



RESEARCH ARTICLE

# Occurrence factors of large vacant lots in central districts and their utilization by local governments in Japan



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## Abstract

In Japan, local cities experience a number of problems related to deterioration of residential environment, quality of public service, and vitalization of commercial land. Specifically, the presence of large vacant lots behind sizable stores, office buildings, hospitals, and factories devitalize urban activity and its landscape. Many local cities are seeking to actualize a sustainable compact city with an integrated population, commerce, traffic and other public services in ways that promote a low carbon and energy-conserving society. Against the backdrop of these issues, this study examines the occurrence of large vacant lots and their utilization by local governments in Japan based on a questionnaire and field survey. It highlights several cases in which a large vacant lot is used to forward the development of a compact city by a local government.

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## 1. Introduction

For decades, local cities in Japan have experienced a hollowing-out problem. Since the 2016 revision of the “three town development laws,” including the City Planning

Act, the Act on the Measures by Large-Scale Retail Stores for the Preservation of the Living Environment, and the Law on the Improvement and Vitalization of the City Center, government policies have moved toward promoting a “walkable compact sustainable city” in which workplaces and public services are in relative proximity to the homes of employees (Architecture Institute of Japan, 2015). Despite these laws, the number of fragile lands and vacant buildings used are increasing (Ohgai and Emoto, 2004). They function as disincentives for urban regeneration (Setoguchi et al.,

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2004). In particular, a large-scale vacant lot from an abandoned, extensive retail store or factory or caused by the relocation of a public facility to the suburbs can exacerbate the hollowing-out problem (Asano, 2002). The presence of these vacant spaces affects the future planning associated with the development of a compact city. Although large vacant lots exist in various parts of Japan, an overview of the effect of these lots has yet to be presented (Sakai, 2014).

## 2. Research method

First, the generation status of vacant lots and the associated trend in central districts are described based on a questionnaire survey aimed at investigating the actual conditions in 423 municipalities.

Second, according to the opinion of experts, several examples of utilizing vacant lots for realizing a compact city are selected. Then, the utilization method of large vacant lot from information about the background from generation to conversion, project method, ownership relationship, and usage situation are organized.

In this study, the conditions used to determine a “large vacant lot” are as follows: 1) the total site area is over 0.5 ha; and 2) it is located within 1 km from the nearest peak land-value intersection. From the results of the questionnaire survey, large vacant lots are classified into two types: land that has already been converted for other usages (hereafter

referred to as converted land) and land that has not been converted yet (hereafter referred to as idle land).

## 3. Generation situation of large vacant lots in local cities

In 2013, the Regional Planning Committee of the Architectural Institute of Japan sent out a questionnaire to the departments of urban planning in 423 municipalities.

Municipalities in the three major metropolitan areas and three prefectures devastated by the Great East Japan Earthquake were removed from the list of our target group. The question items are shown in Table 1. Answers from 239 municipalities were obtained; of those, 97 restated that they have vacant lots to meet the condition of this study (Table 2).

The total number of large vacant lot is 178. The number of lots categorized as converted land and idle land are 97 each (Table 3). Regionally, the largest number of lots by group, 44 (24.7%), is in the Tohoku Region (including Niigata Prefecture). The second largest number, 35 (19.7%), is in the Tokai and Koushin Regions.

Regarding site space, the largest number of lots, 27, measure 5000-10,000 m<sup>2</sup> (Fig. 1).

## 4. Typical use of large vacant lots

The features of lots categorized as converted land are discussed in this section. Since May 31, 2013, according to land and facility use, 18 (20.2%) are for commerce or business, while 16 (18.0%) are historical or cultural facilities (Table 4). The other uses include medical, welfare, and residential.

### 4.1. Project owner and method

Table 5 shows the project implementing body. The city office has the largest number of projects, with 42 (47.2%). Second, retailers have five projects (5.6%), and associations for urban redevelopment have four (4.5%). In case of public projects, such as urban redevelopment, land readjustment, and urban regeneration improvement projects, the term tends to be within 5 years.

**Table 1** Question items.

1. Presence or absence of large vacant lots in central district, location, and site area
2. Positioning of large vacant lots as a factor in urban planning (regulation of land use, building coverage ratio, floor area ratio, distinction between regional zoning regulation and district plan, position of urban master plan)
3. Utilization change and ownership transfer
4. Present utilization form of converted land

**Table 2** Number of huge vacant lots by region.

	Quantity of responses	Ratio (%)	Appropriate	N/A	Answer impossible	Non-respondent
Hokkaido	16/39	41.0	7	8	1	23
Tohoku (Niigata)	29/48	59.2	18	11	0	19
Kanto	28/44	63.6	9	19	0	16
Tokai, Koushin	42/70	60.0	21	21	0	28
Hokuriku, Kinki	30/68	44.1	12	18	0	38
Chugoku, Shikoku	48/65	73.8	17	30	1	17
Kyushu, Okinawa	46/89	51.7	13	32	1	43
Total	239/423	56.5	97	139	3	184

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