Article

The Process of Creating Yongsan Park from the Urban Resilience Perspective

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Abstract: The concept of resilience implies uncertainty and the ability to adapt to unexpected changes. Projects in cities that require long periods of time and extensive budgets, which include large parks, need resilience to flexibly cope with political, economic, social, and physical changes. The concept of resilience emerged from the design of large parks in the early 2000s and has continued in more recent urban design competitions, but there is still a lack of research on specific planning strategies in the literature. This paper aims to interpret the process of creating a large park and to explore the strategies needed for a resilient process by examining the first national urban park being planned in Seoul, Korea as an example. After discussions began in 1990 and the General Basic Plan was established in 2011, the winning design was announced through an international design competition in 2012. Although the park master plan was considered complete as of 2018, its progress seems unclear because of various changes in the surrounding urban planning and political and economic conditions. This study intends to examine the processes that have already been executed and to assist in setting the future direction of the project. Through the framework derived from prior research on the concept of resilience, this project’s process is examined and analyzed in six main categories: park infrastructure, social dynamics, economic dynamics, health and well-being, governance networks, and planning and institutions. The results show that the categories park infrastructure, health and well-being, and planning and institutions are consistent with the resilience planning strategy to some degree, but social dynamics, economic dynamics, and governance networks are unsatisfactory. From a resilience perspective, a holistic approach to designing the process is most important in planning a large park, beginning from the conceptual stage through to the long-term implementation phase. An integrative process should aim to incorporate specialized knowledge and experiences from a variety of fields, not to resolve single aspects in a piecemeal fashion. This study aims to provide a practical link between large-scale park projects and the concept of resilience for the future.

Keywords: urban resilience framework; integrative process; designing large parks; Yongsan Park

1. Introduction

Large parks as green open spaces within a city are “extensive landscapes that are integral to the fabric of cities and metropolitan areas” [1]. The development of large parks involves many challenges due to the expensive cost to create them and the large scale of projects. The voices of various stakeholders and citizens are also included; therefore, an effective communication process is important. Because large parks cannot be built in a short period, long-term planning strategies and perspectives are required. They also demand flexible designs and processes that can adapt to uncertain future changes and cope with them appropriately. Therefore, the resilience concept must
be considered during the entire process of creating a large park. Resilience “stresses uncertainty and building systems-based adaptive capacity to unexpected future changes” [2].

By the end of the 20th century, the way of thinking about traditional urban forms began to change. Cities are complex, contingent, and changing to follow a “strict architectonic order” [3] established by modernism. In this shifting situation, landscape is “a medium of urbanism in a variety of sites” [3], and recent landscapes have been considered “relevant to questions of green infrastructure in the informal city, and in response to questions of risk and resilience, adaptation and change” [3]. Landscape urbanism has emerged as a practical trend to be “suited to the open-endedness, indeterminacy, and change demanded by contemporary urban conditions” [3] through the landscape as medium. Ecology is one of the main themes of landscape urbanism. Ecology is “not a remote nature but more integrative soft systems—fluid, pliant, adaptive fields that are responsive and evolving” [4]. Recently, design disciplines have started to engage ecology with resilience, and landscape architects have introduced the idea of resilience in writing about large parks [5]. The discourse on large parks and the resilience concept is covered in detail in Large Parks, published in 2007. The book analyzes many examples of large parks and tries to discuss parks in the context of cities, arguing that “beyond size, the criterion for their selection is relevance to urban life” [6]. Scholars examine large parks based on Holling’s social-ecological resilience concept. Citing Pickett et al. [7], Czerniak defined resilience as “the ability of a system to adjust in the face of challenging conditions” and applied it to large parks [8]. She believes that “as a tool for conceptualizing, planning, designing, and managing large parks, it is useful to think of resilience in this ecological sense” [8] and that large parks need an “operational ecology” [9]. Lister describes resilience as “capacity in the face of a long-term adaptation to change” [9]. Long-term sustainability requires “the capacity for resilience—the ability to recover from disturbance, to accommodate change, and to function in a state of health—and therefore, for adaptation” [9]. She emphasizes that as the adaptive ability of the ecosystem is critical for its sustained survival, an adaptive design that allows changes as part of normal life is critical and we should pursue diversity in our approaches to design, planning, and management.

