

Perception of private and public sectors of the regeneration of post-industrial areas in Japan

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Abstract

The aim of this study is to examine private and public sector perceptions of the redevelopment of post-industrial areas. It clarifies the barriers to such regeneration, and the areas of improvement currently being sought by stakeholders in Japan, where this issue has only just begun to surface. This study was conducted using a questionnaire distributed to public and private enterprises in December 2006. The results showed that among private enterprises there was widespread demand for the government to relax regulations and establish a regulatory system, while local governments were facing cost-related issues concerning the cleanup of soil contamination. In addition, since these issues relate to both urban development and environmental protection, we can see differences of opinion between construction-related and environment-related organizations, suggesting that the vertical division of government organizations may also be a hurdle to resolving these issues.

Keywords: brownfield sites, contamination, stakeholder.

1 Introduction

In order to abide by the Kyoto Protocol that has now come into force, governments must enact policies to reduce emissions of greenhouse gases. In addition, there has already been discussion of setting further reduction targets for the years after 2013, creating a pressing need for environmental regulations and energy-conservation policies. As a result, fundamental changes in our fossil fuel-dependent society and industries are believed to be inevitable. In developed countries in particular, the restructuring or relocation of industrial facilities that have heretofore supported these countries' economic growth have led to



increasingly large areas of unused land, or land that has no prospect of being reused (hereafter “brownfields”) [1, 9]. Due to this situation, what is most important now is not the development of natural land or forests, but rather the redevelopment of unused, previously developed land [10]. The appropriate use and redevelopment of such land can be expected to involve issues related to the cleanup of contamination and the improvement of living and working environments. There are many barriers to this redevelopment, except near large metropolitan centers where such land can be expected to bring generous profits [2]. Accordingly, the first goal of this paper is to examine the views of the various stakeholders involved in brownfields redevelopment.

2 Policy context and background

Research into the issue of brownfields in Japan has included a comparative study of policy frameworks to deal with the cleanup of contamination in Europe and Japan by Miyagawa and Nakayama [3, 4], and a report illustrating a number of detailed examples of brownfields policies in the United States by Kurose and Murayama [5]. In addition, Kitazawa et al. [6] and Kitazawa and Nohara [7] performed an investigation and analysis of policies on the growing number of post-industrial sites in the Tokyo Bay area. However, only recently have the problems associated with brownfields come to be recognized in Japan, and we can expect increasingly serious efforts to tackle these problems in the coming years.

Let us first review the development of laws to deal with environmental pollution in Japan. An incident involving cadmium led to two laws on water quality being passed in the 1950s, while the discovery of the Minamata disease (mercury poisoning) in the 1960s led to the establishment of the Basic Law for Environmental Pollution Control. In 1970, the discovery of hexavalent chromium in agricultural products led to the enactment of the first law on the cleanup of contaminated land, known as the Agricultural Land Soil Pollution Prevention Law. There was little interest in soil pollution thereafter, until the discovery of dioxin contamination at the waste treatment facility in Nose-cho in 1997, and the enactment of 2001 Law Concerning Special Measures Against Dioxins. Awareness of soil contamination related to post-industrial brownfields came to the fore after the Mitsubishi Estate failed to report soil and groundwater contaminations at the site of the Osaka Amenity Park in 2002. It was only in 2003 that the Soil Contamination Countermeasures Law was enacted. In 2007, the Ministry of the Environment released the Current Status of the Brownfields Issue in Japan Interim Report, which estimated the scale of potential brownfields in Japan and identified the possibility of this becoming a major social issue [8, 11].

