



Industrial Culture and Planning of Illegal Development Area in the Historic Urban Periphery - Through the Practice for Legalization of “Ooiwa Highway Neighboring Area” in Fushimi, Kyoto

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Abstract

In illegal development area, besides how to implement legalization, it is difficult question whether the local characteristics can be found and should be evaluated as the basis for planning. This paper aims to clarify the effective methodology for legalization in “Ooiwa” as part of Kyoto City’s urban planning through analysis of the illegality in this area and practices including field survey and planning proposal. First, by reviewing the process of illegal development and rectification by Kyoto City, it was found that the illegality of this area lies in the condition of the land, buildings and roads without development permission after the designation of the urbanization control area. For establishment of District Plan, which is one of the essential procedures for legalization, we next conducted field survey and proposal of improvement plan. Site surveys clarified the shapes of buildings and sites, and detailed use of industrial buildings. It was found that these buildings are not cohesive as industries, but all various businesses support the industries and lifestyles of the central area of Kyoto City, and it became clear that they should be valued as part of Kyoto's industrial culture. Based on these findings, we proposed Machizukuri Vision and District Improvement Plan, which are essential to establish District Plan, to the local council. The analysis to identify the illegality within a region-specific development was so important to understand the urban planning methods for legalization. It was also necessary to reevaluate the characteristics in this area through site surveys of the current situation in detail, in order to propose a plan for legalization. And in particular, the very effective point of view for planning this area as part of Kyoto City Urban Planning became clear that industrial business here can be evaluated as part of the industrial culture of Kyoto's periphery. Furthermore, it was essential for the consensus building and implementation of the plan that these surveys and proposals be practiced as part of Machizukuri.

Keywords: Illegal development area, Industrial culture, Machizukuri (Community development), Site survey, District plan, “Ooiwa Highway Neighboring Area”

1. Introduction - Structural Systems of Brno Panel Housing Estates

“Ooiwa Highway Neighboring Area” is an illegal development area located at the southern foot of Mt. Inari, famous for Fushimi Inari shrine in Kyoto, Japan (FIGURE 1). Although entirely located in Urbanization Control Area and partly located in Scenic District, industrial and residential development has been concentrated here since the period of rapid economic growth in 1960s, leaving illegal buildings and mountains of industrial waste (FIGURE 2). Residents and workers today are not the actors of illegal development, but they would possibly be forced to evicted in the future. Our laboratories have been working with locals for several years to implement practices for legalization.

This paper aims to clarify the effective methodology for legalization in “Ooiwa” as part of Kyoto City’s urban planning through analysis of the illegality in this area and practices including field survey and planning proposal.

Many studies and practices for improving various illegal or informal areas have been conducted, especially in Asia and Africa. Slam-upgrading methods have already been established in Southeast Asian countries for decades such as “Kampung Improvement Program” in Indonesia or “Baan Mankong Program” in Thailand. But in contemporary Japan, there are no methods or examples of such excellence and how to legalize is really a great challenge. In “Ooiwa”, the ownership of each land and building is clearly recognized, and as discussed later we are aiming for legalization by establishing “District Plan”, a bottom-up urban planning approach. Since District Plan would be discussed and approved as part of Kyoto City’s urban planning, mere deregulation or acceptance of the status quo should not be allowed, it is needed to reevaluate the development and characteristics of “Ooiwa” as part of the history and culture of Kyoto. This is where the perspective of “Industrial Culture” will be important. A recent study says that landscape is no longer seen simply as a view or scene but as process, and shows the perspective of future cultural landscape through the case studies of all over the world including for example, dumping ground of waste in Indonesia [1]. Especially Kyoto is a historical city and one of the earliest cities in Japan to designate Scenic District to protect its nature and cultural heritage from urbanization. It is necessary to explore the possibility of valuing development in “Ooiwa” not merely as illegal destruction of nature and landscape, but as the periphery of Kyoto which received the expansion of industrial land use in the rapid economic growth.