To determine the resilience of large parks, the landscape complexity needs to be understood [10]. This is because large parks “must be designed for both ecological and programmatic complexity, for both biological and sociocultural diversity, and accordingly, for all facets of sustainability” [9]. Czerniak insists that what is important in the resilient park is “the tension, in both design and management, between efficiency and persistence, constancy and change, and predictability and unpredictability” [8]. She also stresses “a large park’s ability to accommodate diverse and shifting social, cultural, technological, and political desires while maintaining its identity” [8]. In this respect, it is necessary to “anticipate several possible future states, based on the local system history and the social narratives that support it, and to design alternative scenarios that take place temporally as well as spatially” [9]. Unlike in the past, an “open-ended process” [1] is more important than deriving a fixed master plan [11]. As creating a large park takes a long time, it requires an “open-ended design incorporating diverse approaches and uneven levels of intervention and management” [11] and a “process-driven design approach” [11]. As reviewed above, landscape architects regard the resilience concept as a core value in designing large parks. This shows its applicability as a practical strategy beyond theoretical discourse, unlike research in other fields. However, these studies were also unsuccessful at delineating resilience strategies that could be followed by designers and agencies when designing large parks. Another limitation is that there is no in-depth discussion about intangible aspects such as funding, governance, citizen participation, management, and administration, which are as essential in the creation process to securing resilience as the physical aspects, such as the designs and spatial forms of parks.

Also, the resilience concept has not emerged as a design strategy for large parks to cope with urban changes in many years. Many designers proposed a resilience design strategy during the design competition held in 2000 for Downsview Park in Toronto, and such a strategy continued to be used until the design competition for Orange County Great Park in Los Angeles in 2006. However, they
mostly focused on ecological resilience and did not mention an overall resilience strategy to respond to changing and complex urbanization patterns. There has been no academic research on this topic. Instead of a general, abstract concept or slogan, research on specific methods and strategies to establish concrete resilience in park design is required. The purpose of this study is to interpret the process of creating a large park and to explore what strategies should be established in order to build resilient parks by using a large park in Seoul, South Korea, as a case study. Here, the process means not only the procedure but also the comprehensive approach, including planning, designing, strategizing, and adapting to future changes.

The Yongsan Park project of Seoul was used for the following reasons. First, it is the first national urban park in South Korea to be planned since 1990 and is currently in progress. Furthermore, the project could possibly change in the future owing to social and political situations; that is, it has large uncertainty. Second, Yongsan Park is a large park with an area of approximately 600 acres (Appendix A). The area is a city-scale military base encompassing over 1000 buildings, with more than 30,000 residents [12], which will be transformed into a public park. Thus, a new solution that is different from the conventional approaches to park design and building processes is required. Since the discussion on Yongsan Park started in 1990, it has undergone several phases. However, the planning of this park has not been a smooth process, because the political situation has been changing and major facilities of the US military base have remained onsite. The Yongsan Park Basic Design (YPBD) was completed in December 2018, but its future has become uncertain because the government decided not to issue a legal notification.

This paper is organized as follows. Section 2 discusses the framework of the analysis as derived from urban resilience theory. In Section 3, the history of the Yongsan Park site and the planning process of the park are reviewed. Section 4 analyzes resilience strategies in the entire process of the Yongsan Park project based on each criterion in the framework of analysis. In Section 5, the extent of resilience within the whole process of the Yongsan Park development is discussed by a comparison with two precedent projects. Section 6, the analysis results are outlined and a strategy for creating large parks applying the resilience concept is proposed.

This study is a new attempt in that it applies the resilience concept as a specific planning strategy for creating a large park.

2. Study Method

Integrated and specific planning strategies applicable to the development of large parks are needed. We attempted to determine the answer through urban resilience research. The scale of a large park is similar to or sometimes larger than that of a district of a city. As a city is “a dynamic entity, an ecological system, and a social system” [13], a large park is also “a complex, dynamic system” [1,9], which is at the same time social, cultural, and ecological [1]. Furthermore, the process of developing a large park needs to include not only the physical characteristics but also the socioeconomic, institutional, and political aspects, which are similar to the aspects considered in the design of a city.

Urban resilience is a progressing theory that “can be understood as the fourth dimension of sustainability” [14]. “Sustainability and resilience are used interchangeably” [15], but resilience focuses on the “non-equilibrium context by focusing on how cities build the capacity to respond to change and disturbance” [14], while sustainability seeks “an optimal balance between current and future needs” [15]. In that sense, urban resilience emerged as a key discourse in urban design and landscape architecture after major eastern US cities were affected by Hurricane Katrina, a disaster that required adaptive transformation of the cities. UN Habitat [16,17] and 100 Resilient Cities [18] are frontrunners that deal with not only natural hazards but also urban stresses to make resilient cities. Many recent urban projects, such as the Rebuild by Design Competition [19] in 2014; the Coastal Resilience Solutions for East Boston and Charlestown [20] proposed by Stoss Landscape Urbanism with Kleinfelder, ONE Architecture, and Woods Hole Group in 2016; and the Resilient by Design/Bay Area Challenge [21] for the San Francisco Bay Area in 2018, which all include the resilience concept for design, have
addressed not only landscape solutions, but also social, economic, and institutional aspects to improve the resilience of cities.

