

การพัฒนาพื้นที่สีเขียวสาธารณะเพื่อให้บริการสำหรับผู้สูงอายุ ในเขตกรุงเทพมหานคร

Developing Public Green Spaces to Serve the Elderly in Bangkok

สุวสิน พรหมพันธ์¹ และ กฤติยา คันทโชติ²
Suwasin Prompan and Krittiya Kantachote

บทคัดย่อ

ในอดีตการให้บริการพื้นที่สีเขียวสาธารณะได้คำนึงถึงสิ่งอำนวยความสะดวกและประโยชน์การใช้งานที่ดีมีอยู่แล้ว แต่ต้องมีการพัฒนาเพื่อเตรียมความพร้อมและความมั่นคงกับคุณภาพชีวิตของผู้สูงอายุในสังคมเมืองให้มีความยั่งยืนด้วยเช่นกัน งานวิจัยนี้เป็นการศึกษาการพัฒนาพื้นที่สีเขียวสาธารณะเพื่อประโยชน์ของผู้สูงอายุในเขตกรุงเทพมหานคร โดยใช้วิธีการสัมภาษณ์แบบกึ่งโครงสร้างดำเนินการกับกลุ่มตัวอย่างผู้สูงอายุชาวไทยที่ใช้พื้นที่สีเขียวสาธารณะที่สวนลุมพินี เขตปทุมวัน ผู้วิจัยพบว่าผู้สูงอายุชอบพื้นที่สีเขียวสาธารณะในสภาพแวดล้อมที่เหมาะสม งานวิจัยนี้นำเสนอเพื่อเป็นแนวทางการพัฒนาความทันสมัยที่สอดคล้องกับธรรมชาติให้ได้มากที่สุด เช่น สิ่งอำนวยความสะดวก อเนกประสงค์ ตลอดจนการใช้พื้นที่ว่างและพื้นที่รกร้างซึ่งสามารถปรับปรุงให้ดีขึ้นให้เกิดประโยชน์สูงสุดที่สามารถตอบสนองได้อย่างแท้จริงแก่ผู้ใช้บริการและผู้สูงอายุโดยเฉพาะ ตรงกันข้ามกับการพัฒนาที่ผ่านมาเป็นการสำรวจความต้องการใช้งาน การอำนวยความสะดวกพื้นฐานสำหรับผู้สูงอายุ และการปรับปรุงพื้นที่สีเขียวสาธารณะให้เหมาะสมกับทุกคนและผู้สูงอายุแบบทั่วไป โดยงานวิจัยนี้แสดงให้เห็นว่าการออกแบบและจัดเตรียมสิ่งอำนวยความสะดวกที่เหมาะสมสำหรับผู้สูงอายุ และอาจนำไปใช้ประโยชน์ต่อทุกคนในสังคม ผู้วิจัยใช้สามหัวข้อในการอภิปรายผลลัพธ์ ได้แก่ 1) ความสนใจและประโยชน์ของกิจกรรม 2) ความปลอดภัยและการเข้าถึงสิ่งอำนวยความสะดวก ข้อจำกัด และข้อเสนอแนะ และ 3) การพัฒนาและการใช้เทคโนโลยี งานวิจัยนี้มีประโยชน์ทั้งในการจัดการสังคมในปัจจุบันและการเติบโตของประชากรสูงอายุ มุ่งพัฒนาคุณภาพชีวิตในสังคมเมือง ดังนี้ 1) ส่งเสริมสุขภาพที่ดี 2) ส่งเสริมสิ่งแวดล้อมที่ยั่งยืน 3) สร้างระบบความคุ้มครองและสวัสดิการที่ดี

คำสำคัญ: ผู้สูงอายุ พื้นที่สีเขียวสาธารณะ การพัฒนา การบริการสาธารณะ สังคมเมือง

¹นิสิตหลักสูตรมหาบัณฑิตสาขาการจัดการทางสังคม คณะสังคมศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ กรุงเทพฯ
Master's degree student in Social Management, Faculty of Social Sciences, Srinakharinwirot University, Bangkok.
²ผู้ช่วยศาสตราจารย์ ดร. ประจักษ์ภาควิชาสังคมวิทยา คณะสังคมศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ กรุงเทพฯ
Assistant Professor, Department of Sociology, Faculty of Social Sciences, Srinakharinwirot University, Bangkok.
Corresponding author e-mail: suwasin.prompan@g.swu.ac.th

