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# The Process of Building Community Resilience in Residential Regeneration Activities in Jangsu Village, Seoul, Korea

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## Abstract

Local communities face conflict among various social values and experience many problems in the physical and social realms. Community resilience provides support to ensure that the local community continues to respond to a variety of simultaneous problems. In this study, we analyzed community resilience by observing the case of Jangsu Village in Seoul, Korea. Jangsu Village has been continuously developing its unique residential area for about ten years to enhance the self-sustenance of the region and to cope with local crises.

From the perspectives of community resilience, we examined how to improve upon the community resilience in Jangsu Village. This study derives the resilience factors required for each stage of development. In the initial stage of activities, various civilian experts should lead projects and local activities to secure abilities according to three characteristics: reflective, resourceful, and inclusive. The resilience characteristics required for the development phase are flexibility and integration. When entering the mature phase, local actors can further expand their activities, and related projects may be carried out with stability. The resilience characteristics necessary for this stage are robust and redundant to prepare for future risks.

**Keywords:** community resilience; factors of resilience; residential regeneration; process of local activities; Jangsu Village

## 1. Introduction

### 1.1 Research Background and Purpose

Seoul Metropolitan, the capital of the Republic of Korea, is the center of everything from politics, economics, to social activities. Seoul has a high population density with about one-fifth of the population of the Republic of Korea. In order to deal with the population density, the Seoul Metropolitan Government implemented a housing policy that builds apartments after the demolition of old and deteriorated houses. The number of apartments increased by about 58 times from about 24,000 in 1970 to 1.4 million in 2009 (Bae *et al.*, 2011) and accounted for about 58.9% of all housing types in Seoul as of 2010 (Nam and Kim, 2015). Redevelopment also destroyed the existing local community.

Jangsu Village, the site of this study, was one of the candidates where redevelopment after removal took place because it had a high proportion of deteriorated houses and poor infrastructure like other residential areas redeveloped in Korea. Most of the residents in Jangsu Village were low-income people and this site was adjacent to the Seoul City Wall and listed as a UNESCO heritage site. This is why there were conflicts between conservation and development in this village (Table 1.).

Table 1. Difference in Perception of Jangsu Village

Development Value	Division	Conservation Value
3 km from Seoul City Center (City Hall)	Location	Adjacent Area of Seoul City Wall (UNESCO World Heritage Site)
Floor Area Ratio 170%, Up to 6~7th Floor (Development Density)	Number of Floors (Floor Area Ratio)	Low-Rise Residential Area in Seoul (Rare Value)
Ratio of Deteriorated Houses (97%), Lack of Infrastructure	Social Situation	Right of Residence for Socially Vulnerable and Low-Income People

Source: Alternative Development Study Group, 2008

For the last decade, there have been residential regeneration activities (RRA) to cope with many local problems. Those participating in RRA have protected the rights of residents, the historical landscapes of low-rise houses, and promoted community activities in the

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village. They have also considered future issues. There is a connection between RRA in Jangsu Village and community resilience. Community resilience refers to the abilities to continuously and flexibly respond to local issues, even considering the problems recognized in the current region and unpredictable risk factors that may occur in the future (Fig.1.).

Most contemporary cities or villages have faced a variety of complex problems. It is necessary to focus on the process of building resilience for their cities and communities. From the perspective of community resilience, this study examines the residential regeneration activities of Jangsu Village in Seoul and provides meaningful implications for regions that have similar problems.

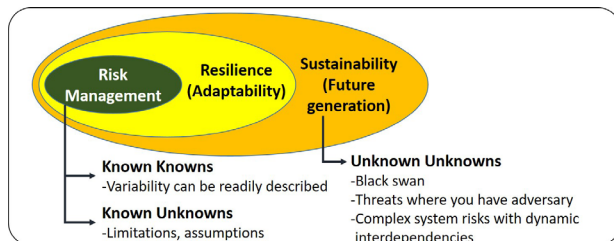


Fig.1. Resilience as Related to Risk and Sustainability (Source: Saunders and Becker, 2015)

### 1.2 Research Scope and Method

The spatial scope of this study is Jangsu Village which combines the historical and cultural landscape of Han-yang City, Choseon Dynasty with a modern, contemporary living culture landscape (Fig.2.).