Choi and Seo analyzed the resilience strategies of urban projects by deriving the Urban Resilience Framework [22] through the studies of Foster [23], the Resilience Alliance [24], Sharifi and Yamagata [25], and Meerow et al. [26], that distinguished the objects for evaluating urban resilience based on Arup’s City Resilience Framework [27]. The Urban Resilience Framework, an analysis tool established by summarizing previous works, consists of six parts: urban infrastructure, social dynamics, economic dynamics, health and well-being, governance networks, and planning and institutions, which are divided again into subcategories.

Six categories were extracted synthetically from the studies mentioned above. Arup [27] proposed four categories: leadership and strategy, health and well-being, economy and society, and infrastructure and ecosystem. Foster [23] explained the dimensions of resilience in seven categories: social dimensions, systems characteristics, economic dimensions, environmental characteristics, time and timing, operational characteristics, and physical dimensions. Resilience Alliance [24] emphasized four themes for urban resilience: metabolic flows, governance networks, social dynamics, and built environment. Sharifi and Yamagata [25] used six categories: infrastructure, security, environment, economy, institutions, and social and demographics. Meerow et al. [26] simplified the urban system as governance networks, networked material and energy flows, urban infrastructure and form, and socioeconomic dynamics, which are the targets of urban resilience. The subcategories were mainly borrowed from Arup’s City Resilience Framework [27], and a few items addressed by the researchers were added: (1) demographics, as mentioned by Resilience Alliance [24], Sharifi and Yamagata [25], and Meerow et al. [26]; (2) metabolic flows, as discussed by Resilience Alliance [24] and Meerow et al. [26]; and (3) phasing, which replaces the terms “scenario-based planning” and “proactive planning” by Sharifi and Yamagata [25]. The analysis criteria were created by thoroughly interpreting the goals of the City Resilience Framework [27].

In this study, the planning process of the Yongsan Park project was analyzed within the following framework (Table 1) to determine which parts are consistent with the resilience concept and which parts are lacking. This will help to set the direction for the resilient development process of the Yongsan Park project in the future. In the framework of analysis, the term “urban” from the urban infrastructure category was replaced with “park.”

To diagnose and analyze the development process of Yongsan Park, a comprehensive analysis of government documents, research reports, laws and regulations, design reports, symposiums and public hearing data, media reports, and designer interviews was done.

| Categories             | Subcategories | Analysis Criteria                                      |
|------------------------|---------------|-------------------------------------------------------|
| Park Infrastructure    | Ecosystem     | Strive to protect environmental assets by preserving and restoring them. |
|                        | Buildings     | Provide physical and institutional arrangements for safe housing and industrial facilities in times of disaster. |
|                        | Utilities     | Build integrated urban public systems capable of responding to disasters. |
|                        | Transportation| Propose a multimodal transportation system to improve park-city connectivity and social cohesiveness. |
|                        | Technology    | Consider information and communication technology networks such as the internet, mobile, and social media. |
Table 1. Cont.

| Categories                  | Subcategories          | Analysis Criteria                                                                 |
|-----------------------------|------------------------|-------------------------------------------------------------------------------------|
| **Social Dynamics**         | Demographics           | Understand the characteristics of local communities.                               |
|                             | Community              | Form a social network by encouraging the active engagement of the community.         |
|                             | Communal Facilities    | Create public spaces or facilities where local residents can gather to strengthen the community. |
|                             | Identity               | Strengthen local identities and improve cultural standards in a variety of ways.      |
|                             | Education              | Provide continuous opportunities for education to raise the awareness of local communities. |
|                             | Equity/Affordability   | Suggest ways to maintain socioeconomic equity including housing, employment, environment, etc. |
| **Economic Dynamics**       | Financial Resource     | Establish a financial plan to realize the project.                                  |
|                             | Investment             | Propose a way to attract investment from the private sector.                         |
|                             | Business Support       | Provide various economic support programs to activate and revitalize the local economy. |
|                             | Emergency Plan         | Prepare contingency funds to respond to emergencies and unforeseen events.          |
|                             | Metabolic Flows        | Establish measures to facilitate production, supply, and consumption.                |
| **Health and Well-Being**   | Basic Needs            | Provide basic facilities for living—housing, shelter, food, water, etc.—at times of disaster. |
|                             | Public Health          | Improve public health.                                                              |
|                             | Livelihoods            | Design institutional support to enable various livelihoods.                          |
| **Governance Networks**     | Leadership             | Propose leadership/committed government to lead the project consistently.             |
|                             | Stakeholder            | Understand various stakeholders of the project.                                     |
|                             | Partnership            | Consider the integrated management of multiple departments for effective decision-making. |
|                             | Information            | Enable individual/organization access to up-to-date information/knowledge and share experiences/practices. |
| **Planning and Institutions** | Integration            | Prepare plans aligned with city vision and different projects/programs across the city. |
|                             | Participation          | Create plans with local communities.                                                |
|                             | Phasing                | Have short-term and long-term plans.                                                |
|                             | Implementation         | Implement projects by incorporating existing urban plans and strategies.             |
|                             | Regulations            | Attract future investment and coordinate city development with urban planning and land use regulations. |
3. Yongsan Park as a Large Park