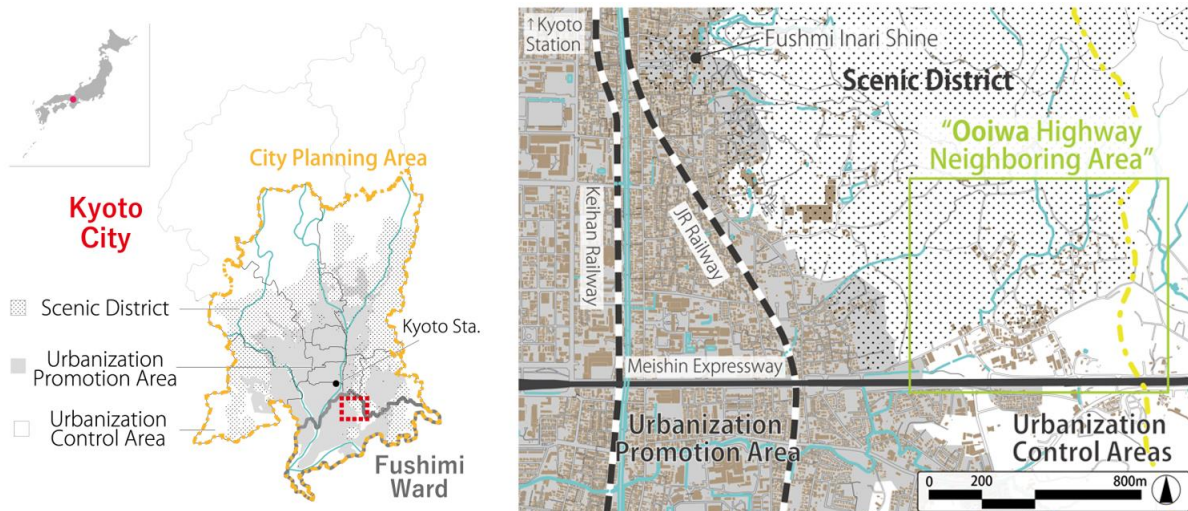


Fig. 1. Map of Kyoto City and location of "Ooiwa Highway Neighboring Area"

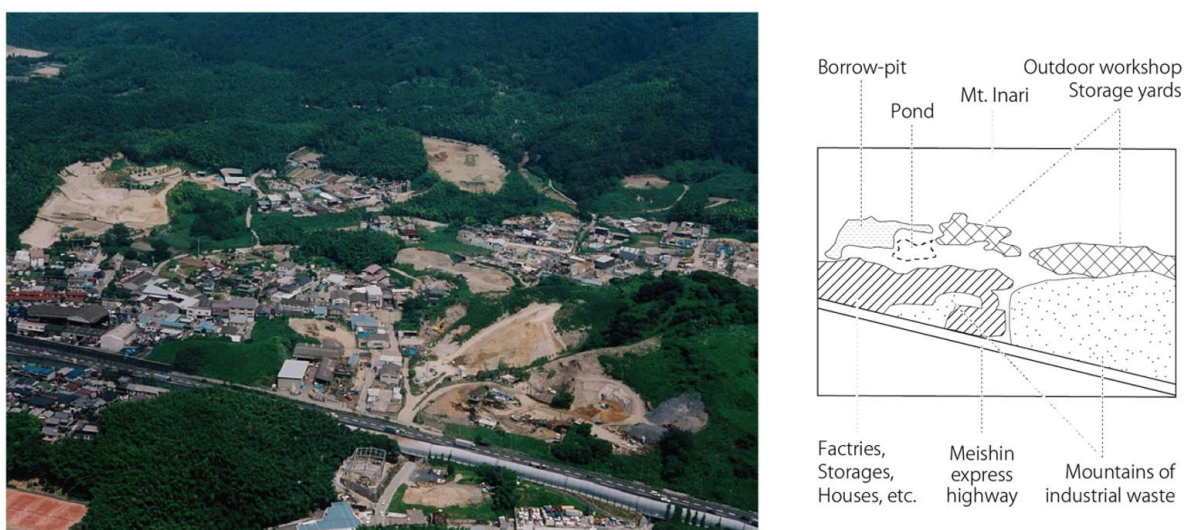


Fig. 2. View of "Ooiwa" in 2003 (Photo reprinted from [2])

2. Analysis of Illegality Through a Review of the Process of Illegal Development and Rectifying

First, a review of the process of illegal development, rectifying by Kyoto city, and recent practices for legalization will clarify the illegality and local issues to be achieved in "Ooiwa".