This village had a crisis in that the redevelopment plan would destroy the value of the community. This study aims to diagnose the regeneration process of Jangsu Village that overcame the crisis by cooperating with local residents, civilian experts, and the administration to build community resilience. The temporal scope of this study is set from 2008, when the activities of the civilian experts group, Research and Activities Group for Alternative Development (RAGAD), was started by people who recognized the crisis of Jangsu Village, to 2017 when the regional survey was completed.



Fig.2. Location of Jangsu Village (Source: The Seoul City Wall Website)

The procedure of this study is as follows. 1) We set criteria to evaluate community resilience. 2) We surveyed the residential regeneration activities (RRA) in Jangsu Village by main promoter and period. We also examined related literature and conducted interviews with two people working at the community business, three from the Seoul city government, two in the expert group (RAGAD), and eight residents during 2016–2017. 3) Based on the criteria, we analyzed characteristics of the resilience building process in Jangsu Village in each period.

### 2. Criteria to Evaluate Resilience

We set the analysis criteria for this study using seven analysis criteria of city resilience published by the Rockefeller Foundation's 100 Resilient Cities in the US in 2014 and by Arup, a private UK research and consulting organization. Other criteria focus on the recovery of the physical environment and everyday life that have been destroyed by the sudden crises, such as climate change or disasters. These criteria are limited to use as a factor to diagnose gradual crises in ordinary communities. The criteria are different in that they provide the determinants of social and cultural resilience (JEON, 2015) as well as human and physical resources at the level of local communities. The study of JEON (2015) interpreted the evaluation criteria reported by the Rockefeller Foundation and Arup according to the situation in Korea. These two standards are more appropriate than others. We set the criteria for the resilience evaluation as shown in Table 2. by combining these two standards.

### 3. Analyzing the Process of the RRA in Jangsu Village

Based on the contents of the activities and the main organization (Table 3.), we analyzed the RRA of Jangsu Village by each stage including the early, development, and mature stage.

The early stage starts with the formation of the expert group (RAGAD), who was aware of the problem of the demolition plan by Seoul and started to work for the community conservation of Jangsu Village. RAGAD is a voluntary group of experts who belong to non-governmental organizations and research institutes in the urban and architectural fields.

The development stage starts from the establishment of a community business by some RAGAD members.

The mature stage is from when the residents' associations are organized and the Seoul administrative authorities cancel the demolition plan for Jangsu Village and promote a new project, the residential environment management project<sup>1</sup>, to the completion of the survey.

#### 3.1 Early Stage

The Seoul government designated Jangsu Village as a redevelopment area in 2004. People who were in non-governmental organizations and research institutes

Table 2. The Seven Qualities of Resilient Systems

Factors	Definition	Analytical Criteria (Evaluation Standard)
Reflective	Recognizing the possibility of change that is difficult to predict; constructing a system that continuously evolves	·Do local organizations use content learned from past experiences to leverage future decisions? ·Are standards and norms constantly changing with, not reaching a permanent solution, but new evidence?
Resourceful	Ability to quickly find alternative means of achieving goals	·Are priorities set appropriately in decision-making? ·Are the necessary human, material resources and funds used appropriately?
Inclusive	Equity among various constituents of the system	·Are local communities being built through broad participation and cooperation that includes the vulnerable?
Flexible	System evolves and adapts appropriately to change	·Are new knowledge and skills being introduced? (It is possible to combine traditional knowledge and methods when introducing new methods)
Integrated	Connectivity among important systems	·Are mutual security performance among stakeholders being driven through information exchange and collaboration among systems?
Robust	Use well-planned, built, and operated physical assets to prevent major damage and loss of functionality	·Have potential failures been anticipated, and have safe and balanced countermeasures been prepared? ·Is excessive dependence on specific resources being avoided?
Redundant	The capacity of deliberately prepared redundancy to cope with overloads	·Are intended surplus resources that are cost-effective built? ·Are there distributed infrastructure networks, reserve resources, diversity, and multiple options?