3.1. Yongsan: A Brief History

Yongsan has been the center of transportation connecting the Han River and the city of Seoul since the Joseon Dynasty. Commercial villages were developed around facilities for logistical reasons. It was not developed into a full-scale city until 1895 because of routine flooding of the Han River. Yongsan became a modern city after the railroad and Yongsan Station were built in 1900. A modern urban fabric and structure were quickly formed by 1910 during the Japanese colonial period [28].

Owing to its geological advantage, foreign troops have been stationed in Yongsan since 1882. Starting with the Qing troops, the Japanese army was stationed there in 1894. The size of the military expanded as Japan expropriated 930 acres as an army base after the Russo-Japanese War in 1904. In 1945, Yongsan changed ownership once again. After the Japanese army was defeated in the Second World War, the US military occupied the Yongsan district. After the Korean War, the Yongsan base of the US armed forces gradually became a barracks city. A residential area for the US military was formed in the Yongsan district, and living spaces, cultural and religious facilities, schools, and sports facilities were constructed [28].

The Yongsan base was disconnected from neighborhoods for a long time, but in the 1990s, the War Memorial of Korea, the Yongsan Family Park (former golf course of the US army), and the National Museum of Korea were built on the base. Some parts of the base became open spaces for citizens [29] (Figure 1).

3.2. From Military Base to Park

Planning for the creation of a park on the Yongsan base began in 1990 when South Korea and the US signed a memorandum of agreement (MOA) and memorandum of understanding (MOU) for the relocation of the military base. However, the discussion on the relocation stopped because of a cost allocation issue and an economic crisis in Korea until the early 2000s and began again when the presidents of South Korea and the US agreed to the relocation of the Yongsan base in May 2003. The argument regarding developing a park has been repeated over three decades. The main reason for the controversy was the incomplete transfer of the US military base owing to the international, military, diplomatic, and political changes between South Korea and the US [30].

In 2005, the first park project led by the state, the Yongsan Base Park Planning Initiative, was established. This plan presented the vision of “a park that communicates with the city” away from urban isolation, and “a growing park” that focuses on leading the evolution of the city. This vision greatly influenced the subsequent plans for Yongsan Park and the guidelines for design competitions [31]. In 2006, a proclamation ceremony for Yongsan base to become a park was held by the president, and in 2007, the Special Act on the Creation of Yongsan Park was enacted and publicized. In 2008, according to the Special Act, the Taskforce for the Creation of Yongsan Park (YPTF), which is
the main government agency for park development, management, and operation, was created under
the Ministry of Land, Transport, and Maritime Affairs (now the Ministry of Land, Infrastructure, and
Transport). This laid the groundwork for a full-scale development of the first national urban park in
South Korea [32].

In 2011, the Zones of the Yongsan Park Development Project (Figure 2) were delineated, and the
General Basic Plan for the Creation and Zoning of Yongsan Park (GBP) was established by a large
multidisciplinary expert group. Based on this, the International Competition for a Master Plan of
Yongsan Park was held in 2012. A total of 49 teams responded to the request for qualifications, and
8 teams were selected through screening for the second stage of the competition [33]. Consequently,
Healing: The Future Park (West8 and IROJE) won first prize in the competition. It was a modern
reinterpretation of the representative landscapes of Korea with the theme of the healing of nature,
history, and culture [34] (Figure 3).

In October 2012, the design teams, West8, IROJE, and Dongil Engineering, kicked off the YPBD
phase. After launching the design process, the design teams submitted four interim design reports
in early 2014, 2016, 2017, and 2018 to establish a master plan for the park. The YPBD phase was
officially completed at the end of 2018. In 2019, the YPTF plans to study the interim use of the Yongsan
Garrison to provisionally open Yongsan Park in 2020. However, the road map for creating the park is
unclear because of changes in political, military, and diplomatic situations, as well as budget issues [35].
The detailed implementation process is outlined in Table 2.
Table 2. Park development process [32].