2.1 Illegal Development in "Ooiwa"

Here has long been a suburban farmland and forest, and also a source of clay used for mud walls. Aerial photo (1946) shows a valley surrounded by mountains at about 100 m elevation with several ponds (FIGURE 3). In 1949, part of the area was designated as Scenic District, and strict regulations were placed on the preservation of green space and the construction of buildings. However, because of its proximity to the urban area and easy access from major roads, massive extraction of soil for construction, cutting down of the forest trees, and Illegal dumping or open burning of industrial waste was occurred during the period of rapid economic growth, especially after 1960 S (FIGURE 4.). Also, the location between the Meishin Expressway opened in 1963 and Mt. Inari made it difficult for the neighborhood to be seen. In 1971, the entire area was designated as an urbanization control area, but even after that, the reclamation of ponds and the construction of non-permitted buildings and roads continued, and urbanization progressed. As a result, "Ooiwa" became one of the largest illegal developed areas in Japan, covering an area of approximately 40 ha.

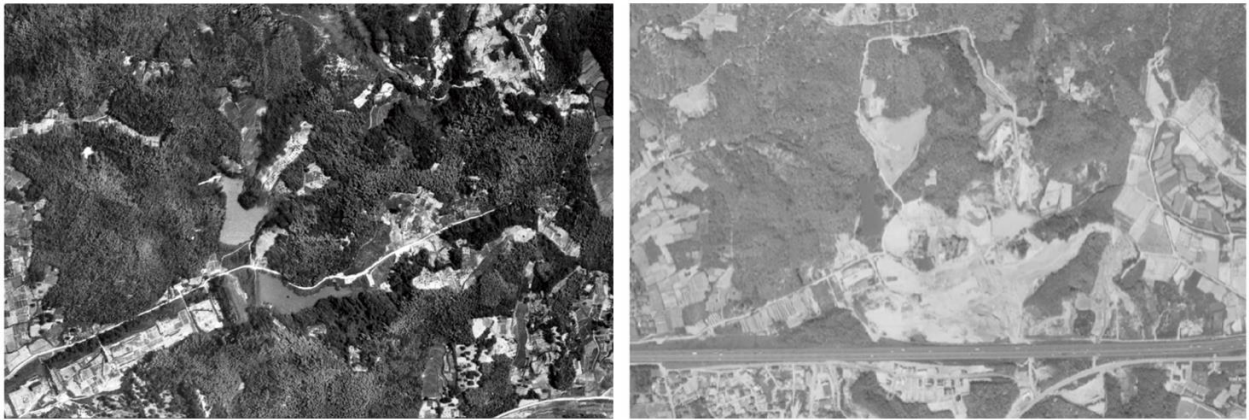


Fig. 3. 1948 and 1973 aerial photographs



Fig. 4. Illegal dumping and open burning in 1994. (Photos reprinted from [2])

2.2 Rectifying and Policy for Legalization

Around 1985, complaints from residents nearby about smoke and odors caused by open burning led to guidance by Kyoto city, and illegal dumping and open burning had subsided by about 2003. Subsequently Kyoto city established the improvement policy in 2010 [3], and the residents and workers here were asked to improve their own communities, not improvement by Kyoto city with public funds. In the improvement policy, 3 areas were established based on current status and regulations (FIGURE 5.).

- Area A : Induce the regeneration of a lush green environment leading to Mt.Inari
- Area B : Induce improvements to the local environment with roads, sewers, and other living infrastructure
- Area C : Induce the removal of dump and environmental improvement of the entire area

This improvement policy was also established as the Machizukuri (community development) concept in the Kyoto City Urban Planning Master Plan in 2012 [4]. Thus, the improvement for legalization in “Ooiwa” has already been approved as a concept, but the current challenge is to establish a concrete plan with local opinion and consensus and obtain approval as urban planning.

