

Chapter 1

Introduction

Background and Significance of Research Problem

The world faced a significant crisis that affected both public health and socioeconomic conditions due to the COVID-19 pandemic. This led to changes in how people lived, worked, and interacted with each other. As of April 2023, the World Health Organization (WHO) had reported more than 498 million confirmed cases and over 6.2 million deaths globally due to COVID-19 (WHO, 2023). Many industries and sectors, such as travel, education, and hospitality, were severely impacted by this pandemic. Governments worldwide introduced various measures such as lockdowns, social distancing, and the widespread use of face masks to prevent the spread of the virus.

Lockdowns and social distancing significantly disrupted our daily lives in ways that might have had adverse and unanticipated effects on physical and mental health (Lambert et al., 2020, pp. 12-14; Lin et al., 2021, pp. 491-493). This pandemic came at a time when people were experiencing more profound changes through deteriorating and chronic human-nature interactions due to the expansion of cities and modern lifestyles (Soga & Gaston, 2016, pp. 94-101; Truong & Clayton, 2020; Lin et al., 2021). The loss of natural interaction could severely affect physical and mental health through reduced social and recreational opportunities, accidental or planned exercise, or activities for relaxation (Hartig et al., 2014, pp. 207-228; Lin et al., 2021, pp. 491-493).

Community gardening was an activity that brought people closer to nature in their daily lives and also promoted the health of individuals and the environment (Kou et al., 2020). It referred to the practice of cultivating plants and vegetables in public or shared spaces, such as parks or community gardens, with the participation of local residents (Kou et al., 2020). The benefits of community gardening were numerous and extended beyond just growing fresh produce. By engaging in community gardening, individuals had the opportunity to connect with nature and engage in physical activity, which improved their physical and mental well-being. Additionally, community gardening provided an opportunity for social interaction and the development of community ties, as individuals worked together towards a common goal. Moreover,

community gardening contributed to environmental sustainability by promoting the use of organic and sustainable gardening practices, reducing the need for transportation of produce, and increasing green spaces in urban areas. The practice also offered an opportunity for education, as individuals could learn about plant biology, environmental issues, and gardening techniques.

Research has indicated that community gardening has had positive impacts on both individuals and communities. For instance, Kou et al. (2020) conducted a study that demonstrated how community gardening promoted physical activity, increased social connectedness, and provided opportunities for skill development and knowledge sharing. Therefore, promoting and maintaining community gardening could have a wide range of benefits for individuals and the environment, making it an important area of research and practice to consider.

The pandemic has also highlighted the importance of green spaces and community gardening. Community gardening is a type of activity that brings people closer to nature in their daily lives. It also promotes the health of individuals and the environment (Joyce & Warren, 2016, pp. 203-215). The pandemic has led to an increase in the number of people taking up community gardening as a way to cope with the stress and anxiety caused by the pandemic (Marques et al., 2021). Community gardening provides a safe and healthy outdoor activity that allows people to practice social distancing while enjoying the benefits of being in nature.

The crisis caused by the COVID-19 pandemic resulted in the loss of human life. The crisis affected the economy, public health, and social infrastructure and had a significant impact on the environment, which continued to rise globally (Agrawala, Dussaux, & Monti, 2020). Currently, the impact of COVID-19 has affected the progress of prevention and control, which has had a severe effect on urban greening-related work. In this special and critical period, the greening maintenance unit also faced many difficulties in resuming work.

The quality of managing and protecting urban gardens and green spaces was closely related to the city's image and the improvement of people's living standards. Improving the level of management and protection of garden greening and the quality of the urban green space landscape could effectively enhance people's enjoyment of spiritual civilization and played a vital role in the construction of ecological civilization and a beautiful China. Therefore, this knowledge gap led to an important research question: how could we maintain greening in the community during the COVID-19 pandemic? This research aimed to fill this knowledge gap and provide

valuable insights into managing and protecting green spaces during a public health crisis.

The COVID-19 pandemic had a profound impact on environmental management practices, affecting communities worldwide. This was particularly true for Suzhou City, which faced unprecedented challenges in maintaining a green environment during that time. There were several reasons why research in the field of management innovation for maintaining greening in communities during the COVID-19 pandemic was crucial. Firstly, the pandemic necessitated the adoption of new management practices in environmental management to keep up with emerging challenges. Therefore, it was important to explore innovative management practices that could enable communities to maintain a greener environment during the pandemic. Secondly, Suzhou City was unique in its geographical location and had been named a national environmental protection city. However, the COVID-19 pandemic posed significant challenges that could have compromised the city's efforts towards environmental sustainability. As such, it was essential to identify innovative management practices that could help the city maintain its green environment during that pandemic. Lastly, promoting and maintaining a green environment was important for improving the quality of life of residents and contributing to the construction of a beautiful China. Therefore, innovative management practices for maintaining greening during the COVID-19 pandemic were vital for both the community and the environment.