| Year         | Contents                                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| June 1990    | Memorandum of agreement and memorandum of understanding were signed by South Korea and the United States for the relocation of the US military. |
| May 2003     | Presidents of South Korea and the United States reached an agreement for the relocation of the US military from the Yongsan Garrison.     |
| August 2006  | Proclamation ceremony for Yongsan Park was held.                                                                                           |
| July 2007    | Special Act for the Creation of Yongsan Park was enacted and promulgated.                                                                   |
| March 2008   | Taskforce for the Creation of Yongsan Park (YPTF) was installed in the Ministry of Land, Transportation, and Maritime Affairs.              |
| August 2009  | Initial ground survey for Yongsan Park was completed.                                                                                     |
| October 2009 | Creative ideas for the park were collected through a public design competition.                                                              |
| May 2011     | Designation of the zones of the Yongsan Park Development Project was publicized.                                                            |
| October 2011 | General Basic Plan for the Creation and Zoning of Yongsan Park (GBP) was delineated.                                                        |
| April 2012   | International Competition for a Master Plan of Yongsan Park was held.                                                                     |
| October 2012 | Yongsan Park Basic Design (YPBD) phase was initiated.                                                                                      |
| December 2014| GBP was legally revised.                                                                                                                   |
| April 2016   | Public hearing for content selection and zoning change for Yongsan Park was held.                                                          |
| May 2017     | Yongsan Park Roundtable (RT) was launched.                                                                                                 |
4. Results

4.1. Park Infrastructure

4.1.1. Ecosystem

Healing nature is one of the strategies in Healing: The Future Park, which is the main concept of the Yongsan Park master plan as well as the winning scheme of the international competition. Healing nature is based on restoring the natural environment of the site, which has been destroyed by long-term military use. It is also a concept to build a sustainable ecosystem. The site has a hill connected to Namsan, the nearby mountain. By analyzing the latitude and aspect of the hill, local flora, and potential climate changes, an evolving soft system was designed. Furthermore, balanced earthwork was proposed for restoring the site from terraced lands generated by buildings and roads to its original hilly terrain [29,33] (Figure 4).

![Figure 4. Restoration of topography [33] (edited by the authors).](image)

4.1.2. Buildings and Utilities

The lowlands of the site were inundated by the Han River during the great flood in 1925 [36]. The site is currently safe from flooding because of the straightening of the river, but some of the lowlands are often inundated because of the old underground conduits. The Yongsan Park design plans for the major park facilities to be protected from 200-year floods. It also proposes upgrading the old pipes on site and accommodating underground water detention storage in the park, suggested by SMC to prevent stormwater runoff from entering neighboring areas [35].

4.1.3. Transportation

The GBP tried to create an environmentally friendly traffic strategy through green transportation, while constructing road and subway networks to improve accessibility to the park. Furthermore, it reviewed the bimodal tram and monorail as a new transportation possibility, even though its availability in emergency states was not considered [36]. The Yongsan Park master plan developed a feasible transportation network and planned an internal circulation system by introducing pedestrian paths and public bicycles so that the park could be organically linked with the adjacent city [37].

4.1.4. Technology

Healing: The Future Park, which was the winning scheme of the international competition, suggests the idea of using mobile phones to actively engage with park programs and social media. Through signaling between sensors attached to the main road and mobile applications, people could determine the time and distance of their exercise in the park [38]. These ideas continued in the
basic design phase, and a park management and operation system applying the information and communication technology (ICT) was considered [37].

4.2. Social Dynamics

4.2.1. Demographics

An effort to understand the local community is reflected in the master plan. The design team analyzed the surrounding communities and planned to incorporate their characteristics into the park, especially where the park meets the city [38]. The physical phenomena of the surrounding communities were reflected; however, there was almost no opportunity for the design team to meet the local residents and to include them in the design process. The design also did not present a solution for the social, cultural, and economic vulnerabilities of the local communities [39].

4.2.2. Community

In the planning process of Yongsan Park, communication with local residents was done unilaterally and formally through public hearings. However, autonomous groups of local residents gradually increased. Citizen groups with various subjects and interests have organized, including Yongsan Parkie, a group of students interested in the park; Gate22, consisting of local artists; and Yongsan Legacy, which is focused on archiving the Yongsan base [40]. However, they have had no opportunity to form solidarity or to participate in the planning process of the park. The Yongsan Forum, which included local politicians, professors, and experts, was spontaneously formed in 2016 [41] but has not continued.

4.2.3. Communal Facilities

Presentations were given and exhibitions were held to gather and educate people. Visual images and a physical model explaining the park design were exhibited at the National Museum of Korea and the War Memorial of Korea, which are both located next to the army base [42] (Figure 5). People can imagine the future park by looking out at the base while learning about the park design and can provide feedback. The Korea Territorial Development Museum Gallery, operated by the Ministry of Land, Infrastructure, and Transport, attempted to be a permanent facility where communities could share opinions on the park [43], but it was discontinued. In 2018, SMC opened the Yongsan Gallery at the United Service Organizations building of Camp Kim, which is part of the Yongsan base, as a communal space for citizens [44]. These attempts were not voluntary activities of the residents, as they were led by the government. The park master plan introduced an idea to transform the reusable buildings scattered within the park into public spaces for various activities where people could interact [29].