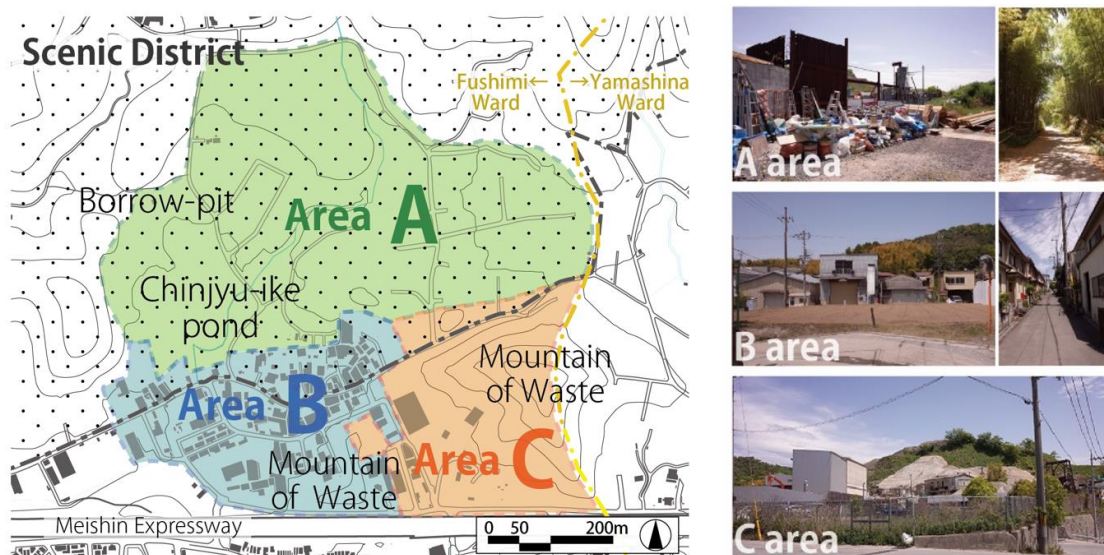


Fig. 5. Current status of three areas in “Ooiwa”

In Area A, in addition to bamboo groves and farmland, there are soil borrow-pit and many material and industrial waste storage yards. The entire area is designated as a scenic district, and the buildings have already been removed by Kyoto city. In Area C, the project by the local industrial waste management company to remove the mountain of industrial waste is going on and will take more than a decade to complete. In Area B, factories, warehouses, houses and other buildings are built at high density. The approximately 100 buildings here, with a few exceptions, were built after “Ooiwa” was designated as urbanization control area, and

are illegal buildings without “Development Permission”. In order to avoid the eviction and to legalize these buildings in Area B, a new Development Permission is needed to be obtained. However, the current shape and use of the buildings in Area B, the condition of the road access (relationship between the road and the site), and the shape of the roads do not conform to the conditions of the Development Permission. This is the illegality in “Ooiwa” today. In order to legalize, or in other words, to obtain a Development Permission, it is necessary to establish and implement “Road Development Plan” to ensure that the shape of the roads conforms to the conditions for new development, and “District Plan” to specify the shape and use of buildings planned in the district in the future.

2.3 Machizukuri Practices in Area B

For the past few years, the Fukakusa branch office of Kyoto City has requested our university to conduct surveys and initiatives for legalization of Area B, which is being promoted as a Machizukuri (community development) project in collaboration with locals. The Fukakusa branch office now has a department dedicated to "Ooiwa". In 2017, "Area B Machizukuri Council" was established by local residents and workers, which itself is a great progress of Machizukuri here. We universities conduct detailed surveys of buildings and other facilities. Based on the results of these surveys, we propose a feasible plan for the local community. If the plan is agreed upon by the locals, it will be submitted to the main office of Kyoto City as a request from "Area B Machizukuri council" for approval. The Fukakusa Branch Office will also serve as an intermediary for this process. Local unity is indispensable in cooperation for the survey and in consensus building and implementing the plan. In “Ooiwa”, where there is currently no neighborhood association, events such as community cleanups and dinners are also important for communalization. The next chapter describes surveys and planning proposal conducted over the past several years under this organizational structure (FIGURE 6.) (Table 1.).