At the same time, in the area of urban renewal, the Urban Renaissance Headquarters was established within the Cabinet Office in 2001 and the Urban Renewal Special Measures Law was passed in 2003. Nevertheless, the stated purpose of this law was “to respond to changes in socioeconomic circumstances, including digitization, internationalization, declining birthrate, ageing



population, improvement of urban living conditions, and enhancement of urban services”, making it primarily an economic, rather than environmental, measure that prioritized living conditions in urban areas. Although the government has since established the Headquarters for Revitalization of Central Urban Districts and the Headquarters for Regional Revitalization, and identified key areas for renewal and enacted measures to revitalize the economy, these have had almost no implications for environmental policies (sustainable development). Even so, the effects of an increase in under-used land brought on by changes in the industrial structure, similar to those experienced by other developed nations, and the enactment of the Soil Contamination Countermeasures Law in 2003, will begin to highlight the brownfield issues in Japan.

3 Research question and methodology

This paper aims to explore public and private sector initiatives in the area of brownfield redevelopment and clarify public and private perceptions of this issue. The objective is to clarify what stakeholders expect of the national government, the barriers to redevelopment and other issues in Japan, where brownfield redevelopment initiatives have yet to gain much attention.

To that end, the authors created a questionnaire examining respondents’ opinions of the current status of brownfields, redevelopment methods and problem areas. The survey was carried out as outlined below.

The questionnaire was distributed to public organizations and private enterprises in December 2006 via the national postal service or through e-mail. The questionnaire contained a total of 16 questions, combining both multiple-choice questions and questions where respondents filled in their answers.

The questionnaire subjects were selected from those organizations and enterprises believed to be the primary stakeholders in brownfield redevelopment. Public-sector organizations that were targeted included the 4 relevant divisions of government organizations, 47 prefectural and city governments, and 15 government-designated cities. A total of 19 private enterprises were targeted, including general contractors, developers, financial institutions, consultants and NPOs (Non-Profit Organization). As shown in Table 1, the response rate from local authorities was the highest, scoring 50%, while the overall response rate was 46%.

Table 1: Response rate.

	Sample size	Response rate
Government	4	1 (25%)
Local Authorities	62	31 (50%)
Private enterprise	19	7 (37%)
Total	85	39 (46%)



4 Main findings from the research

The following sections address the main questions and results related to the above objectives, and provide analysis and discussion of these results.

4.1 Perception of the current status of brownfields

According to the answers to the question, “What is your opinion of the status of current post-industrial land?” shown in Fig. 1, the response of most local authorities was that the number of such sites was either increasing or had not changed (58%), while the majority of private enterprises replied that the number was decreasing (71%). Public and private respondents who said that the number was increasing listed the shifting of manufacturing centers overseas and changes in the structure of industry as causes of this increase. Among those who stated that the number of sites was decreasing, many expressed the opinion that those sites worth investing in had already been redeveloped. In other words, it seems this difference in perception has been caused because local authorities are concerned by post-industrial land within their own communities, while private enterprises see the issue on a national scale, and consider post-industrial sites to be worth using for real estate.

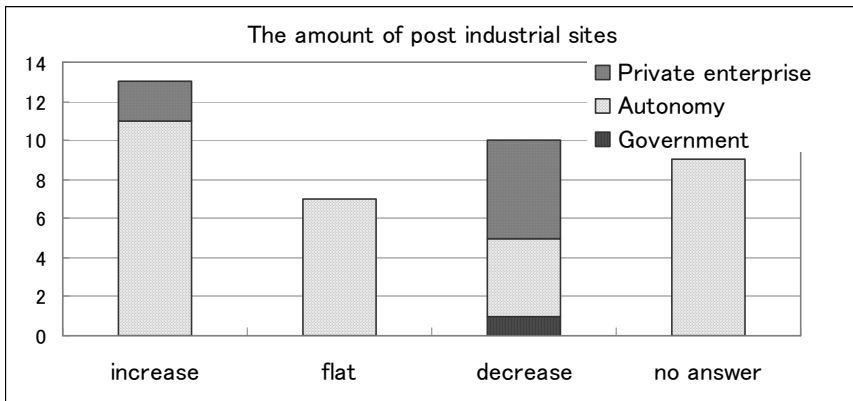


Figure 1: Answers to the question “What is your opinion of the status of current post-industrial land?”.