![Figure 5. Yongsan Park exhibition in the War Memorial of Korea: (a) physical model of the park; (b) image boards explaining the park design and vision (photos taken by the authors).](image-url)
4.2.4. Identity

SMC, which is not an official agency for the park development process, has consistently held exhibitions about Yongsan Park. These were methods of sharing the history and memories of the place with citizens, such as through photo exhibitions of the base and concerts playing fifties music [45]. The park design planned to leave some buildings used by the Japanese and US armies in the park to show the identity of the site and tried to incorporate various cultural programs in these buildings [29].

4.2.5. Education

In 2017, various educational activities were conducted through the Yongsan Park Roundtable (RT) 1.0 [46] (Figure 6), which is a citizens’ participation program. The RT was organized to publicize the park design and to build a communal network for citizens. Lectures on a variety of topics were released on YouTube [47]. The introductory book Yongsan Park Essence 1.0 was published and distributed free of charge to help people better understand the park planning process and physical design. Furthermore, a program for young programmers was operated so that trained youth could take part in the process of creating Yongsan Park [48].

Figure 6. Yongsan Park Roundtable: (a) open forum regarding the role of modern public parks; (b) one-day community program (photos taken by the authors).

4.2.6. Equity/Affordability

Public parks are already equitable in that they are open to the public and free to use. One of the debates that has arisen in the process regarding equity was about reusing the buildings on site. To identify proper programs for buildings to reuse among the more than 1000 buildings on the Yongsan base, 18 government bureaus proposed indoor and outdoor programs linked with the buildings. The Subcommittee for the Creation of the Yongsan National and Historic Park selected and announced five museums, one indoor sports center, and one children’s forest playground as programs to reuse buildings. However, the public strongly opposed the plan, as they believed that building programs in the park would encroach on the equitable green space available and would only benefit certain parties, thus the selected proposals were canceled [29,33].

4.3. Economic Dynamics

4.3.1. Financial Resources

Since the Yongsan Park project is implemented by the state, its major funding source is dependent on taxes. The total budget for the planning of the park must be divided by the anticipated duration of the process and be applied for with the Ministry of Economy and Finance every year. Whether it is acceptable or not is decided by the Special Committee on Budget and Accounts in the National Assembly. In other words, the total budget for the project is not guaranteed but is subject to the approval or disapproval of the National Assembly every year [49]. Because of changes in the political
landscape surrounding the creation of Yongsan Park since the YPBD phase began in 2012, the budget for the project has been cut down or, even more, not approved in some years [50]. The project was forced to slow down or even be discontinued. There were several studies on funding measures, such as Measures to Use the Returned Site of the Yongsan Military Base and to Secure the Necessary Funding [51] and A Study on Utilizing the Returned U.S. Military Base and Measures to Secure Required Finances [52], but funding and financing tools other than taxes were not implemented.

4.3.2. Emergency Plan

There is no contingency funding plan for unseen circumstances in situations where it is difficult to secure the budget to proceed with the planning process. It is also inflexible with regards to distributing the budget for the planning process and contingency plan because of the rigid national system of budget allocation [35].

4.3.3. Investment

The Act on Urban Parks, Green Areas, Etc. of Korea [53] prohibits revenue-making businesses in public parks. In the YPBD phase, a plan to create profit by renting the reusable buildings in the park for financial sustainability was reviewed. However, the idea was withdrawn by the objection of citizens, who thought the park must be used only for public purposes [35].

4.3.4. Business Support

The park cannot be a main agent of business support for revitalization of the local economy. However, stimulation of the local economy can be expected when the park opens and visitors increase. The entrances to the park have been arranged where they can connect easily to the surrounding areas. In addition, park programs linked with the local communities have been planned to take place at the interface of the city [36].

4.3.5. Metabolic Flows

Healing: The Future Park, the winning scheme of the international competition, proposes a system where crops produced by urban farming within the park can be consumed by visitors at restaurants in the park [38]. The generation, supply, and consumption of new and renewable energy in the park can be also understood as a measure to create a resilient park. The concept of sustainable resource circulation was incorporated in the Yongsan Park master plan as the reuse of materials removed from the existing buildings, roads, and forest in the park [37].

4.4. Health and Well-Being

4.4.1. Basic Needs

Wide open fields in various areas of Yongsan Park have been suggested as flexible spaces that could easily cope with unexpected incidents in the future. These areas could normally be used for public events but could also be used as shelters in case of disasters [37].