Maintaining and protecting these spaces during a public health crisis like COVID-19 was challenging due to restrictions on movement and gathering. Therefore, this research aimed to investigate effective management innovation for maintaining and protecting green spaces in the community during the COVID-19 pandemic, which could inform future policies and practices for ensuring the sustainability and accessibility of these spaces in times of crisis.

Research Objectives

1. To study the current conditions, problems, and obstacles of managing green spaces during the COVID-19 pandemic in Suzhou City.
2. To study the best practices in maintaining green spaces in the community during the COVID-19 pandemic period.
3. To establish guidelines for management innovation aimed at maintaining green spaces in the community during the COVID-19 pandemic period in Suzhou City.

Research Hypothesis

To maintain greening in the community during the COVID-19 pandemic period in Suzhou City, innovative management needs to address the following variables: 1) efficient maintenance of green spaces, 2) visitor flow rate, 3) labor force, 4) normal management practices, 5) effective control measures, and 6) effective communication of the importance of greening work. By addressing these variables through innovative management practices, the community can effectively maintain green spaces during the pandemic.

Scope of the Study

Scope of content, key informants, and timeframe are as follows:

1. Scope of Content

The scope of this study's content focuses on investigating issues related to 'Management Innovation for Maintaining Greening in the Community during the Period of COVID-19 Pandemic' in Suzhou City. The study covers the following variables: 1) efficiency in maintaining green spaces in the community, 2) visitor flow rate, 3) labor force, 4) normal management, 5) effective control, and 6) ideological work. Suzhou City will be used as a case study to examine these variables. Additionally, the study focuses on content related to best practices in maintaining green spaces in the community during the COVID-19 pandemic period, both in China and abroad.

2. Scope of Key Informants

This study involved experts from four greening maintenance units in Suzhou who were interviewed to gather insights into green space maintenance within the community during the pandemic, using purposive sampling techniques. The primary source of information was Manager Xu from Suzhou New Area Shishan Street Greening Municipal Co., Ltd, supplemented by input from at least 12 other community gardening experts who contributed their knowledge on the subject. Additionally, a Thai expert with expertise in innovation management was consulted.

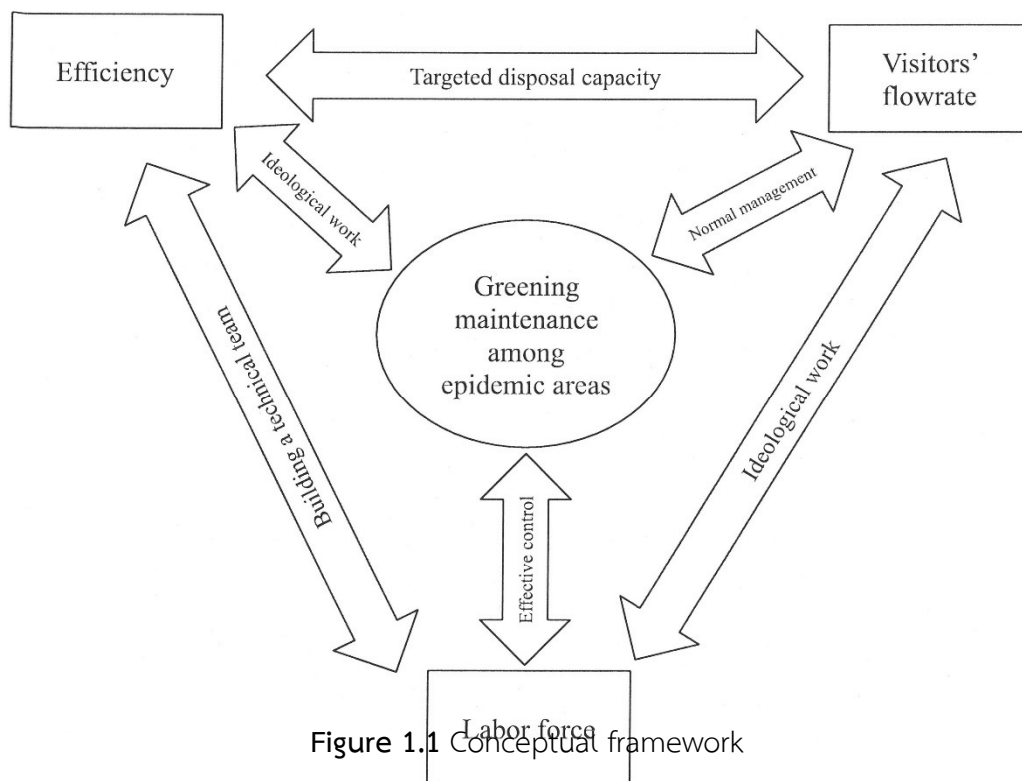
3. Scope of Timeframe

The research timeframe for this study involved data collection through expert interviews from May 2023 to June 2023, as well as additional data collection

through document study dating back to the year 2019, which marked the onset of the COVID-19 virus outbreak.

