

A study on ways of urban design for waterfront cityscape in response to urban regeneration

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Chapter 1. Introduction

Due to global response to climate change, green growth policy is being main purpose of all policies also in Korea. As a result, following the Four-River restoration project, policy projects such as branch restoration project, comprehensive development plan of the southern coast area and Saemangeum, and restoration project of existing harbor are currently underway. In addition, due to geographical nature of the country, most of the cities, around rivers and coasts, have evolved by forming spaces for trade, production and living, and these cities which were formed in waterfront, according as existing old city areas start to decline as much as their old history, are expected to make demand for regeneration consistently.

Monotonous landscape of apartments and abandoned waterfront have been pointed out as typical problems in our urban landscape, and there came a chance to regenerate waterfront town as the demand of the times. However, urban regeneration projects used to proceed with a focus on business value, and according to excessive development pressure, the demand for regeneration made waterfront landscape even worse. Current policies such as the Four-River restoration project are mainly focused on making water friendly space in undeveloped area, but there still needs more consideration and discussion on

utilizing waterfront area in the process of regenerating existing town, and direction for creating landscape .

Hence, this study drew current state, problem and implication of forming waterfront landscape by examining domestic and foreign cases of regenerating waterfront town, and, based on these researches, it suggested "ways of forming waterfront landscape in response to waterfront town regeneration". In addition, by applying the ways to 2 real sites, this study set a goal to propose a specific and realistic solution.

Chapter 2. Theoretical review

This study divides regeneration of waterfront town into 2 types by the way of regeneration: type of using existing urban structure, infra and land use, and type of redeveloping with overall reorganization.

The former type using existing urban structure, in the sense that it goes through gradual regeneration process while it maintains existing urban structure and function, takes place when overall development pressure is insufficient, or river and coast are in the course of repair. And the latter type applies when safety concern arises due to the insufficiency of infra structure or overall deterioration of settlement environment, or the demand for redevelopment is more higher in terms of property value, or the urban structure is not appropriate to current economic activity and living condition due to reorganization of its functionality.

Meanwhile, when the demand for waterfront town regeneration is related to underdevelopment level of the town, in case of underdevelopment of urban space, the demand for regeneration arises and the level of landscape management is unsatisfactory. Thus, it can be summarized that the level of urban underdevelopment(demand for regeneration) and level of landscape management

are in inverse proportion to each other. But indeed, in urban regeneration project with high development demand, the project goes on due to its excessive pursuit for profit, but it increases floor area ratio(FAR) and thus, damages waterfront landscape. Comparably, when the necessity of urban regeneration is low due to relatively low level of underdevelopment, owing that in spite of poor landscape management level, self-motivated urban regeneration can not be achieved, it's not easy to implement the improvement policy for waterfront landscape. Therefore, the strategy for making waterfront landscape by each type is required.

Chapter 3. Current state of waterfront town regeneration in the country and its problem

In domestic urban cases for analyzing current state, Hapjeong strategic development district in Seoul and Yuseong market redevelopment promotion area were selected as a type of using existing urban structure, and Busan north port redevelopment district and Gaepo development area in Seoul as a type of overall redevelopment. By each type, the analysis was carried out about features of space planning in the process of urban regeneration, and strategy for making waterfront landscape related to planning features. And from these researches, policy issues to create waterfront landscape are drawn as follows.

First, as the scope and the contents of landscape plan differ by regeneration types, a landscape plan is required to be made according to those types, and basic direction and design strategy by the types should be made on a basis of diverse cases.

Second, apart from similar landscape plans which start from broad perspective such as view axis, viewpoint, skyline plan, etc, a landscape plan is required to be made by adapting various approaches including changes of

observer's eye level looking at waterfront(high/low), sensation of speed by access(vehicle, bicycle, walk), landscape by distance(close, middle, distant view).

Third, besides current landscape plan limited to visual shape, there needs to be a change in a way of thinking, including developing a story to make it available to have and experience various landscape elements like sense of smell, touch and synesthesia, which could be the features of waterfront landscape, and establishing landscape plan based on the story.

Fourth, considering current circumstances where it is highly possible for plans to be changed in operating system of urban regeneration projects, it is required to establish landscape plan with effectiveness such as developing more specific plan, and, with the priority in applying to the plan(regulation, restriction, induction), preparing for alternatives to changes of the plan.