4.2 Barriers to the redevelopment of brownfields

A sample of the responses to the question, “What are the barriers to brownfield redevelopment?” is provided below.

[Private sector]

- Regulations on the purpose of use, contamination cleanup measures, and lack of urban infrastructure



- Disorganized redevelopment procedures
- When the cleanup of soil contamination is required, there is a major issue as to whether the cost of such cleanup matches the need for land
- Risks of land, such as soil contamination, and the necessary procedures and costs needed to remove them

[Public sector]

- Private Owners have legal rights to post-industrial land
- Residents living near the site, landowners and government each have their own agendas regarding the reuse of the land
- Increasing availability of residential land in suburbs, and the reduced demand for development within downtown cores due to the transfer of public institutions

Both public and private sector respondents mentioned regulations on the purpose of use, contamination cleanup measures, and the lack of urban infrastructure. Private sector respondents mention the disorganized procedures associated with development and the high costs involved in identifying and removing soil contamination, reflecting the opinions of developers engaged in the actual land redevelopment. Public sector respondents, by contrast, tend to look at the difficulties in promoting redevelopment, such as the difficulty in identifying effective ways to reuse the land that will be supported by all stakeholders when the location is unfavorable, such as in the suburbs. Clearly, there are many barriers facing both groups, and it will be necessary for the national government to give sufficient consideration to both sides when formulating policies to resolve these issues.

4.3 Issues in contamination cleanup measures and policies

In response to the question, “Do you believe there are problems with current soil contamination cleanup measures and policies?”, about 70% of the respondents answered affirmatively, as shown in Fig. 2.

A summary of the comments provided by those who stated that there were problems is provided below.

[Private sector]

- Because there are no official evaluation standards for soil contamination cleanup measures, it is relatively difficult to ensure an objective level of reassurance after cleanup has been completed
- There are few incentives to clean up contaminated soil in Japan

[Public sector]

- Land is a private asset, and, under articles 3 and 4 of the relevant law, it is the responsibility of the land owner rather than the user to survey the land. However, many land owners rent out the land without understanding the relevant regulations, and there can be trouble when the user of the land goes out of business



- Surveys specified by the Soil Contamination Countermeasures Law only apply to specific sites
- The current Soil Contamination Countermeasures Law has transitional regulations for land measuring up to 300 m² to be exempted from surveys related to the amount of harmful substances contained in soil, and therefore the land can be sold without identifying whether there is soil or groundwater contamination
- As there are many costs involved in cleaning up soil contamination, a support system is necessary

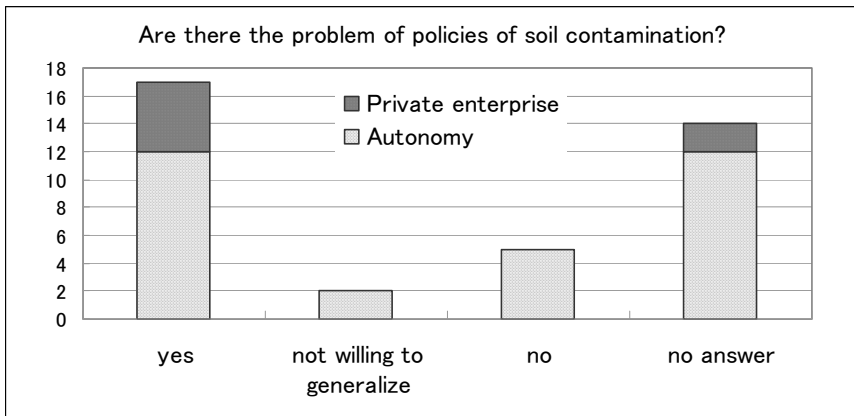


Figure 2: Answers to the question “Do you believe there are problems with current soil contamination cleanup measures and policies?”.