Conceptual Framework

The maintenance of community greening played an essential role in improving the urban ecological environment. Therefore, a conceptual framework based on the concept of management innovation, which covered variables related to efficiency, visitor flow rate, and labor force, was proposed to maintain greening in the community during the COVID-19 pandemic period in Suzhou City (see Figure 1.1).



During the novel coronavirus prevention and control measures, the greening and maintenance work in the community faced significant challenges such as demanding project management and control, low efficiency, and a reduced level of emergency prevention and control. This research aimed to outline how the level of emergency prevention and control was improved, the management and protection of gardens and green spaces were optimized, the efficiency of management and protection was enhanced, and the steady development of the garden and green industry was promoted during the COVID-19 pandemic prevention and control. This

conceptual framework was developed from the synthesis of variables related to greening and maintenance during the pandemic.

During the pandemic, the management and protection of green spaces in the community were significantly restricted in terms of work efficiency, visitor flow, and labor force.

1) The shortage of labor resulted in a slowdown in work progress. During the critical phase of the green space management and protection work, the inadequate labor force hindered the effective execution of certain tasks. For instance, due to untimely or poor-quality watering, the maintenance of the foundation couldn't meet the required standards, and pest control work was postponed in the spring. Failing to ensure the quality of these essential tasks posed risks to the overall year-round maintenance work and adversely affected the park's landscape.

2) The community landscape park, a vital social space for providing rest and leisure, and a crucial component of community greening management and protection projects, faced challenges in controlling the large number of visitors during the pandemic. Despite the community's implementation of closed management and other measures to combat the pandemic, the number of people going out increased, leading to an uncontrollable rise in park visitors. The park required numerous workers for tasks such as weed removal, pruning, fertilization, disease and pest control, and sanitation cleaning. To ensure the park's overall landscape effect, management and protection personnel needed to be distributed throughout the park for its operation. However, the pandemic limited the number of workers due to various restrictions, making it challenging to effectively maintain and protect the park.

3) The fluctuating morale of workers resulted in low work efficiency. The pandemic outbreak and effective control measures significantly impacted employees' mindsets, affecting both enterprises and employees. In the management and protection of green spaces, some workers lacked adequate knowledge or understanding of COVID-19 prevention measures, which affected their psychological state. This, in turn, led to fear among workers and reduced their efficiency, ultimately affecting the quality of their work. As managers responsible for greening management and protection, prioritizing workers' morale during the pandemic prevention and control period was crucial. This not only ensured the quality of management and protection work but also helped control the spread of the pandemic.

Definition of Terms

1. Maintaining greening refers to the management and processes involved in preserving and enhancing green spaces within a specific area, even under the influence of a pandemic situation. Generally, this concept encompasses greening maintenance and greening pruning in the Suzhou Community.

2. Greening maintenance refer to the main contents of greening maintenance include: watering, fertilizing, pruning, weeding, cleaning, sanitizing, controlling diseases and pests, and preventing floods and droughts. Proper maintenance is crucial to keep the green space healthy and visually pleasing. Failure to maintain the landscape can lead to degradation of grasslands, death of trees, and the growth of weeds. To ensure effective maintenance, it is important to implement scientific and standardized management practices for landscape maintenance.

3. Difficult project management and control refer to labor force is tight and the work progress is blocked

4. Slow job recommendation refers to workers' thoughts fluctuate greatly and their work efficiency is low

5. Low level of emergency prevention and control refer to problems such as large pedestrian flow and difficult management and control in community parks

Expected Benefits

1. Improved Understanding of Current Conditions, Problems, and Obstacles in Green Garden Management during the COVID-19 Pandemic Period in Suzhou City:

This research will provide insights into the challenges faced by greening maintenance units in Suzhou city during the pandemic. It will include the impact of the pandemic on their work, as well as the measures taken to adapt to the new situation. The findings of this research can inform policies and practices in the field of greening maintenance, leading to more effective and efficient management of greening gardens during future pandemics or crises.

2. Development of Guidelines for Maintaining Green Spaces in the Community during the COVID-19 Pandemic Period in Suzhou City:

These guidelines can provide a roadmap for maintaining green spaces in a safe and effective manner during the pandemic, considering the health and safety of the maintenance staff and the general public. The guidelines can be utilized by greening maintenance units in Suzhou city and other cities facing similar challenges.

3. Increased Awareness of the Importance of Maintaining Green Spaces during Pandemics:

The COVID-19 pandemic has underscored the significance of green spaces for mental and physical health. This research can enhance awareness of the value of green spaces and the role of greening maintenance units in ensuring their proper management and maintenance during pandemics or crises. This heightened awareness can lead to greater support for the maintenance of green spaces and the development of policies prioritizing the protection of green spaces during times of crisis.

The anticipated outcomes of this research are likely to result in improved management of green spaces during pandemics or crises, a greater public appreciation for the importance of green spaces, and the establishment of policies that prioritize the preservation of green spaces.

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