Fifth, by reflecting current circumstances of the disagreement and conflict within the persons concerned with waterfront area due to lack of communication, and of the damage in waterfront landscape by changes in the plan such as the demand for increasing floor area ratio, it is required to make a public effort to have social consensus about publicity of waterfront area, and to have a change to achieve waterfront landscape and its regeneration together by making plan with the opinions within the related persons agreed through continuous conversation, and having a continuous feedback of this procedure.

Chapter 4. Examples of landscape formation in waterfront town and their implications

Hereupon, using same types applied to domestic cases, regeneration cases in foreign countries were classified and 2 case cities by each type were selected to draw direct implication in landscape formation in waterfront town of Korea. Thus, Kanazawa, Japan, and Bilbao, Spain were chosen and analyzed as a type

of using existing urban structure, and Darling Harbour, Sydney, Australia, and Eastern Dockland, Amsterdam, Netherlands as a type of overall regeneration. Drawn from those researches, applicable implications in domestic area are summarized by elements such as urban structure, building, public facility, open space and others as follows.

First, in terms of urban structure, there are several remarkable points : a point that urban regeneration and urban planning projects are combined with river improvement not only to regenerate region but also to improve waterfront environment, a point that regeneration maintains historical, natural and cultural resources of the region as much as possible, a point that waterfront and facilities are located closely to increase access to waterfront while active waterfront landscape is created with experiences of ordinary lives, a point that usability and accessibility to waterfront area is enhanced through land use with mixed use of lower and upper level, and a point that economy at the region is induced to be vitalized by regenerating waterfront.

In buildings, there are several points to draw attention : a point that waterfront takes a priority of being planned as a place for public, in a sense that public space, building and cultural facility such as promenade and park are located in waterfront, while accommodations including hotel are behind it at a distance, a point that buildings are planned to keep the sense of place by maintaining historic building and changing its use to utilize it, a point that by arranging low-rise buildings around waterfront and by controlling building height strictly, a view toward waterfront is available from everywhere, a point that not only the exterior of buildings around waterfront, but also the elements such as roof, wall and door are managed deliberately, and a point that with participation of renowned architect, creative building is designed and made as a waterfront landmark.

In public facility, it was remarkable to manage design and its installation

around waterfront strictly, to create landmark by designing public facility with renowned architects, and to design and install the facility to maximize view around waterfront.

In open space, it was noted that the access to waterfront was enhanced by creating park and green space around it and connecting it to downtown, and that , by connecting green space of waterfront and residential area, an organic green space was created and used as a space for everyday life.

In addition, it was noticeable that inhabitants maintained waterfront sustainably by playing a leading role in managing waterfront landscape with the ownership for landscape and space of waterfront.

Chapter 5. Ways to form landscape for green regeneration of waterfront town

This chapter draws conclusion proposing ways of making landscape for green regeneration of waterfront town, based on theories considered earlier in this thesis, and policy tasks and implications from analysis of waterfront town regeneration cases in domestic and foreign countries.

First, as a policy model at most highest level through overall regeneration policy of waterfront town, Green-Urban-Regeneration-Landscape linked model(Green-GRUWS) is suggested, and it means to have virtuous cycle of urban structure, urban regeneration and urban landscape, and to utilize waterfront with its link.

Second, basic direction for making waterfront landscape, which functions as one axis among those regeneration strategies, comes up with directions in 4 aspects(IDEAS strategy): aspect of connection of participants(I, Integrated Governance), aspect of design(D, Design Oriented), aspect of environment(E, Eco

Friendly), aspect of accessibility(A, Accessibility).

In the next place, as a model with those two models combined, a strategy of waterfront town regeneration-landscape creation is made, and it was proposed respectively in terms of construction of public space focusing on waterfront(S, Safe, Sustainability), land use(O, Open Use), urban structure(F, Free Access Design) and building and public facility(T, Timeless Cityscape Design).

Lastly, by applying basic direction and design strategy of forming waterfront landscape in practice to Incheon inner harbour redevelopment district and Hanhwa district, a realistic and applicable alternative of making waterfront landscape has been established.

keywords: waterfront town, urban regeneration, waterfront landscape, landscape plan, green growth