ARTICLE HISTORY: Received 25 July 2022, Revised 30 September 2022, Accepted 21 November 2022

Abstract

Historically, public green space services have taken into account the facilities and benefits that are available. However, there must be a sustainable development to prepare for and secure the quality of life of the elderly in urban society. This research examines the need for development of public green spaces for the elderly in Bangkok. Semi-structured interviews were conducted with Thai elderly who use public green spaces at Lumpini Park, Pathumwan District. The researcher discovers that the elderly enjoy public green spaces in an appropriate environment. This research aims to provide development guidelines by introducing modernity that complements nature. For example, multi-purpose facilities, as well as utilizing empty spaces and abandoned areas, which can be improved upon to be most beneficial and genuinely respond to users, particularly, the elderly. In contrast with past development, it is a survey of usage requirements, facilities for the elderly, and improvement of green spaces for the public in general and the elderly in particular. This research illustrates that the design and provision of facilities appropriate for the elderly may be used by and benefit everyone in society. The researcher uses three themes to discuss the results: 1) the attraction and benefit of activities, 2) the safety and accessibility of facilities- limitations and recommendations, and 3) the development and application of technology. This research is useful for social management today as there is a growing population of older adults working towards improving their quality of life in an urban society, as follows: 1) promote good health, 2) encourage sustainable environment, and 3) create a good welfare system.

Keywords: *Elderly, Public green spaces, Development, Public service, Urban society*

Introduction

The World Health Organization (WHO) (2021) forecasts that the number of people aged 60 and over will grow by at least 3 percent per year, up to about 1.4 billion people and will increase to 2 billion by 2050. Asia will have the largest elderly population in the world. The proportion of people aged 60 and over in Asia is expected to increase rapidly, especially in Japan, which is identified as the country with the most significant aging population in the world and is considered to be the first country in the world to have entered a “Super-Aged Society” (D’Ambrogio. 2020). Thailand in 2022 has 12.1 million elderly people, representing 18.3% of the country’s population. There are 66,165,261 people whose names are on the house registration census as of January 2022 (Department of Older Persons. 2022). In 9 years’ time, Thailand too will enter a “Super-Aged Society” with an elderly population comprising of approximately

28% of the country. The key question is how to prepare Thailand for a long-term aging society (Population and Housing Census. 2010).

Developing public green spaces to respond to the needs of the elderly in the city is one option, this can be done by providing public services and equipping them appropriately. That can attract the attention of the elderly to come and spend time outside their homes and participate in various recreational activities (Sukolratanamete. 2019), so as to not feel bored with retirement, and make them ready to join society with full happiness and a good quality of life. Goal 11 of The United Nations Sustainable Development Goals entitled “Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable”, aims to cover a number of relevant areas, including cities and communities, for example, Article 11.6 encourages “development of and access to green spaces for different groups of people, etc” (United Nations. 2022).

At present, developed urban areas provide public spaces in accordance with sustainable development in a variety of ways, and respond to some of the needs of service users including the elderly (Ruthirako. 2013). In Bangkok, there are facilities and allocated public green spaces for exercise and various activity areas. Currently, Bangkok has 37 public parks scattered over 23 districts, for example 1) Suan Luang Rama IX Park, Prawet District, 2) Wachirabenjathat Park, Chatuchak District, 3) Lumpini Park, Pathum Wan District, 4) Seri Thai Park, Bueng Kum District, 5) Queen Sirikit Park, Chatuchak District, 6) Benjakitti Park, Khlong Toei District, etc., (HealthServ.net. 2022) provide public services for people, including the elderly, to engage in recreational activities closer to nature in their daily life.

The above principles and reasons have made the researcher interested in studying the development of public green spaces in Bangkok, which can respond to the needs of the elderly today, and identify their suggestions and opinions for the development of such facilities. The researcher will use the data to analyze and compare the need for the development of public green spaces and their use, and propose guidelines for the development of public green spaces that respond to the needs of the elderly in urban areas. This is part of the management of the growing numbers of elderly people in order for them to enjoy a good quality of life and help develop the urban environment to be suitable and sustainable.