4.4.2. Public Health

Three types of paths for jogging, cycling, and hill climbing to promote public health were planned, and spaces to facilitate various leisure activities were designated [38]. A newly restored forest, achieving ecological soundness, was designed to help improve public health by reducing air pollution [37].
4.4.3. Livelihoods

The livelihoods item in the urban resilience framework refers to the design of institutional support for various livelihood activities. This category, however, in the public park perspective can be interpreted as the possibility for equitable and free activities of park users and the institutional support that enables them. This requires an integrated consideration of design strategies and operations and management plans. During the Yongsan Park planning process, operations and management strategies to enable institutional support were considered to be prepared after the design of the park was fixed. In that sense, the master plan proposes various programs and flexible open fields that embrace them [29,38], but it is hard to know whether these could be supported by institutions [37].

4.5. Governance Networks

4.5.1. Leadership

The YPTF, established by the Special Act, takes charge of affairs related to the creation of Yongsan Park, not limited to securing funding, proceeding with the planning process, strategizing on implementation, setting the system for maintenance and operations, and managing public relations [54]. Owing to the characteristics of the Korean Civil Service System [55], the head of the YPTF was changed five times and the project manager was replaced six times since the YPBD phase launched in 2012. They were administrators who lacked expertise in the park planning process. Even the size of the YPTF has decreased since 2016, so it is difficult to expect continuous leadership [35,37].

4.5.2. Stakeholders

In 2018, Kim identified six governance actors for the Yongsan Park planning process: state bureaus, SMC, Yongsan district office, nongovernmental organizations (NGOs), community groups, and National Assembly officials [37]. It was the first effort to define stakeholders in the Yongsan Park planning process. Except for a coalition organized for the park consisting of experts, NGOs, and local residents, there was no platform or network by which stakeholders could communicate during the YPBD phase. Even the coalition was operated ineffectively by having only two pro forma meetings [35,37].

4.5.3. Partnership

There was no cooperative planning framework that could make efficient cross-jurisdictional communication related to Yongsan Park possible. So far, the YPTF has communicated separately with every government agency related to the creation of the park [37]. This generated inefficiency and, often, miscommunication. In early 2018, an attempt was made to organize a task force under the Office for Government Policy Coordination run by the prime minister to discuss and solve issues related to the planning process of Yongsan Park, including the Ministry of Land, Infrastructure, and Transport, the Ministry of National Defense, and the Ministry of Environment. It played a role as a hub for communication, but there was a limitation in that the task force was not a working group but a group of ministers [35].

4.5.4. Information

The YPTF has an official website for Yongsan Park; however, it only provides limited information, such as a press release regarding the planning process. There is no central platform for all information on Yongsan Park. The RT, which was held in 2017, could be a platform to engage with as broad an audience as possible; however, public events organized for the RT were lectures regarding public parks in general instead of demonstrations of the specific planning process for Yongsan Park. Many design and research materials produced through the planning process were controlled by the YPTF, which decided not to release them to the general public. The reason why the YPTF did not disclose materials
was to prevent potentially unnecessary debates from being triggered, but at the same time it makes access to information related to Yongsan Park difficult [35].

4.6. Planning and Institutions

4.6.1. Integration

The winning scheme of the international design competition presented a plan for organic connection with surrounding areas [38]. The Yongsan Park master plan also examined various planning and development efforts taking place around the park and tried to reflect them in the park design to build a cohesive linkage. However, it could not be an effective integration, since there was no consultative body to discuss various issues arising from the planning process and to coordinate different goals and timelines of government agencies [37].

4.6.2. Participation

Through the idea competition in 2009, the planning process of Yongsan Park was promoted to the general public and their participation was encouraged [56]. Professionals from multiple disciplines had a chance to participate in many research projects, such as drawing the GBP of the park. However, community engagement in the planning process has been done in a passive manner, such as public hearings, online surveys [57], temporary idea collection using Post-its during the public exhibition [58], and opinions posted to the park's official website.

4.6.3. Phasing

The GBP of Yongsan Park prepared in 2011 emphasizes the phasing strategy as a key factor of park development [59]. However, it shows conceptual scenarios without an in-depth analysis of funding sources and predictions for potential future changes. No communication with the US military was made, even though its relocation timeline was critical to the park's development schedule. Because the phasing strategy was generated by the state in a top-down manner with limited public engagement, the plan is vulnerable to revisions in the future [35].

4.6.4. Implementation

The park master plan presents a comprehensive and integrated design in conjunction with existing urban planning and strategies. However, due to the long-term planning process, political and socioeconomic terrains have been endlessly changing, so there have been development pressures such as creating large-scale affordable housing instead of a park [60].

4.6.5. Regulations

From the park planning perspective, the regulation criterion could be considered to be whether the creation of the park orchestrates the development of the surrounding cities and attracts future investment. Various planning and redevelopment scenarios of areas adjacent to the park have been established with the planning of Yongsan Park [61]. Since it is a long-term process to complete park development, a future park leading to direct investments cannot be proved yet.

