

## 노후 산업단지 공간환경 현황진단 및 개선방향 연구

A Study for Improving Built Environment in Decrepit Industrial Complexes

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# A Study for Improving Built Environment in Decrepit Industrial Complexes

SUMMARY

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Industrial complexes that are more than 20 years old were mostly built as mere production sites, without any considerations for the quality of the working or living environment. Even the minimal infrastructure that had been established has become severely outdated or dilapidated over the years. Despite such conditions, however, there have not been any strategies or considerations for improving the public spaces and landscape in the current projects carried out to renew such decrepit industrial complexes. In light of this issue, this study was conducted to identify the current status and issues of the built environment (e.g. landscape, streets, public spaces, etc.) of industrial complexes and to derive the direction of improvement and potential projects that may be implemented to ameliorate their working environment.

In order to analyze the built environment of decrepit industrial complexes, the five conditions for a good built environment that had been derived in a previous study were used as the framework of analysis, and they were as follows: access and linkage; safety and comfort; uses and activities; identity and image; and ownership and management. This study focused on the public spaces and landscape of decrepit industrial complexes

or more specifically, the green spaces, street environment, wayfinding signs and other guidance facilities, streetlamps, public facilities such as bus stops, and streetscape including architecture in industrial complexes.

Chapter 2 presents an analysis of the legal system pertaining to the renewal of decrepit industrial complexes and the related projects. First, the legal framework for creation of industrial complexes was examined. It was found that the related laws and regulations centered on the designation and management of industrial complexes and related support, with little to no provisions provided on a certain set of physical criteria for the built environment, buildings, facilities and so on.

Next, the legislations related to decrepit industrial complexes and related projects were examined. The projects that are currently being executed for renewal of decrepit industrial complexes include the Industrial Complex Renewal Project (Industrial Sites and Development Act), Structural Sophistication Project (Industrial Cluster Development and Factory Establishment Act) and Competitiveness Enhancement Project (Special Act on Revitalization and Competitiveness Enhancement of Hub Decrepit Industrial Complexes). Based on a review of the current industrial complex renewal plan, it was found that it lacked matters concerning improvement of the built environment such as public spaces and landscape of industrial complexes and that there were no specific action plans for the proposed plan.

Chapter 3 presents an analysis of the issues concerning the built environment of decrepit industrial complexes, based on a fact-finding survey as well as a survey on the perception of the general public toward industrial complexes.

First, the Namdong Induspark, Daejeon Industrial Complexes I and II, and Iksan Industrial Complex II were analyzed from the aspects of the five conditions for a good built environment: external built environment including the streets and green spaces; landscape; street environment; public spaces; and anti-crime conditions. Afterwards, the issues and implications were derived in order to prepare improvement measures.

In addition, the perception of decrepit industrial complexes and their built environment among the general public was examined through a survey, which was carried out with 1,600 residents of an area containing multiple industrial complexes.

The results of the survey showed that the efforts to improve the landscape of industrial complexes should begin with cleaning up the surrounding environment, followed by

improvement of the factory building exteriors, structures and public facilities. Of particular note, the responses implied a need for improvement of the landscape such as roadside trees, parks and green spaces in order to create a safe and pleasant built environment. It was also found that there were strong concerns in regard to crimes, based on which it was determined that there was a need to install anti-crime facilities and equipment such as security lights and CCTV cameras, and that there would be a need to install more diverse facilities to create a safe and pleasant working environment for the workers.

Chapter 4 presents the implications derived from a survey and analysis of domestic and overseas cases of improving the built environment of industrial complexes that will serve useful in preparing improvement measures.

As for the characteristics of the domestic and overseas cases of such improvement, they can largely be divided into cases in which individual complexes were dealt with as part of a comprehensive built environment improvement policy of the local government and cases in which the focus was on improving industrial complexes themselves in order to promote the local industries and create eco-friendly spaces. Secondly, when it came to improving the built environment of decrepit industrial complexes through collaborative efforts between the local government and the industrial complex concerned, an important objective was to establish and maintain the identity of the industrial complex, and such improvement projects prioritized improving conspicuous buildings and built environment near major roads.

Based on the analysis of the domestic and overseas improvement cases, three implications were derived. First, there is a need to view industrial complexes as spaces that form a part of the city in which they are located and to approach the improvement project by taking into consideration the entire built environment of the city in question. Second, there is a need for a system facilitating cooperation between the public and private sectors. Industrial complexes fall into the private sector considering that the land and buildings are privately owned, but at the same time, they have strong public characteristics when viewed as a whole. Decrepit industrial complexes, for instance, have an adverse impact on the local economy and built environment of their respective cities, and improvement policies and projects cannot be carried out independently by the public sector or the private sector alone. This is the reason a public-private cooperation system is of the utmost importance. Lastly, there needs to be a clear set of processes for

improving the built environment of industrial complexes. Because industrial complexes cover a large area, it is difficult to complete an improvement project within a short period of time. Therefore, there needs to be a specific project plan that can be implemented in a progressive manner as well as predetermined stages through which the plan can proceed.

In Chapter 5, the objective of improving the built environment of decrepit industrial complexes was set forth as “To create a safe and pleasant built environment,” based on the results of the study described in the previous chapters. To this end, the policy and the direction of improvement were proposed as follows:

- (Revision of the strategic plan) Add the matters related to built environment improvement in the strategic plan for enhancing the competitiveness of decrepit industrial complexes;

- (Amendments to the related provisions) Include the matters concerning built environment in the request for designation as the project sites for enhancing the competitiveness of decrepit industrial complexes;

- (Preparation of the relevant standards) Prepare specific standards for planning for built environment improvement when establishing the plan for enhancing the competitiveness of decrepit industrial complexes;

- (Implementation of a pilot project) Implement a pilot project to improve the built environment as part of the project for enhancing the competitiveness of decrepit industrial complexes.

In order to implement these measures that have been proposed, the Guidelines on Built environment Planning for Industrial Complexes (Proposed) were prepared. The purpose of the Guidelines is to set forth the matters necessary for supporting the project for enhancing the competitiveness of decrepit industrial complexes in accordance with Article 2 Subparagraph 4 and articles 11 through 21 of the Special Act on Revitalization and Competitiveness Enhancement of Hub Decrepit Industrial Complexes and to define the standards that the project implementer needs to refer to in order to create a safe and pleasant built environment in the industrial complex in question. The Guidelines are largely divided into the public area in which the public sector needs to take leadership and the private area led by the private sector centering on the individually owned lots.

In addition, the measures to implement a pilot project were proposed. Through the pilot project, it will be possible to verify the applicability Guidelines on Built environment Planning for Industrial Complexes (Proposed) presented in this paper.

An industrial complex is an area with a combination of general spatial characteristics and an industrial structure, and thus such characteristics must be considered for an integrated approach to improving its environment. Industrial complexes are important on their own, but they also play an important role in the city in which they are located. Therefore, it will be necessary to carry out research focusing on a wide range of areas including the industrial sector, urban planning, transportation and logistics.

Until now, one of the main focuses in the construction of industrial complexes was to ensure efficient production; however, industrial complexes will need to have a safe and pleasant working and living environment and provide a place of relaxation in the future. For this purpose, there needs to be in-depth research to consider the quality of the physical built environment and the industrial component at the time of construction planning based on a more comprehensive point of view and to establish the necessary policy to achieve this objective.

**Keywords :**

Industrial complex, decrepit industrial complex, built environment, landscape, planning guidelines, pilot project