The aims of the research are to

- 1) Study the demand for public green space services for the elderly who use the facilities of Lumpini Park, Pathumwan District, Bangkok
- 2) Study the development of public green spaces in urban areas in accordance with service needs of the elderly

Theoretical Background

Currently, literature on the use of public green spaces in urban areas examines how engaged and impressed the elderly are when using the services. The earliest literature on the development of public green spaces examined the practice of using public parks, landscape environment, and social interactions, in contributing to the well-being of the elderly (Srion. 2012), as well as the needs and preferences for natural, beautiful, understandable and diverse landscapes with accessible infrastructure and facilities (Wen, Albert, & Von Haaren. 2018).

Pongthana (2022) discusses how the management of the environment for the elderly is very important, because the elderly have reduced ability to support stress and changes. (Enssle & Kabisch. 2020) Older adults with close social networks use urban parks more often than those who are isolated in their daily lives. Good health also contributes to more frequent use of parks. Urban green space design focuses on providing ecosystem services alongside social networking, to enhance social justice and the environment. (Millennium Ecosystem Assessment. 2005) Humans derive benefits from the ecosystem such as forests, rivers, plants and animals that contribute to the biodiversity. Forests act as a food source and also help to prevent landslides, while helping to filter the sediment, to provide clear and clean water.

Numerous scholars (e.g. Ali, Rahaman and Hossain. 2022; Macintyre et al. 2019) highlight “green spaces as urban lungs.” There are many health benefits, including those for the elderly. Exercising regularly in green spaces greatly reduces various health risks, it also facilitates social interaction and promotes a sense of well-being. This is especially true for the elderly because many of them suffer from social isolation. The size and location of green spaces, both large and small, can be as important as both facilities and security, so urban planners should consider these factors. This is because research indicates that the size and type of urban green spaces may influence improvements in health and well-being (Boonkham. 2022). For instance, most people hope to have a green space near their home. This is a measure of the quality of life in Bangkok, which does not currently have enough such spaces. The works of various scholars show that public green spaces go hand in hand with the development of cities that enjoy a balanced environment, especially allowing the elderly in urban society to use public green spaces for various recreational activities.

Discussion of the development of public green spaces in urban areas is a process to meet the needs of the elderly, by encouraging them to express their opinions, including suggestions for development. Gatherings are created by the social interactions of small groups of elderly people who have similar needs (Chongrak & Nawapan. 2019), where most activities and physical environments must be appropriate,

safe and conducive to activities and socializing (Thapthong. 2017). The elderly have a clear need for services and activities appropriate for their age, to promote good physical and mental health (Rahman, Meiyu, & Shorkar. 2020). The researcher's study will contribute to the well-being of an aging society in urban areas by identifying appropriate use of public green spaces. This research is a study of proposals and suggestions for developing public services responding to the needs of an aging society. It also aims to encourage better amenities and increased use of the spaces. The presence of elderly groups who regularly use public green spaces and who do various activities together can be seen as one of the ways in which the quality of life is improved and sustainable at the same time. It also has a positive effect on the environment of the city (Ruthirako. 2013), where the elderly are aware of their needs and the limitations of today's facilities. The researcher is ready to support any changes that can be made for the better.

Ali, Rahaman and Hossain (2022) promote urban green spaces for the health of the elderly; Pongthana (2022) also supports the management of the environment conducive to the well-being of the elderly. According to government data and researchers who examine how older adults access urban public green spaces at present, various recreational activities and socializing together make everyday life happy. A truly responsive development can help increase the number of elderly people coming to use public spaces. This study is different from past research that only noted basic facilities of public areas suitable for the public in general. The development of public green spaces for the elderly is a design and service proposal that can also accommodate the needs of most people of all ages. For the elderly, it will be developed according to the suitability of the area. This research is useful to highlight facilities and effective security systems, etc., and is ready to be applied according to the needs of the elderly and the suitability of each public area in the city. This development plan will encourage the elderly in the urban area to use the services. It will give positive feedback, to pass on to other elderly people so they too can enjoy a good quality of life, and also to ensure sustainability.