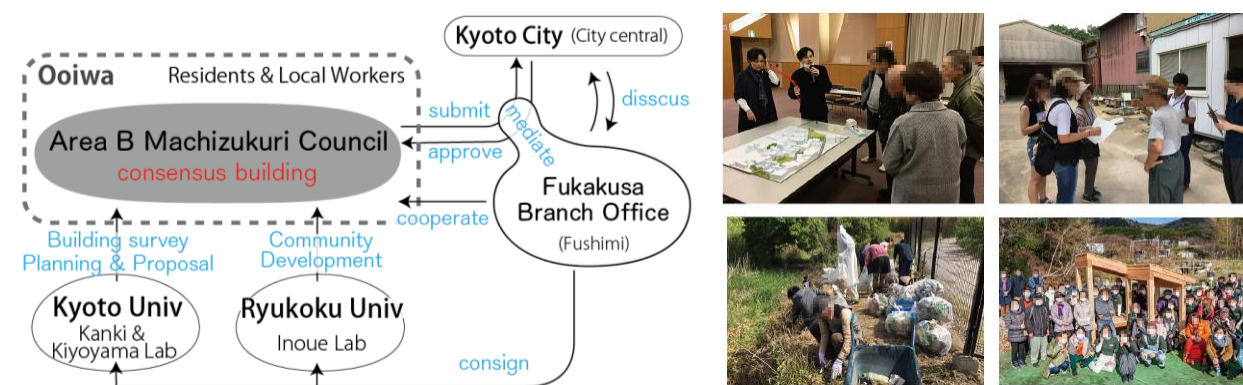


Fig. 6. Organizational chart and photos of design proposal, site survey, community cleanup, and event

Tab. 1. Chronology of major events in “Ooiwa”

Year	Major Events
~ 1940S	Farmlands for radish, bamboo shoots, tea, etc. were spreading Clay soil was quarried and used for roof tiles and walls
1949	Part of Fukakusa area, including “Ooiwa”, was added to Scenic District
1960S	Rapid increase in the amount of soil quarried for use in public works projects, etc.
1963	Opening of Meishin Expressway
about 1967~	Start of landfill and open burning of waste as construction debris by waste disposal companies
about 1968~	Pond was reclaimed and residential subdivisions began
1971	The entire area was designated as Urbanization Control Area
1972	Construction of buildings by landowners and users began mountain of wastes began to built
about 1985~	Smoke and odors from open burning generate strong requests from nearby residents for countermeasures
1991	Neighbors submit petition to Kyoto City to crack down on Open burning
1996~	Kyoto City installed a monitoring shed at the site and strengthened its crackdown on illegal activities Kyoto City began discussions on resolving environmental issues and illegal conditions
2003	Large-scale open burning of waste subsided
2006	Establishment of “Guideline for creating a good environment in Ooiwa Highway Neighboring Area”
2010	Establishment of “Community development policy to create a good environment in Ooiwa Highway Neighboring Area”
2011~	Kyoto City further strengthened corrective guidance for illegal buildings, especially in Scenic District
2012	Removal of mountain of waste s began in earnest. Interaction activities among residents and workers in the community began. The improvement policy was established as Machizukuri concept in the Kyoto City Urban Planning Master Plan
2017	Establishment of “Area B Machizukuri Council”
2023	Establishment of “Area B Machizukuri Vision”

3. Site Surveys and Planning Proposal in Area B

The previous chapter summarized the illegality of Area B and measures to legalize it. This chapter clarifies the current building shape and use of Area B through site survey, and proposes the improvement plan, especially for establishment of District Plan.

3.1 Survey of Shapes of Sites and Buildings

The first problem in planning is each site boundary. Although the ownership of each site and building is clear in “Ooiwa”, on most sites there are no formal site boundaries agreed upon by all. In order to consider the conditions of each site and the Building Coverage Ratio, it is first necessary to tentatively determine the site boundaries from the current use. We conducted our survey from January to March 2022. First, we established a tentative site boundary based on aerial photographs and maps, referring to structures such as fences and ditches that could be considered as site boundaries. The site survey will then confirm or correct the tentative site boundaries by visually inspecting the exterior appearance of the use of the site. In cases where it was difficult to make a determination, the information was supplemented by interviews with relevant parties. As a result, we were able to tentatively determine all site boundaries in Area B. (FIGURE 7.)

