

A rehabilitation plan for villages in the Hillside city with non-continuous planes -Focused on the Original Part of Seongnam City-

¹Young Lee, Gi-cheol Lee

¹ 1342 SeongnamDaero, Sujeong-Gu
Seongnam-Si, Gyeonggi-Do, S. Korea, 461-701
ylee@gachon.ac.kr

Abstract. Since 1960s, as urbanization and industrialization progressed, population influx of the city has accelerated. As a result, indiscriminate spreading of the city has increased. Consequently, city space and urban organization were severed due to lack of infrastructure, deterioration of living environment and undiscerning development. Also, the city declined in terms of urban economy and physical environment. Results of existing urban development, physical environment of old residential area has improved, and there was an outcome to ensure residential stock and improvement of run-down houses. However, compared to a rise in the residential density, maintenance of residential infrastructure was insufficient and this caused severance of urban environment and housing context. Also concerning of social and economic factors were excluded, neighborhood society in maintenance area were dissolved and lead to mass movement. When beginning of original part of Seongnam's urban planning, severed non-continuous plane occurred between road section and inner space which created by flat development method regardless of its geographical features. This problem happened due to short construction period and did not examine its height of terrain thoroughly. It is possible to know most of these are located in the first residential area and severed spaces are obtained in daily life. Moreover, most of non-continuous plane in commercial area appeared close to residential area and caused topographical difference in the same specific use area. So, further studies are needed to determine suitable programs for surroundings such as residential area and commercial area according to the location. Therefore, in this study, we focus on street network system to classify the flow of the city and suggest basic data of how to recover public environment and application plan for 2020 original part of Seongnam.

Keywords: rehabilitation plan, Hillside city, Non-continuous planes, Original part of Seongnam, Every & Public Life Route

1 Introduction

In the past, city grew along with its terrain and was naturally filled with people's lives. But, after the modern era, caused by rapid developments of industry, economy,

culture and etc., the city's unique physical properties, social phenomenon and daily life space were considered to be not enough. As a result, those plans severed relationship between existing organizations. Korea is made up of 70% mountains. Through rapid urbanization, city boundaries had to expand to the nearby mountains. Cities have been planned and constructed without considering unique characteristic of its terrain. Especially for hillside cities, vertically cut plane occurred due to standardized two-dimensional urban plans applied and generated empty spaces. In consequence, continuity and flow of urban space has been severed.

In such setting, instead of grasping the context of the city in two-dimensional space, analyzing in three-dimensional space is required as well as recovering the value of daily public environment in local community. So, through analysis of road formation and expansion of Seongnam hillside city, we found changes and characteristics of the road system. Based on this analysis, we categorized urban flow of original part of Seongnam into three sections; 'Every & Public life Route', 'Continuous Land Route' and 'Eco-Friendly Route'. In particular, non-continuous plane is a subordinate concept of the 'Continuous Land Route', and this plane was originated during the changing process from hillside to flat land and left a severed space. However, in this study, we confirm this severed space as flexible space, which has potential to meet urban needs and acts to mediate mutual communication and sustainable development. Based on this concept, we suggest how to secure public space and application method for 2020 original part of Seongnam.

2 Current situation of original part of Seongnam

Due to large scale housing development, residential blocks are isolated and cut off from existing city fabrics. Large scale APT complex generally have diverse convenience facilities and provide external space for a certain level. Also through high-rise and high density development to minimize building coverage ratio and provide high quality open space to urban. However, at the same time large scale APT complex consequently are disconnected from nearby housing blocks. In accordance with this, there are no usable green and no open space for existing urban residents. Roads enclosed in large scale APT complex force existing urban roads to take a role as simple passage, and the boundaries of complex planned with retaining walls not only hinders the road environment but also disconnects existing flow of the streets.



(a) Severance along the boundary of APT complex
(in Seongnam Taepyongdong)



(b) Declined continuity of existing street
(in Seongnam Hadaewondong)

Fig. 1. Severance due to development of large scale apartment complex

3 Concepts for three Route of urban rehabilitation plan

3.1 Every & Public Life Route

Everyday life or Daily life of citizens has been thought boring, repeated and routine situation. However, French sociologist Michel Maffesoli says that every day is very different from each other, so everyday life has essential meaning through whole life. In Original part of Seongnam, neighborhood living streets have been formed in each residential areas besides general commercial area. We assume that autonomously neighborhood living space forms depending on relation between neighborhood and use area. Then, we classify use area into general residential area, semi-residential area, and commercial area. Particularly, we consider neighborhood living facilities as the basic element of neighborhood and grasp that distribution of neighborhood and everyday living facilities inside common residential areas have close contact with residents' life and physical situations. Especially, for neighborhood living facilities, we confirmed that it has functional roles as having close relationship with residential facilities as well as providing various activities.

3.2 Continuous land Route

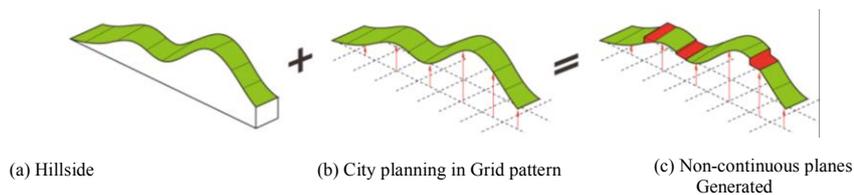


Fig. 2. Conceptual diagram of non-continuous plane

Buildings on the ground have caused each vertical sections. That forced city's own geographic character to be eliminated and at the same time its spatial continuity to be cut off from each other. These are unlike with the vertically cut section in the suburban area to construct tunnels or express way.

In this study, for such reasons, the vertically cut section is called 'Non-continuous Plane' as for the possibilities for sustainable urban renewal.

3.3 Eco - Friendly Route

Residents in original part of Seongnam is very small due to cramped lots. However, population density is very high and over-crowded. Also there are problems that residential infrastructure including parking facilities and green space and open space are absolutely insufficient. Moreover, any green and open space in original part of Seongnam is not distributed as planned. Applying residential neighborhood concept, public facilities including the elementary school are not placed appropriately within

walking distance. From this concept, it is verified that urban planning approach method in original part of Seongnam has not been considered at all.

Therefore, it is needed to change the urban planning point of view for school space to promote social interaction of residents, ensure safety, convenience and comfort. Relocating schools will connect open spaces to peripheral green network which will be created. Also, introduce overall eco-friendly green network within the city so that it can be connected organically and vitalized by connecting the green belt distributed inside and surrounding the city.

4 Conclusion



fig. 3 Conclusion
improved diversely.

Previously built APT housings only for economic efficiency tends to disregard value of existing residential area, and bias to provide only functional living space. As mentioned earlier, original part of Seongnam should be renewed not only for the physical environment but for sustaining precious value of existing communities, based on Every & Public Life of citizens. So through the realization of three route, urban structure of original part of Seongnam will be sustained and rehabilitated as planned and its residential environment in hillside area will be

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