Data and Methods

This research is based on semi-structured interviews with 30 elderly people who used the green spaces at Lumpini Park, Pathumwan District, Bangkok in 2022. It is the primary destination in Bangkok for use by the elderly. Currently, Bangkok has 37 public parks scattered over 23 districts, for example 1) Suan Luang Rama IX Park, Prawet District, 2) Wachirabenjathat Park, Chatuchak District, 3) Lumpini Park, Pathum Wan District, 4) Seri Thai Park, Bueng Kum District, 5) Queen Sirikit Park, Chatuchak District,

6) Benjakitti Park, Khlong Toei District, etc. (HealthServ.net. 2022) The public park that has the largest number of elderly people who use the facilities regularly is Lumpini Park, Pathumwan District. This is a green area of about 360 rai located in the heart of the city, which is a recreation point for both Bangkokians and visitors.

The researcher found the participants through contact with elderly people who come to use the public green spaces at Lumpini Park, making an appointment to set a date, time and place to conduct an interview. All information providers were cooperative and willing to share information at Lumpini Park, a place they use for regular exercise and activities. The interview consisted of general personal history questions, discussion on the needs of and activities for the elderly, impressions, limitations, ideas for development and environment, application of technology and other related suggestions. The average interview took about 45-60 minutes. All interviews were audio-recorded and transcribed. All interviews were in Thai language and used a pseudonym for all participants to protect the anonymity of the interviewees.

The sample group, totaling 30 people, were elderly people who came to use the public green spaces at Lumpini Park, Pathumwan District, Bangkok. All of the respondents were Thai people who were retired, and 60 years of age or older. The respondents were a mix of males and females. The personal circumstances of each person were either living alone, separated, or living as a family. The work history of each person before retirement was different, including government agencies, the private sector and self-employed. The income of the participants came from retirement funds, either the government system or the private sector.

The researcher built a good relationship with the respondents, who were comfortable in giving interviews, and who were more than happy to participate as research volunteers, as well. The respondents were able to talk openly about the use of public green spaces, problems and limitations they face in accessing the services and suggestions for developing public spaces to respond to the needs of the elderly. The research results may be analyzed for use in designing a good public service policy for future use.

Results

Research subject: “Developing public green spaces to serve the elderly in Bangkok”
This study is descriptive research using qualitative research methodology which used semi-structured interviews to collect data. The interview topics were as follows: 1) the attraction and benefit of activities, 2) safety & accessibility of facilities - limitations and recommendations, and 3) development and application of technology.

1. Application requirements and activities

Public green spaces are the fundamental things that allow the human body to be in touch with nature as closely as possible, develop physical and mental health which is especially important for the elderly who wish to use public green spaces for exercise and recreational activities beneficial to their health, subject to convenience and accessibility.

1.1 A place to socialize

Enjoyment of recreational activities will assist the elderly in not feeling bored with life after retirement, and thus maintain a healthy body, which may help to forget about aging and prevent various illnesses. From the perspective of the elderly, it can be seen that spending time outside the home is the best way to experience the natural green space atmosphere, to sit and relax in a peaceful place, to exercise and keep the body healthy, and to meet and talk with a group of friends participating in various recreational activities together.

For example, interviewee, 80 years old, who regularly uses the green spaces at Lumpini Park, said:

“Before my retirement approached, I planned to do nothing and just spend my time at home, because I worked hard all my life. As the years passed, I felt bored and my body deteriorated from not doing much. Even with a little stretching, it was not as good as a real workout. Nowadays, I choose to go out and spend more time in the park, which makes for a more enjoyable experience by meeting and talking with other people. Doing activities with others keeps the mind cheerful and makes the body strong, and not easily weakened by illness as before.”

The elderly people who use the park’s services here (Lumpini Park) have a good impression of it, so they come back to use the services again, also passing on recommendations to other people to try the services. There are some elderly people who are concerned about whether it is safe to be outside their homes, for example, interviewee, 83 years old, who regularly comes to Tai Chi dance said:

“When I turned 80, I planned to go out less and less because I was not as strong and healthy as before. Long walks and sitting made me feel pain in my legs and my body ached. But my friend (Fah, 81years old) liked to tell about what he had been doing, such as Tai Chi with a group of friends, eating and drinking tea together and walking around the park for exercise, and to experience the natural atmosphere. It made me want to join the activity as well, because I thought it would be fun. And ever since I have been coming here with a group of my friends. It’s been three years now and I will continue to do so until my poor health prevents it.”