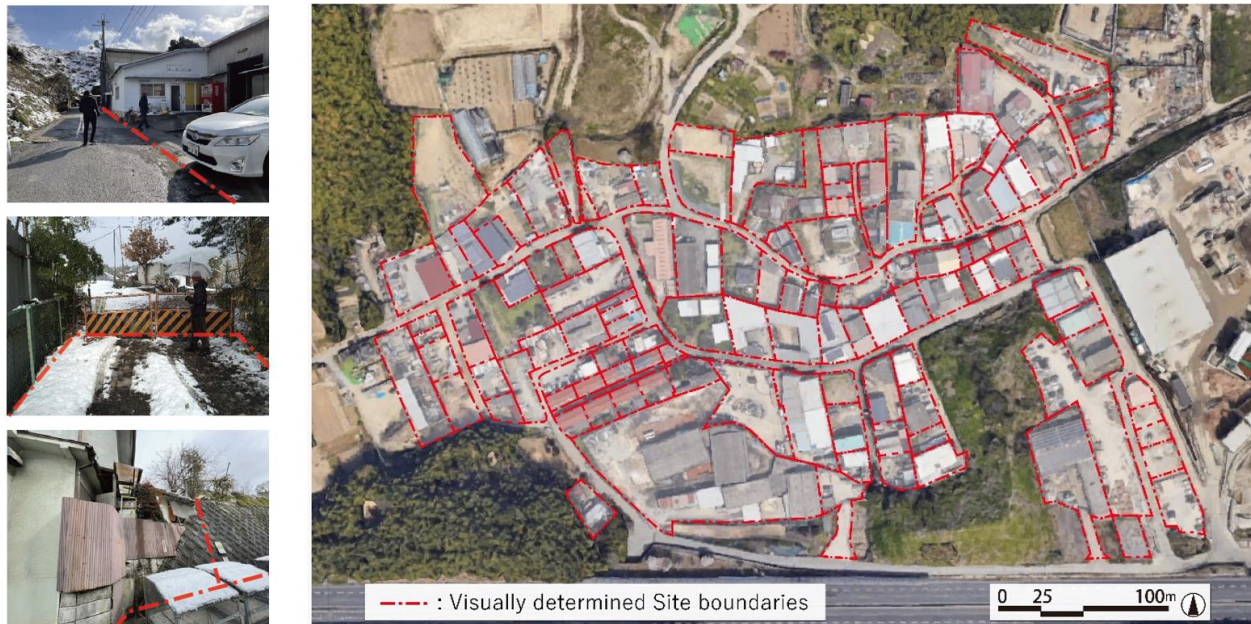


Fig. 7. Tentatively determined site boundaries in Area B and photos of the site survey

And by checking building area and story height in the same survey, the relationship between the site and building volumes was clarified. FIGURE 8. shows building coverage ratio (BCR) and Floor-Area Ratio (FAR) of each site. According to the current Kyoto City standards, BCR of 30% and FAR of 100% or less is expected in the northern part of Area B, which is included in Scenic District, and BCR of 60% and FAR of 100% or less is expected elsewhere, but it was found that many sites exceeded these standards. Some of the sites were revealed to have 100% BCR, with a building on the entire apparent site. In these cases, building area and height reduction will be required in the future. In contrast, in the northern part of Area B for example, considering the current situation of high density of buildings, BCR 30% is not feasible. The criteria should be set in accordance with the characteristics of the region from the viewpoint of feasibility by local people and sustainability of their residence and livelihood. It may be also necessary to reconsider whether the designation as Scenic District at that time was appropriate for this area, which was originally farmland. These discussions should be pursued further.

