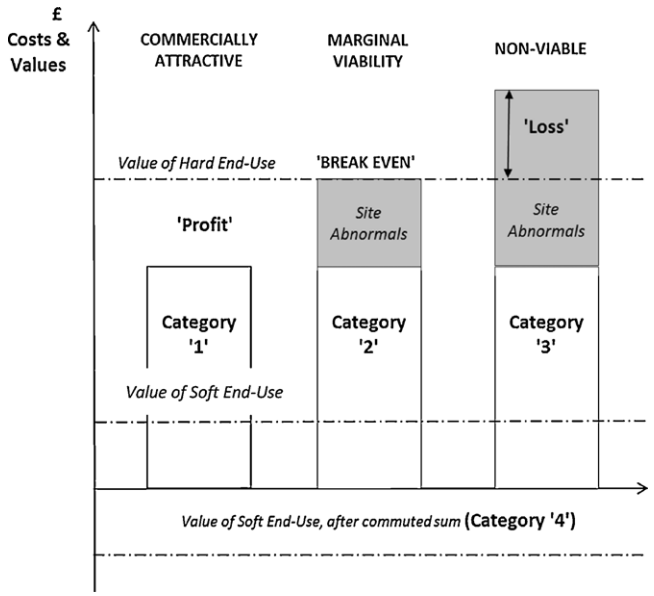

Fig. 1. Categories of PDL.
Adapted from English Partnerships (2003), p. 12.

In parallel to the English approach, the total amount of 'hardcore' sites in Japan is also estimated with reference to the extent to which the land is commercially viable for development. Yasutaka et al. (2007) and MoE (2007) proposed the calculation method and used the term Potentially Brownfield Site (PBS), which seems to equate to 'hardcore' sites in the English context. In Japan, PBSs refers to commercially unviable sites where soil contamination countermeasure costs exceeds 30 percent of the land price. The number of PBSs is calculated by multiplying the number of Contaminated Site (CS) (i.e. disused and operating manufacturing, gas stands and dry cleaners all over Japan) by the estimated probability of a CS falling into conditions for becoming a PBS (Yasutaka et al., 2007). The term PBS therefore indicates a site which has a potential of being categorised as 'hardcore' when the industrial activities of the CS is closed down. In other words, PBS includes the site which is not yet termed as 'hardcore' sites since the industrial activities on the sites are still under operation.

Both countries offer different concepts of understanding brownfield and 'hardcore' sites, and the definitions are summarised in Table 1 below and utilised as the basis of the rest of discussion in this paper.

National policy frameworks

This section explains the English and Japanese Government policy frameworks for encouraging brownfield regeneration.

English Government approach

When the New Labour Government came to power in 1997, 'urban renaissance' was promoted as the core concept for disseminating the Government's commitment to the revitalisation of English urban centres. Furthermore, the Labour Government

[1] It should be noted this figure was originally presented in the paper by Ferber (1997, cited in Thornton and Nathanail, 2005).