1.2 A place for physical exercise

In addition, the elderly come to sit and relax, walk, exercise, experience the environment and ecosystem, and various recreational activities. Services are also provided, such as walkways, running paths, cycling paths, activity fields, tables, chairs, various types of shelter, benches, a pavilion, a library, associations for the elderly, exercise equipment, a cafeteria, restrooms, parking facilities and amenities such as swimming pools and exercise equipment in the gym etc.

As stated by interviewee, 73 years old, who lives near Lumpini Park, “Condominium housing has limited green areas, space to walk, exercise and ways to enjoy nature, but my home is near Lumpini Park and after a short walk, it allows me to go for exercise, to read, meditate and relax, because the atmosphere is attractive and comfortable.”

When it comes to sustainability in urban green space management; “there must be public green spaces to provide services for city people to have places to relax, exercise, meet and talk and help improve their quality of life” (Ruthirako. 2013). There are benefits to using designated exercise areas: there is exercise advice, clear road signs and signage explaining the rules for using the park, and as a result it makes for a popular place with people of all ages who come to use the services.

For example, interviewee, 78 years old, said:

“I am impressed with the atmosphere and the surrounding scenery of the park here (Lumpini Park) because the walkway around the park for exercise is comfortable. The weather is cool and ventilated all the time. There are a lot of trees and flowers that make you feel like you can breathe in the fresh natural air all the time. And here there is a relatively complete ecosystem.”

2. Safety & accessibility of facilities - limitations and recommendations

2.1 Safety & accessibility of facilities

Effective security is essential when accessing public parks and green spaces. If the park is open without thorough security, however good the services and facilities are, in the end, people who come, including the elderly, will still worry about the safety of their lives and property. No one wants to put lives at risk in such a place, especially the elderly who are less able to protect themselves, and therefore need to be extra careful.

By designing the parks and public green spaces not to be too cluttered, with blind spots that might raise anxiety and fear of the possibility of crime, effective safety services will build confidence to persuade the elderly to use the space independently, as much as possible and most importantly, to participate in activities as they wish, without having to worry or be fearful about possible dangers.

2.1.1 Safety and COVID-19

Coronavirus disease COVID-19 is a respiratory infection which can be contracted through close contact and through contact with droplets mainly from the patient's mucus and saliva. Infection through contact with surfaces or materials contaminated with the virus is less likely (Department of Medicine, Ministry of Public Health. 2022). However, cleaning and disinfecting of environmental surfaces is still necessary to reduce the chances of spreading the virus through contaminated surfaces in public places. To allay safety concerns, it must start with strict entry and exit screening measures to the park, reassuring users to be confident in accessing the services (Department of Disease Control, Ministry of Public Health. 2021).

For example, interviewee, 67 years old, who is a member of the Lumpini Park Elderly Club, commenting on the security measures of the COVID-19 check of Lumpini Park users, said:

“Safety and the spread of COVID-19, is something that elderly people are very worried about, because they can be easily contaminated, as elderly people themselves are considered to be at greater risk of infection and may suffer more severe consequences than the general public. Therefore, safety concerning the physical health of the elderly who come to use public areas outdoors must be assured through safety control measures and screening by the security staff.”

2.1.2 PM 2.5 dust and Safety

In addition to the situation following the outbreak of the COVID-19 virus which continues to evolve, another health problem that should not be overlooked is the amount of PM 2.5 dust in the atmosphere, which is higher than the agreed standard, and may affect the health of people in urban societies if accumulated in the long term. Currently, Bangkok has to face the problem of cities with high levels of PM 2.5 suspended in the air which is above the agreed standard, causing some restrictions for the elderly, especially those with respiratory diseases or allergies, with the chance of inhaling air contaminated with dust and toxins entering the body during exercise and various activities.

Air pollution has been one of the top environmental problems in Thailand for more than a century. In particular, there is a problem of dust particles less than 2.5 microns (PM 2.5) that affect health, especially the impact on the lower respiratory tract, lungs and lung air sacs, organs that exchange oxygen gas and carbon dioxide in the bloodstream. Long-term exposure to PM 2.5 can lead to lung cancer (Grove et al. 2021). Pollution caused by particles with aerodynamic diameter of less than 2.5 microns (PM 2.5) is now a major environmental problem in many Asian cities. To alleviate

the problem, it is recommended to plant more trees as an innovative approach (Yang, Chang, & Yan. 2015).