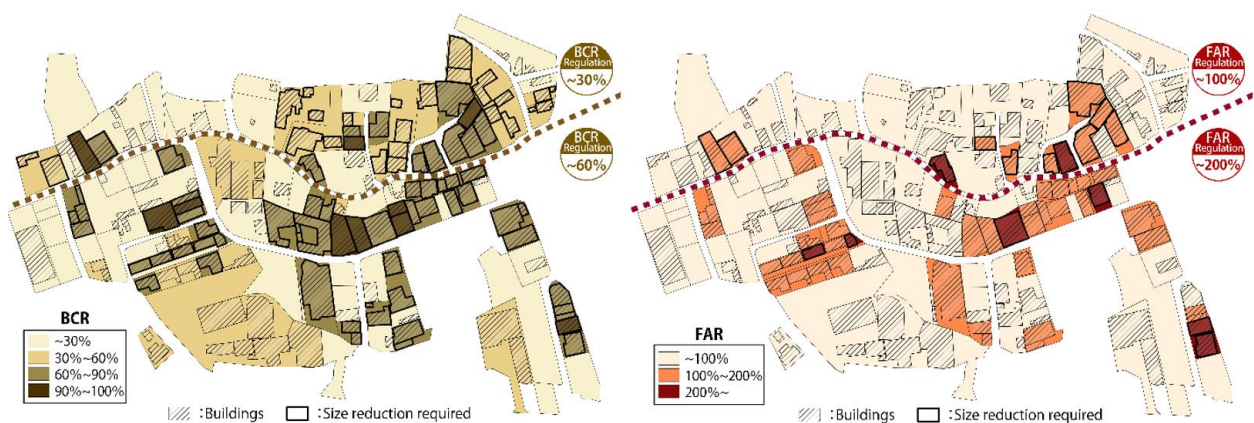


Fig. 8. Building Coverage Ratio (BCR) and Floor-Area Ratio (FAR) in Area B

3.2 Establishment of “Area B Machizukuri Vision”

From April 2022, repeated proposals and discussions were made to the “Area B machizukuri Council”, and in March 2023 “Area B Machizukuri Vision” was established. (FIGURE 9.) In addition to the results of the survey of the current status of Area B and the outline development plan, a future vision that the community should aspire to was agreed upon. In particular, the following four points have been agreed upon as Machizukuri policies.

- 1) Nature as the village at the southern foot of Mt.Inari

- 2) Road maintenance as footpaths around history
- 3) Landscape where industry and residence coexist
- 4) Creation of places and opportunities for daily interaction

Each of these policies is intended to 1) Promotion of greening in the area, part of which is also designated as Scenic District, 2) Emphasis on the history of the roads, which need to be improved for Development Permission but actually include old ones from before illegal development, 3) Coexistence of industrial buildings and residences as a distinctive feature, and 4) Promotion of community building aiming at legalization. This “Machizukuri Vison” is the basis for the establishment of District Plan, so this is a great progress in the process of legalization.



Fig. 9 “Area B Machizukuri Vizion” and images of improvement

3.3 Survey on the Use of Industrial Buildings

As a Next step, a specific “District Improvement Plan” that will be included in future District Plan should be considered. There are many industrial buildings in Area B. Especially in this area, which is partly located in Scenic District, it is important to investigate the detailed uses of these industrial buildings, clarify the characteristics of the area, and consider an appropriate plan for improvement. Therefore, we visited and interviewed building users and owners, focusing on buildings that are expected to have industrial uses. The survey was conducted for a total of 10 days between November 2023 and February 2024, revealing the use of a total of 46 buildings. (FIGURE 10.) In the survey, detailed conditions such as area of buildings and presence/absence of motors were confirmed in order to determine the corresponding use classification under the Japanese Building Standard Act. At the same time, we asked for detailed information on their work, production, reasons for working and the intention to continue working here.

The survey revealed that most of the buildings visited were factories or workshops or warehouses. They were factories of the automobile maintenance and recycling industrial waste, or workshops of the construction industry, including contractors and interior decorators. They cited the location's proximity to the city center, lack of noise and odor complaints, and low land price as reasons for locating here, since many of their customers are located in the central area of Kyoto City. Similarly, many of buildings are used as warehouses because they can have large spaces near the city center. Furthermore, it was also revealed that a small number of businesses with some of the best technologies in the country and those involved in Kyoto's traditional industries exist in this area. Since most of their work is subcontracted, detailed job descriptions cannot be disclosed, but they are responsible for essential processes within their respective industries.