Source: Index, C. R., 2014, p. 5; Jeon, 2015, p. 37-38.

in urban and architectural fields voluntarily formed RAGAD. RAGAD aimed to prevent the demolition of the area, and to preserve its environment and the local community.

RAGAD held a workshop to share the conservation value of residents and Jangsu Village, and to seek realistic maintenance plans with local residents. Residents addressed local problems and values in the workshop, and presented the direction of activities of future projects. RAGAD sought to make small physical improvements by receiving assistance and funds from other private institutions and public foundations. At that time, Jangsu Village carried out community services through a green alley road project, a mural painting project, the installation of a community center (village art museum) in a vacant yard, and a local academy related to pollen farming and house repairs.

### 3.2 Development Stage

The residential area renewal project of the development stage coexists with the activity of the community business. Some RAGAD members established a community business as 'town carpenters' in order to promote the repair of old houses. The community business is funded by resident dues and revenue projects. They returned some of their profits to improve the residential environment and community activities in the area.

The advancement of Jangsu Village occurred when interest from the outside was generated with the establishment of the community business and new activities. Deteriorated houses were an urgent problem, so the community business carried out repairs and vacant house remodeling. The community business hired residents with experience in repairing homes as field staff, and village residents independently

conducted simple home repair. The community business also carried out empty house repair, and redeveloped a vacant house to create a community café, the proceeds of which were returned to the village fund. The café was also a community space, with residents employed as staff.

The community business also carried out a public conscription project. For this project, in the case where more than five residents apply for small-scale environmental improvements such as alley maintenance, the community business uses the village funds to carry out the project. After this phase, village residents selected alley representatives to communicate their demands quickly and precisely. The representatives receive requests from alley residents at any time to share local issues and seek solutions.

### 3.3 Mature Stage

In the mature period, the Seoul government lifted the plan to demolish Jangsu Village in 2013. Instead of the complete demolition project, the government decided to improve poor infrastructure in Jangsu Village by repairing old houses and public facilities.

Seoul carried out a residential environment management project and installed gas facilities and maintenance sewer pipes in Jangsu Village. In other regions, the residential environment management project focused on improving alleys and establishing community facilities. However, Jangsu Village is an exception as the city's gas installation and sewage pipe maintenance have been completed. Since Jangsu Village carried out small-scale environmental improvement locally in the early and development stages, the Seoul government could use the public budget for the infrastructure necessary in the region. Since the type of infrastructure needed for the region

Table 3. Regeneration Process and Characteristics of Jangsu Village

Time	Content of Projects	Character of Projects				Promotion Organization			Jangsu Village Analysis										
		Local Community	Environmental Arrangement	Local Activities	Public Works	Expert Group (RAGAD)	Community Business	Residents	Administration	Making Decisions by Experience	Continuing Project Programs Change	Decision of Priority by Community Meeting	Local Resources Utilization	Inclusive Community	New Attempts	Co-operative Relative	Public System & Policy	Various Actors	Surplus Resources
Early Stage 2008–2010	Formation of Expert Group	•				•						•							
	Workshop	•				•			•		•		•						
	Small Environment Improvement		•			•													
	Local Academy			•		•													
Early Stage Synthesis	Recognizing Local Issues	Learning + Small Business				Quick Response by Expert Group (RAGAD)			•	•									
Development Stage 2011–2012	Alley Community	•					•	•			•		•						
	Community Business	•					•							•	•				
	Small Environmental Improvement		•				•												
	Remodeling of Empty Houses		•				•					•		•					
	Home Repair		•				•							•	•				
	Local Community Support Project		•				•							•					
	Local Academy			•			•					•							
	Research Project				•	•	•		•										
Development Stage Synthesis	New Attempt	Small Business + Home Repair/ Vacuum Maintenance				Community Business-Centered Development			•	•									
Mature Stage 2013–2016	Reconstruct Expert Group	•				•													•
	Town Meeting	•					•	•			•		•						
	Residents Agreement	•					•	•	•				•			•			
	Remodeling of Empty Houses		•				•												
	Home Repair		•		•		•		•			•		•	•				
	Administrative Plan		•		•				•							•			
	Residential Environment Management Project		•		•				•			•		•					
	Local Academy			•			•	•				•							•
	Social Activities			•			•	•											•
	Local Interchange			•			•	•											•
Mature Stage Synthesis	Expansion of Activity Range / Sharing experiences	Expand Local Government Support (Infrastructure & Housing Improvement) + Institutional Maintenance				Various Actors (Government, Community Business, Residents)			•	•									•