Next, the comments provided in response to the question, “What will be required in the future?” is summarized below.

[Private sector]

- Real estate owners, users, intermediaries and others must become more knowledgeable about soil contamination, and an appropriate market must be organized
- In order to support the redevelopment of factory sites, we need flexible, forward-thinking soil contamination cleanup measures, and a local support system to consider the best method of land development
- A certain amount of public funding is required

[Public sector]

- It is extremely difficult to survey soil conditions while the land is in use, but we need a system in which such surveys are actively pursued
- There needs to be a better balance between soil contamination cleanup policies and private ownership

- There must be methods to help pay for the costs of contamination surveys and cleanup measures, as well as risk communication methods
- In order to identify areas of soil contamination as quickly as possible, there need to be legal regulations requiring surveys to be carried out whenever there is a change in the shape or use of the land, as well as regular surveys for business locations using harmful substances
- The development of low-cost and effective contamination cleanup measures and technologies is required

As shown above, private enterprises think that the current system does not reflect the reality on the ground, listing issues such as the lack of official evaluation standards, the fact that blanket regulations mean that occasionally unnecessary measures must be taken when there is a change in the purpose of use, strict measures which place the burden of risk on private enterprises, etc. For the future measures, they call for drastic revision of the Soil Contamination Countermeasures Law. In contrast, local government authorities suggest that this law lacks detail concerning surveys. They point out that for land measuring up to 300 m², there are transitional regulations to exempt it from surveys related to the amount of harmful substances contained in soil, and therefore the land can be sold without identifying whether or not there is soil or groundwater contamination. Others argue that, under the provision of Article 3 of the Soil Contamination Countermeasures Law, dry cleaning businesses, plating factories and other small and medium-sized businesses receive a reprieve of survey because they lack the funds to carry out such surveys and clean up contamination. As a result, soil contamination goes untreated. Furthermore, there is even a risk that the contamination could spread. Still others see a problem in the fact that surveys mandated under Article 3 of the Soil Contamination Countermeasures Law could be delayed as long as the land is in use. These respondents call for low-cost and effective survey methods and the provision of support funds. Underlying these opinions is the issue that government cleanup standards are not set for the use of the land after its redevelopment, and at present all brownfields must be completely cleaned of contaminants. In the United States, all those connected with the site are retroactively responsible for contamination; however, in Japan, only the land owner is held responsible, regardless of the responsibility for the actual contamination. Since most land owners deposit the land as collateral, fear of a decrease in the value of their real estate may lead land owners to conceal the presence of contamination in their properties.

5 Conclusions

Looking at the results of the questionnaire, we can see that there are several gaps in the perceptions of public and private sectors. Real issues seen by private sector respondents include disorganized brownfield development procedures, a lack of precise survey standards, and other barriers to daily business operations. Private enterprises value profit more than governments, and therefore they tend



to focus on development of the best locations. In order to promote the development of idle land and areas of comparatively low value, private enterprises need to receive sufficient revenue from the development. In order to achieve this, the government needs to establish a framework that will provide sufficient benefits so as to make development of suburbs more attractive. In addition, there are widespread calls for a relaxation of regulations and the clear establishment of a system. In contrast, local authorities are pursuing the redevelopment of post-industrial sites for urban development or infrastructure, regardless of the scale, and yet they face difficulties securing sufficient funds to survey soil contamination and pay for the cost of cleanup. In addition, answers received from local authorities show a difference in opinions between construction-related and environment-related departments, as the questionnaire contained questions on both urban development and environmental protection. This suggests that the vertical division of government organizations is also something of a stumbling block.

In the future, we plan to focus on specific, marginal areas, and examine problems in the local brownfield development initiatives of authorities. In addition, we will perform comparative studies to determine if there are any lessons Japan can draw from cases in the UK and other developed nations.

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