

**지역특성을 고려한 스마트 축소 도시재생 전략 연구**

"Shrinking Smart" : Strategies and planning for Revitalization of Shrinking Communities

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### 1. Establishing a concept of shrinking smart for urban restoration as a countermeasure for continued urban decline

In general, despite ongoing urban obsolescence and decay, urban restoration through development became a strenuous challenge due to the economic recession. As for Korea, development-oriented urban renewal has been faced with limitations, and, as a result, its renewal policy has been shifting towards a direction of focusing on regional characteristics and values. Now is the time to establish appropriate strategies and plans incorporating the unique aspects of Korea, with a shrinkage-accommodating plan towards ill-matched scale and demand as well as low use of space.

Accordingly, a concept of shrinking smart for urban renewal and its planning direction are newly established in this research based on a relationship with its relevant concepts, such as smart growth, compact city and new urbanism that are found in a paradigm of urban planning. In this research, shrinking smart for urban renewal is defined as an extended philosophy of existing concepts like smart decline and smart shrinkage, and it is more focused on improving the quality of urban people's lives with less development of population, buildings and land use.

The concept of shrinking smart for urban renewal can be implied as: a philosophy of urban regeneration for a shrinking community, an intensive use of land and networking facilities, recovering empty space to the previous state of development and afforestation, as a way of spatial planning that lowers spatial density according to community demands.

## 2. Situational analysis of shrinking cities in Korea and future forecasting

When discussing urban renewal of older cities, there is not much scrutinized analysis in terms of the level of urban and spatial decline. Hence, this study has reviewed a trend of shrinking cities by analyzing over 20 years of data in regards to the indicators of populational, economical and environmental shrinkage per administrative division as well as their residential stability. Also, the study has monitored the latest press coverage under a keyword of ‘declining aspects of neighborhood’ in order to witness a tendency of the shrinkage and/or shrinking cities. Until now the total population of Korea has been declining while its sluggish population growth rate was 0.38% in 2015. Furthermore, providing that this stagnant tendency continues, an era of population decline will begin to ensue after 2030. Moreover, when observed closely, this study has isolated some distressing tendencies not only involving population but also of socioeconomic aspects depending on regions. On the contrary, there are some regions that have displayed high levels of spatial values due to the high degree of resident’s settlement and a long history of urban development, even though there are signs of deterioration in the population and economy.

On the other hand, through anticipating shrinking communities in the future, the study has attempted to isolate required communities for smart shrinking of urban renewal in Korea. It is an effort to identify the answers of one of the research questions; which places require emptying and/ or reducing plans. The outcomes have been derived from LEAM analysis upon scenarios, where potentially shrinkable residences have been microscopically analyzed as a unit size of 90×90m. As a result, over 70% of myeon, an administrative subdivision, mostly applicable to farming and fishing villages, are predicted to shrink, while 15% of similar subdivisions in urban settings are destined to see the same future. In addition, if 5% and 10% of respective residential areas are expected to shrink in the future, a preemptive response against shrinkage seems necessary to most regional, small- and medium-sized cities except for the capital area and provincial centers. Amongst regional areas, many shrinking hot spots of residential areas are dispersed in Gangwon Province, Gyeongsang Province (both South and North) and South Jeolla Province. Presumably, if 10% of residential

areas are shrinking, the shrinking will affect areas in the capital region, and, then provincial centers may follow the same tendency. After all, none of the regions can be free from the issue of shrinking cities. Under the given circumstances, it is necessary to allow for renewal approaches of smart shrinking cities and adoption of policies on a national level that are applicable to an era of low growth while selecting prioritized managing area among shrinking cities.

### 3. Causes of decline and shrinking smart for urban revitalization plan upon specific regional characteristics and the sample case studies

The research also suggests the implications of establishing a system and shrinking smart strategy for urban renewal plan in Korea based on the referential cases from various aspects of shrinking cities overseas and the efforts of smart shrinking for urban renewal.

In the case of the US, when decline of industrial cities deepened, shrinkage-oriented urban planning has been introduced. Shrinking cities in the US, such as Youngstown, Cleveland and Buffalo, have set a comprehensive plan that includes a 'smart shrinking' strategy and a main theme of 'accepting' that they were shrinking cities. In the meantime, they aimed to utilize the remaining properties and infrastructure and improve the quality of the community's life while avoiding new development.

In the case of Germany, a state of decline in East Germany intensified after unification. In order to overcome the decay of the former GDR area such as Leipzig, Dresden and Cottbus, an urban spatial restructuring plan was followed by the cities. The federal government has conducted support programs for solving issues of shrinking cities, whereas each local authority has set an integrated plan called INSEK to tackle various problems like vacancies, surplus of infrastructure capacity, neglected buildings and land. For instance, as parts of the INSEK plan operated by Cottbus, the city decided to demolish highly vacant large-scale public housing on the outskirts of the city, and to reduce the capacity of infrastructure while developing afforestation in some lands. Moreover, the authorities lured young people to move into the city center and strengthened functionality of the city.