For example, interviewee, 70 years old, a volunteer dance teacher added that:

“Before COVID-19, health workers came to parks to campaign to encourage people to wear masks. Not wearing a mask and exercising in an open space where each breath inhaled causes a severe/strong burning sensation in the nose, it can be realized that the inhaled air is not 100 percent pure and must be contaminated with particulate matter.”

2.2 Limitations

The physical health problems of the elderly may develop with each passing day. This makes it more difficult to get regular access to public parks and green spaces as needed (Department of Elderly Persons. 2021). The main limitations associated with the regular use of public spaces are poor physical health, the management of the area not being as good as it should be, congestion, poor personal hygiene of other site users, and illegal behavior in land use, urbanization and ongoing climate change (Hung & Crompton. 2006). Regular exercise in green spaces reduces the health risks of cardiovascular disease, respiratory problems, high blood pressure, paralysis, diabetes and other chronic diseases (Ali, Rahaman and Hossain. 2022). “Green spaces are the lungs of the city” (Arnberger et al. 2017). However, emphasizing the importance of heat-adjustable green space design, the group of people most at risk from urban heat are the elderly. This point was clearly demonstrated in an interview with interviewee, 77 years old, who regularly walks and exercises in Lumpini Park:

“Physical health problems and illnesses among the elderly are inevitable. But exercising regularly will help the body to be strong and develop immunity to disease and therefore not get sick as easily. Of most impact will be extreme weather, causing the elderly to limit their use of public spaces, because if you walk and exercise too much it will make the body feel sick and result in illness. Another problem at present is the epidemic of COVID-19.”

2.3 Recommendations

Adequate public green spaces in urban areas are obviously beneficial to quality of life. Due to development in the current era, the number of public green spaces has decreased. Many of the areas have been converted into office buildings and residences. This makes the available public green spaces inadequate and inappropriate for the current urban population. This point was demonstrated in an interview with interviewee, 71 years old, member of the Tai Chi Dance Club:

“Before, there were more trees in Lumpini Park. But development of some of the space to be more modern caused many trees to be cut down. Some areas have been left open and not been replanted, thus making the park climate hotter than before. If possible, more trees should be planted, in order to balance overall park landscaping, to tackle hot weather and to give cool shade.”

3. Development and application of technology

3.1 Public green area development

Developing public green spaces and public services to attract people to use them in urban society is considered to be both important and necessary nowadays. It encourages the population to participate in the use of such public facilities as government agencies have already allocated. It also helps the urban population to become more aware of an environmentally friendly lifestyle. By adding public green areas, it is another solution to environmental problems. This will filter pollution in the air, as well as helping to strengthen physical and mental health for urban residents.

For example, interviewee, 68 years old, who visits the park at least twice a week, said:

“Living in an urban area, of course residential areas have to develop, because there is a large population pouring in to live and make a living. As a result, the limited public green spaces may not be sufficient for the urban population. In order for the city to develop well and for the good health of the people in the city, there must be sufficient parks to attract more and more elderly people to use the spaces. There has to be an environment that is attractive and usable.”

Elderly people tend to have mobility problems, due to deteriorating physical conditions associated with age. Development of facilities for exercise and activity requires great attention to detail and must also take into account the use of devices such as wheelchairs and canes. This is supported by the research by (Thapthong. 2017) that explains that an aging society means an age with physical health challenges.

For example, interviewee, 77 years old, who regularly walks and exercises in Lumpini Park, said:

“Pathways and exercise yards should be similar in color and not too different from each other, which could cause the elderly to become confused and might cause accidents.”

3.2 Using technology to develop public green spaces

Public green spaces - most elderly think they should be as natural as possible. For many, just having care and maintenance to be usable and sustainable is enough, but it's a good thing if technology is applied with obvious benefits.

For example, interviewee, 71 years old, living in a condo, a Tai Chi club member, added that:

“Having free Wi-Fi around the entire park attracts a large number of people to use the facilities. Modern technology can also help to develop better and more sustainable applications including saving water to be recycled and reused as much as possible.”