Fig. 10 Building uses and types of industry in Area B

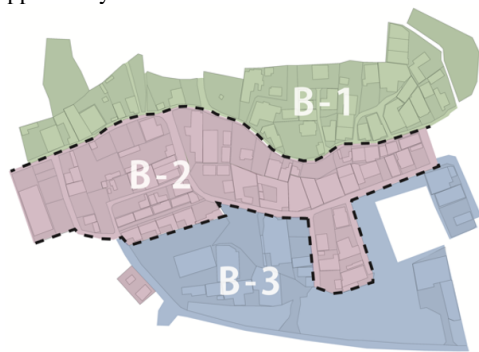
The survey found that all buildings could be built in "quasi-industrial" district under the Building Standard Law, where

factories, residences, and stores are mixed, and there are no larger machines or factories that are more harmful to residents and environment. These industrial buildings scattered throughout Area B are not cohesive as industries, but all various businesses support the industries and lifestyles of the central area of Kyoto City. It is clear that they should be valued as part of Kyoto's industrial culture, in the sense that without them Kyoto's industry would not exist. Since all of them value their location as the periphery of Kyoto and many are small to medium-sized businesses, it is difficult for them to relocate from this area and continue their business in a new location. Considering improvement plan for Area B, it is desirable that they be able to continue their business. [5]

3.4 Proposal for District Improvement Plan

Based on the above findings, we have prepared a draft of District Improvement Plan (FIGURE 11.). Area B is divided into three areas based on the use and volume of buildings. B-1 and B-2 promote the construction of houses integrated with workshop, offices and stores for better living environments. In contrast, the construction of condominiums and private residences is restricted. In B-3, where large factories are currently located, the use is restricted to industrial use, and no residential or retail construction is allowed. The entire district will be designated as "quasi-industrial" district where current businesses can continue, and industrial uses is allowed and promoted as a characteristic of Area B, aiming to create a manufacturing town where work and residence coexist. Regarding to building size, while based on the current Kyoto City standards, B-1 aims for deregulation based on the current situation and characteristics of the area. And B-3 allows for the construction of factories of 1,000 m2 or more, based on the current situation.

This draft of District Development Plan will be proposed to the "Area B Machizukuri Council" at the end of April 2024 for approval by locals.



area	Scenic district	Use district	BCR	FAR	Site area
B-1	○	quasi-industrial (Factory, House, etc)	30% ^{**}	100%	< 1000 m ²
B-2		quasi-industrial (Factory, House, etc)	60%	200%	< 1000 m ²
B-3		quasi-industrial (Factory, NO House)	60%	200%	≥ 1000 m ²

Fig. 11 Proposed District Improvement Plan in Area B

4. Conclusion

In this paper, we first reviewed the development and rectifying process in “Ooiwa” as illegal development area, and summarized the illegality of the area. And in order to establish District Plan, which is one of the essential measures to obtain a Development Permission as legalization here, site surveys were conducted on the current site, building shape and use. Through these surveys we clarified the draft of District Improvement Plan to be proposed.

Not deeming everything illegal, it was important to analyze to identify the illegality within a region-specific development and identify the urban planning methods for legalization. One of it is establishing District Plan. And In order to propose a plan for legalization, it was necessary to reevaluate the characteristics of this area, which is now simply considered illegal, through detailed site surveys of the current situation, and to place it within the history and culture of Kyoto as a whole. Through site surveys, in particular, it became clear that all of industries in “Ooiwa” chose to locate here as the periphery of Kyoto City and supported the industries and lifestyles of central area of Kyoto City, so they can be evaluated as part of the industrial culture of Kyoto. This was the great finding for legalization of "Ooiwa". Furthermore, it was essential for the consensus building and implementation of the plan for legalization that these surveys and proposals be practiced as part of Machizukuri. We will continue our practice with the aim of submitting and approving the district plan for Area B as an urban plan of Kyoto City within a few years.

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