was known in advance through the expert-resident workshop, it was possible to conduct administrative projects that differed from those of other regions. During this time, the administration proved flexible such as through the expansion of the scope of business.

The administration's flexibility also appeared in the housing improvement project. By 2013, the administration decided not to directly support the cost of repairing private housing. Jangsu Village has proved its historical and social value through local workshops and reports by the expert group (RAGAD). For example, Jangsu Village is part of the Seoul City Wall, and is seen as an important area that forms historical scenery. The Seoul government has provided a direct budget support system for private house repairs based on the historical value of Jangsu Village. In the case of the housing improvement project, the administrative burden was half of the project cost, and the project was implemented through the community business. Furthermore, this project was carried out by repairing the inside of houses as well as their fences, also creating a good village environment.

The administration prepared relevant systems in order to maintain the residential regeneration activities of Jangsu Village. A district plan sought to limit when to build new buildings as well as their height, and another plan was developed to mitigate building regulations for the improvement of existing illegal buildings.

In the initial and development stages, RAGAD and the community business was the center of local activities. In the mature stage, the participation of various actors such as the expanded role of residents and the influence of administrations became prominent. The mature stage of Jangsu Village helped to address local problems that were projected to arise in the future. Jangsu Village is exploring potential local conflict factors, such as activities taking care of stray cats. The stray cat problem is a cause of local conflict. Residents are trying to engage with those who dislike taking care of stray cats. It helps to sustain the interaction among residents. It is also planning to respond to unforeseen problems that may arise in the future in connection with external organizations. Finally, the village is expanding its activities with other regions.

#### **4. Analysis of the Resilience Characteristics of the Residential Regeneration Process**

Based on the resilience analysis criteria presented in Table 2., we analyzed the residential regeneration process of Jangsu Village in terms of local resilience. The analysis method analyzed how resilience factors appeared in the activity period of Jangsu Village (Table 4.).

##### **4.1 Early, Development, and Mature Period: Reflective, Resourceful, and Inclusive Factors**

Reflective, resourceful, and inclusive factors have been extensively used since the early stages of the residential regeneration process of Jangsu Village. Its characteristics by resilience factor are as follows.

Reflectivity relates to the ability to reflect on what is learned through experiences. Jangsu Village hosted residents' workshops to recognize local problems, find solutions, share local values, and reflect on what was learned during project development. In addition, the size and scope of the project has been expanded in consideration of the level of consciousness and the activity capacity of residents.

Resourcefulness is a competency factor related to the appropriate utilization of human and material resources, and the appropriateness of prioritization. Jangsu Village has been working through the expert group (RAGAD) since the beginning of the activity, and has been supporting business funds from external private companies and foundations to develop the residential area. In this development, the community business raised money for residential regeneration activities, and in the mature period, projects were supported by government funds. Jangsu Village continues to cultivate talented people for local activities by continuously operating local academies. Priorities for local problem-solving are determined through various community meetings.

Inclusivity refers to building a broader community that includes the vulnerable. The restoration of residences in Jangsu Village focused on community participation and recovery. In the maturity phase in particular, it added relevant provisions to the residents' agreements so that vulnerable groups can continue to live in the area.