The Japanese government has been aware of critical issues involving the

foundation and operation of public infrastructure facilities due to the aging population and vacant houses since the 1980s. The authorities have also pursued some relevant projects. They merged towns experiencing notably degraded basic conditions and having difficulties with ensuring core public services due to a significant decrease in population and progress of aging, and promoted regional settlement. In particular, the discussion of shrinking cities were publicized in 2014 and the related special acts have been practiced respectively; a location adequacy program by special acts on urban improvement in 2014, and a vacant homes special measures act in 2015.

On that account, we may actively refer to the Japanese attempts of designating location adequacy areas and compact cities for the extinguishable cities since we share somewhat similar systems of urban planning and urban renewal.

#### 4. Characteristics of spatial management and comprehension for the possibility of shrinking smart in shrinking communities

In Chapter 3, this study has predicted some of the potentially shrinkable regions in Korea through microscopic analysis. Along with the analysis, this study has inquired whether spatial management has been conducted over a reflection of the demand that has occurred from the shrinking and declining communities defined in the previous chapter. Furthermore, spatial planning and compatibility of the situation have been analyzed in terms of spatial density and its usage in this part. In addition, the study has defined a current state of spatial management and shrinking aspects in declining regions, and explored whether the shrinking smart for urban renewal is applicable to those regions. Briefly, this has illustrated a process of actual means that employed a direction of urban planning, factors of spatial planning that affected shrinking communities, and shrinking smart for urban renewal.

A list of target regions for the analysis were Dong-gu in Busan as a metropolitan city, Naju-si as an old downtown in one of the regional small- and medium-sized cities, Taebaek as a place facing severe urban issues of industrial shrinkage, and Yesan County as a farming village. Consequently, even though each place has been suffering from different aspects and causes of decline, their aims and models of urban planning have been exaggeratedly set while the authorities pursuing

growth-oriented urban planning without accepting the reality of shrinkage.

Also, the research has identified influencing factors of spatial planning over the vacant housing in Busan and Yesan in order to analyze which spatial planning factors derive typical aspects of vacant housing. In summary, when residential concentration and intensive land use have been higher, then, vacant housing has been occurring less. Variables of the degree of mixed land use and concentration of the dwellings have exhibited statistical significances in all regions under analysis, whereas variables of the spatial planning have impressed higher than other variables when evaluating the influential differences among all variables with standardized coefficients.

Therefore, more active approaches with elaborated spatial planning are required for minimizing vacant housing and avoiding urban shrinkage. As the higher the mixed land use entails, the lower the probability of vacant housing, the mixed land use may be keenly encouraged to reduce the occurrence of vacant housing. Since concentration of the dwellings has a high level of influence over vacant housing, the efforts of retaining an appropriate level of residential concentration may help avoid urban shrinkage. Furthermore, this may evidently cater networking facilities and compact land use for shrinking communities.

Some of the typical ways of shrinking smart for urban renewal on shrinking communities are: utilizing functionally deteriorated and abandoned buildings, employing lands that are not appropriately met the demands, and introducing afforestation. The study has itemized some of the actual best practices.

## 5. Derivation of spatial planning on shrinking smart for urban revitalization

Drawing from the overall outcomes of the analysis in the previous chapters, the current state of spatial planning for shrinking communities in Korea and search for solutions through various dynamics for shrinking smart for urban renewal, the study has suggested some ways of required spatial planning subjects and policies in pursuit of shrinking smart for urban renewal establishment.

One of the most urgent tasks of spatial management plan required by shrinking smart for urban renewal is to select a prioritized management area in the shrinking cities and to define a preemptive plan. A series of conducting methods such

as an indicator-utilized selection and spatial statistics technique engagement can be orchestrated on the selection of prioritized management areas in the shrinking cities. Building of elaborated spatial data on shrinking communities enables planned execution in various aspects. Above all, it ensures a foreseeing of shrinking cities and likewise communities that are in need of prioritized execution plans, and, accordingly, contrives a rational execution plan.

As the subject of spatial planning is not for the present but for the future, spatial planners may have to inevitably carry on with a prospect for the future.

In order to select and deliver prioritized management, it is necessary to set an area and manage the space under consideration of shrinking smart in reference to the existing urban planning and urban renewal plan. Therefore, the research has proposed a review over the current urban renewal and urban development as well as a task of readjustment on designated areas. Furthermore, since shrinking smart for urban renewal requires a separate planning system, the study introduced a subdivided task of spatial management plan for shrinking communities.

## 6. Policy suggestions for the pursuit of shrinking smart for urban revitalization

As a principle of planning in shrinking smart for urban renewal, this research has established: 1) setting proper goals and levels in consideration of size and composition of the residents, 2) retaining characteristics of the residents and their environment while preserving diversity, 3) prioritizing quality of the residents' lives when set upon a direction of a sustainable spatial structure-oriented plan in a socio-environmental framework. As a result, it has suggested a setting of policies as below to boost shrinking smart for urban renewal, based on the following discussions as a basic direction of spatial plan; land use efficiency of the built-up area and intensive use of land, afforestation of idle space, expansion of public use, and enhancement of networking infrastructure.

**Key words: urban shrinkage, urban decline, shrinking smart, community revitalization**