Modern technology systems may be introduced to help in the development of these services. Lumpini is a park that is natural and pristine, where there are facilities that are easily accessible. Useful recreational activities are organized on a regular basis, providing services to the public and the elderly themselves. They are of great value, without losing too much of the park's true nature.

Research Helps in Social Management

Research subject: “Developing public green spaces to serve the elderly in Bangkok” is part of the Master of Arts program, Social Management. The objective, is to promote public green spaces that respond to the needs of the elderly, in an urban society. The researcher was able to summarize the results of the data according to the objectives related to social management for the elderly in urban areas for sustainability as follows: 1) promote good health 2) have a good environment and 3) build a good protection and welfare system.

1. Promote good health

Having good health for elderly people should consist of 1) Having good physical health, not being prone to illness. 2) Having good mental health in a happy daily life. 3) Enjoying social health with interaction and good human relations with those around them, being able to talk to people in society normally and 4) Having good intellectual health and curiosity to learn things. Well managed public green spaces in urban areas are places that attract use. The majority of the elderly place great importance on their physical, mental, social and intellectual health. It makes the elderly happy to exercise and enjoy various recreational activities which offer good interaction with others including being able to live close to nature, etc.

2. Have a good environment

Having both an attractive landscape and a green environment around are important to the elderly. They are factors in promoting physical and mental health and a good quality of life. Therefore, activities that create happiness in everyday life are considered helpful in promoting good health, so that the elderly can be self-reliant and content to live in the city. The use of good public green environment services is also one of the elderly's daily/self-care activities. However sometimes accessing such services is more difficult than for the average person, because of the physical health problems of the elderly themselves. As a result, the elderly sometimes miss out. Therefore, the development of public green spaces to be easily accessible will respond to the needs of the elderly to have a good quality of life.

3. Build a good protection and welfare system

Creating a good protection and welfare system providing public green spaces for the elderly is another important aspect of public services which can persuade the elderly to use more public green spaces on a regular basis, and includes various facilities such as walkways, running paths, cycling paths, activity fields and exercise equipment. These facilities will be of great benefit to the elderly living in the urban society. This is a huge benefit to government agencies that wish to promote public services in urban communities and should be included in the development of a sustainable city.

Discussion and Conclusion

The limited amount of public green spaces in the urban area of Bangkok is a problem. The expansion and growth of the country's economy has made great progress in recent times. However, as a result, a large number of people from rural areas migrate to live, work, study and visit the city. Most of the urban areas have been transformed and developed into residential accommodation, office buildings including commercial businesses, to facilitate trade and services that support the growing population, but they have affected such facilities as public green spaces. At present, there are numerous public green spaces serving urban areas but compared to the number of people living in the city, the availability of such public green spaces for the population is lower than the specified international standard.

Sustainable development is essential for public services and for the city's population in accordance with international principles. Most importantly, Thailand will soon step into a "super aging society." There will be greater and greater numbers every year. Therefore, it is important to focus on the quality of life of the elderly, by developing enough public green spaces to attract those who want to use the facilities

and respond to their needs. This will make the elderly want to spend more time outside their homes, being happy to use public green spaces to get close nature, with facilities that are important to them including efficient security services, thus helping the elderly in the city to live life and enjoy the environment on a regular basis. As a result, the elderly themselves will enjoy good physical and mental health and a better quality of life. It will promote a healthy and sustainable city environment while at the same time cope with the increase in the elderly population.

The elderly have identified guidelines for the development of public green spaces for their own needs, such as 1) the attraction and benefit of activities, 2) safety & accessibility of facilities - limitations and recommendations, and 3) development and application of technology. The elderly population has needs that focus on easy-to-access functionality, safe use, versatility for exercise and recreational activities, with modern technology which can be applied to make it more attractive and more user-friendly (such as walkways and activity fields). In providing these facilities and safety, the elderly enjoy a positive experience and have a desire to return, use the services again, and tell others to try the facilities and use the services. Most importantly, there must be environmental conservation in the area of modern development to be both appropriate and sustainable.

This research has important implications for understanding and caring about the development of public green spaces in urban societies and the needs of older adults, so that they can feel that they are a group of people who are considered and cared for. In most parks nowadays the facilities suit most people. But by looking into the details of actual use, they can also be developed to be better suited to benefit the elderly.