##### **4.2 Development and Mature Period: Flexible and Integrated Factors**

Resilience factors appearing at the stages of development and maturity are flexible and integrated.

Flexibility is gained through new initiatives in the region. Jangsu Village secured flexibility by carrying out house repairs through the community business and strengthening the capacity of residents to repair their own houses. The flexible activities of Jangsu Village uniquely influenced the content and scale of administrative funds.

Integrity is an advanced form of acceptance and forms a complementary relationship between actors, rather than merely encouraging participation and cooperation. The housing improvement project of Jangsu Village (including house repairs) influenced the formation of mutually complementary relationships among participants. The community business participated as the executing agent of the housing improvement project and generated profits. They returned some of their profits to the residential regeneration activities and had a positive impact on the region. The administration first tried to directly support the housing improvement project for the Jangsu villagers and verified the policy effect. The housing improvement project has improved the quality of residents' lives by repairing local houses.

Table 4. Analysis of Jangsu Village's Resilience

Factors	Evaluation Standard	Jangsu Village Analysis	Step-by-Step Approach		
			Early (2008–2010)	Development (2011–2012)	Mature (2013–2016)
Reflective	Are individuals and organizations leveraging what they have learned from their past experiences in future decisions?	Making Decisions by Experience			
	Are standards and norms constantly changing with, not reaching a permanent solution, but new evidence?	Continuing Project Programs Change by Residents' Consciousness Change			
Resourceful	Are priorities set appropriately in decision-making?	Decision of Priority by Community Meeting	·Workshop	·Alley Community	·Town Meeting
	Are the necessary human/material resources and funds used appropriately?	Local Resource Utilization; Effective Use of Human Resources, Local Funds, and Public Works	·Activities of Expert Group (RAGAD)	·Remodeling of Empty Houses ·Local academy	·Local academy ·Home Repair Project ·Residential Environmental Management Project
Inclusive	Is the local community being built through broad participation and cooperation that includes the vulnerable?	Inclusive Community Including Socially Vulnerable Classes	·Workshop	·Alley Community	·Town Meeting ·Residents Agreement
Flexible	Are new knowledge and skills being introduced? (It is possible to combine traditional knowledge and methods when introducing new methods)	New Attempts		·Community Business ·Home Repair ·Remodeling of Empty Houses ·Local Community Support Project	·Home Repair Project ·Residential Environmental Management Project
Integrated	Is mutual security performance among stakeholders being driven through information exchange and collaboration among systems?	Co-operative Relative ·C: Business profit ·R: Housing maintenance ·A: Policy experiment		·Community Business ·Home Repair	·Community Business ·Home Repair
Robust	Were potential failures anticipated, and were safe and balanced countermeasures provided?	Prepare for Over-Development → Public System & Policy			
	Was excessive dependence on specific resources avoided?	Rely on Experts and Village Businesses → Various Actors			
Redundant	Is there an intended surplus resource that is cost-effectively built?	Surplus Resources Reorganization of Expert Group			
	Are distributed infrastructure networks, reserve resources, diversity, and multiple options present?	Surplus Resources Expansion of Activity Range, Continuous Residence Rehabilitation Instrument			

·Alley Community: Communities by Alleyways  
·C: Community Business; R: Residents; A: Administration

### 4.3 Maturity: Robust and Redundant Factors

Robust and redundant factors were expressed at the maturity stage. Robustness is achieved by providing safer preparation and avoiding dependence on specific resources. Jangsu Village has established an administrative system and residents' agreements to enhance robustness. The scope of the business entity was dispersed by including residents and administrations in a form concentrated in the professional and community business.