5. Discussion

The extent of resilience within the whole process of the Yongsan Park development was examined and analyzed through six criteria of the resilience framework. First, the park infrastructure category was well considered through the planning process of the park in general. Ideas for environmental restoration, facilities well equipped to cope with disasters, and improvement of transportation systems and ICT networks were integrated into the park design. However, to realize these ideas, a technical linkage to the city is important, which has not been demonstrated in the planning process. Second, the social dynamics category was not applied properly. The planning process was conducted in a
top-down manner by initiatives of the state. Opportunities for community engagement were limited, so that the community identity was not well understood. Community groups have spontaneously organized, but they have not effectively provided input to the park development process. Third, the economic dynamics category was also insufficiently reflected. Funding sources, except national taxes, are restrictive because Yongsan Park is a capital project of the state. However, multifaceted efforts have been made to revitalize the surrounding local economy and to establish the recirculation system of resources in the park. Fourth, the sub-items of the health and well-being category are being actively incorporated. The subcategory livelihoods, which may be applied in a changed definition to the park, could be implemented in the operations and management plan. Fifth, the governance networks element is the least satisfied due to the inflexible government organizational structure. Due to political conflict on several issues related to park development, the state could not build powerful momentum to proceed with the process consistently. Sixth, the planning and institutions category appears to have been incorporated to some degree. The planning process of Yongsan Park considered existing urban development plans for areas adjacent to the park. Phasing strategies were explored to manage short-term and long-term projects and their implementation. To attract future investments to neighborhoods surrounding the park, however, requires an integrated perspective of the park-city relationship.

The results of the Yongsan Park project mentioned above can be compared to those of the Rebuild by Design Competition held in 2014 and the Resilient by Design/Bay Area Challenge held in 2018. Choi and Seo [22] analyzed six teams’ proposals for the Rebuild by Design Competition [62–67] and nine final submissions for the Resilient by Design/Bay Area Challenge [21] with the same urban resilience framework used for this paper. Even though the two competitions had different characteristics (i.e., Rebuild by Design mainly focused on how urban systems that are impacted and destroyed by disasters can be reconstructed, whereas Resilient by Design tried to find a way to build more resilient urban areas before disasters hit), there are similarities in their proposals to create urban resilience. Six resilience criteria were applied in the designs proposed by most teams. In particular, the following subcategories were proposed by all teams: demographics and communal facilities within the social dynamics category; financial resources within the economic dynamics category; leadership, stakeholders, and information in the governance networks category; and participation and phasing in the planning and institutions category. In the two competitions, strategies to create resilient cities emphasized the importance of understanding the local community, securing various sources of funding, having a concrete entity to consistently lead projects, and engaging with the public.

In the Yongsan Park project, criteria corresponding to the physical and tangible characteristics of the resilience framework were well-implemented; however, unlike in the two competitions above, criteria related to the nonphysical and intangible characteristics were not fully developed.

6. Conclusions

This study aimed to determine why the Yongsan Park project has not properly progressed for a long time despite its importance. We tried to identify the causes by applying the resilience strategy to cope with changes in modern cities with regards to a large park. The results of this study suggest a new approach to the Yongsan Park project that is different from previous methods. A resilient planning strategy is required to implement the vision and goals for the creation of a large park over the long term while flexibly coping with internal and external issues for park development.

From a resilience perspective, process design is important when planning a large park, beginning from the conceptual stage through to the long-term implementation phase. Unlike the conventional methodology, which focuses on producing physical and tangible plans as a result, a holistic approach involving a sustainable process encompassing project conception, planning, design, implementation, operations, and management is indispensable. The process of creating a large park that is long-lasting is bound to have and be affected by unexpected variables in political, social, and economic aspects. Securing the budget, creating policy, communicating between designers and stakeholders, engaging the
community, and establishing compatible institutions must be done throughout the entire development process. An integrative process should aim to bind specialized knowledge and experience from a variety of fields, not in a way that resolves single aspects in a piecemeal fashion. Potential problems from short-term and long-term implementation should also be predicted and alternatives must be prepared as contingency plans. These lessons learned can be applied not only to Yongsan Park in Seoul but also to other large park projects that require a lot of time and large budgets. This paper can be considered as presenting a desirable direction for the creation of large parks in the future.

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**Abbreviations**
The following abbreviations are used in this manuscript:

- MOLIT: Ministry of Land, Infrastructure and Transport
- USFK: United States Forces Korea
- SMC: Seoul Metropolitan City
- YPTF: The Taskforce for the Creation of the Yongsan Park
- YPBD: Yongsan Park Basic Design
- GBP: General Basic Plan
- RT: Yongsan Park Roundtable 1.0

**Appendix A**

Note A1: Andrew Jackson Downing regarded 500 acres (approximately 200 hectares) as the minimum area required to fulfill future needs in the process of securing land for Central Park.

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