Redundant refers to the surplus resources and planned diversity. The expert group (RAGAD), which played an active role at the early stage of Jangsu Village, is currently serving as a body of advisers to a residents' organization. There is currently no specialist activity, but when a crisis occurs in the region, RAGAD exists as a surplus resource that can lead to regional diversity and reflection. Jangsu Village is also expanding exchanges with other regions through activities such as the Jangsu Village Academy and the Seoul City Wall Village Network. Jangsu Village has established networks with similar areas and is preparing to cope with future crises. It is also looking for problems that can cause new conflicts in the region. Following the infrastructure and home improvement projects, the interest of residents has reduced and the purpose of community activities may become unclear. To prepare for such a situation, Jangsu Village is carrying out activities that can address new conflicts in the area, such as taking care of stray cats.

### 5. Conclusion

This study suggests the possibility of incrementally building resilience in areas facing various problems by analyzing the residence regeneration process of Jangsu Village (Table 5.).

1) To cope with local problems, we must first secure our ability to be reflective, resourceful, and inclusive. Regions facing crises are likely to show low levels of community vitality. Experts should lead activities in a resourceful manner by rapidly securing the necessary human and material resources in regions where the crises have occurred. It is also effective to hold events such as resident workshops in the development of professional-oriented rehabilitation projects as such workshops allow residents to accurately reflect on local issues, and further enables some experts in RAGAD to develop their business by considering various public opinions. It is recommended that the contents of the project promoted in the region should be continuously changed to match the level of individuals' awareness and local situations.

2) In the initial stage of activities, if the reflective, resourceful, and inclusive characteristics are secured, the stage is transferred to that of development. The resilience required for development is flexibility and integration. In the process of development, activities to cope with local problems should be developed in earnest. New knowledge and technologies should be introduced. The introduction of new knowledge and skills can build local personality and attract external interest. Integrity can be gained through the evolution of acceptance gained at an early stage. It is necessary to develop projects that can effectively complement the public's opinions and interests and lead to complementary achievements.

3) When entering the mature phase from the development phase, local actors can expand and related projects can be implemented. The resilience factors necessary at this stage are robust and redundant, which help to prepare for future risks. Robustness can be ensured through balanced institutional arrangements and actions that avoid excessive reliance on specific

Table 5. Step-by-Step Establishments of Local Resilience Measures

	Example of Activities by Factor for Resilience	1) Early	2) Development	3) Mature
Reflective	·Workshop Result → Reflected in Business ·Uniform Business Method	●	●	●
Resourceful	·Community Meeting → Decision of Priority ·Local Academy → Training Human Resources ·Launch Local Funds & Utilize Public Funds	●	●	●
Inclusive	·Residents Agreement: Protecting the Weak and Vulnerable in Society	●	●	●
Flexible	·Various Attempts (organization, knowledge, technology, business contents, etc.)		●	●
Integrated	·Establishment of "Community Business" Recommended		●	●
Robust	·Use "Administrative System" and Create "Resident Agreement"			●
Redundant	· "Various Actors," "Local Interchange" ·Finding "New Conflicts"			●
Synthesis	The Character of Business	Local Small Business	New Attempt	Establish System & Expand Business Scope
	Subject Activity	Utilizing Local Resources through Experts	Build Complementary Organizational System	Various Actors, Local Interchange



resources. Administrative systems and residents' agreements should be established to provide minimum safety measures to deal with local problems. The distribution of networks away from dependence on specific groups should be pursued to enhance the characteristic of robustness. Finally, externalities should be initiated to prepare for risks as surplus resources. Unpredictable problems need to be resolved by strengthening networks among similar regions to collectively respond to potential crises. Predictable issues that may occur after maturity, such as declining community activity, can be addressed by deriving new regional conflicts.

This study proposes the resilience factors required for each stage of development in order to overcome crises and solve complex and diverse problems. Further research should seek to diagnose the distinctive features of regional characteristics and crisis types in the resilience-building process.

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### Note

- <sup>1</sup> The residential environment management project is being implemented to preserve, maintain, and improve the residential environment through the expansion of the maintenance infrastructure and joint-use facilities in areas where poor residences are concentrated. Main business contents include local community facility installation, small road maintenance, park installation, and fence improvement.

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