This research also promotes older people's understanding of the benefit of actual use of public green spaces. Ultimately, the real objective for public green spaces for seniors is to get as close as possible to the natural landscape, as well as being useful for exercise and recreational activities. These include the use of designated areas like walking paths, running paths, cycling paths, readily available and versatile tables, chairs, benches, access to a library and an educational learning center, e.g., The Elderly Development Center which is ready to serve in providing various recreational activities that are useful for senior citizens. There is also a need for providing designated parking spaces and accessible clean restrooms etc., thus, the development and conservation of such areas and facilities is the best approach for sustainable urban development.

The relevant agencies in both the public and private sectors have already planned to support and help to develop the urban society to be a livable city for everyone, including specific groups such as the disabled and the elderly.

Good social order including social norms such as civil, moral rules and laws, will also improve the quality of life of people in urban areas. If there is good social order it will enable the control, supervision and development of public facilities. This will lead to a livable environment for all, effective and sustainable in both the city and country.

Recommendations

Future research should explore why the elderly have not had the desire to use public green spaces and why there are few requirements to develop such public green spaces in urban areas. It should consider whether the development of public green spaces of this area, Lumpini Park, is similar or different from other areas in Bangkok. This analysis also provides a starting point for comparative research. Do the policies to develop public green spaces to serve the elderly in both urban and provincial areas have different consequences? This hypothesis can be tested with urban areas of Khon Kaen Province, Chonburi Province, Chachoengsao Province and Phuket Province, etc., which are in the group of provinces classed as Smart City. What, if any, are the guidelines for developing public green spaces to serve the elderly, to respond to their needs at present and in the future?

Acknowledgments

This research was supported by Srinakharinwirot University. I am grateful to Assistant Professor Dr. Krittiya Kantachote, my advisor, and the Thai elderly people who participated in the research, who gave me invaluable information.

References

- Arnberger, A., Allex, B., Eder, R., Ebenberger, M., Wanka, A., Kolland, F., ... & Hutter, H. P. (2017). Elderly Residents Use of and Preferences for Urban Green Spaces During Heat Periods. *Urban Forestry & Urban Greening*, 21: 102-115.
- Ali, M. J.; Rahaman, M.; & Hossain, S. I. (2022). Urban Green Spaces for Elderly Human Health: A Planning Model for Healthy City Living. *Land Use Policy*. 114: 105970.
- Boonkham, Pranisa. (2022). **Green Spaces: Bangkok's "Happiness Index" is Far from Being Achieved in This Over Developed City**. Retrieved on June 25, 2022, from <https://www.isranews.org/article/isranews-scoop/107414-isranews-246.html>
- Chongrak, Natthida; & Nawapan, Natthika. (2019). The Relationship between the Physical Factors of Open Public Space and the Elderly's Social Interaction: Case Study of an Urban Public Park in Phitsanulok. *Industry Technology Lampang Rajabhat University*. 12(1): 27-39.

- Department of Elderly Persons. (2021). **What are the Problems of the Elderly?** Retrieved on June 25, 2022, from <https://www.dop.go.th/th/know/15/461>
- Department of Elderly Persons (2022). **Elderly Statistics, January 2022**. Retrieved on June 25, 2022, from <https://www.dop.go.th/th/know/side/1/1/1159>
- Department of Disease Control, Ministry of Public Health. (2021). **Guidelines for the Prevention of Coronavirus Disease 2019 (COVID-19) for the General Public and at Risk Groups**. Retrieved on June 25, 2022, from https://ddc.moph.go.th/viralpneumonia/file/int_protection/int_protection_220665.pdf
- Department of Medicine, Ministry of Public Health. (2022). **Guidelines for Diagnosing, Treating and Preventing Hospital Infections in the Case of Coronavirus Disease 2019 (COVID-19)**. Retrieved on June 25, 2022, from https://25650712140709PM_CPG_COVID-19_v.24.1.n_20220711.pdf (dms.go.th)
- D'Ambrogio, Enrico. (2020). **Japan's Ageing Society**. Retrieved on June 25, 2022, from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659419/EPRS_BRI\(2020\)659419_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659419/EPRS_BRI(2020)659419_EN.pdf)
- Enssle F.; & Kabisch. N. (2020). Urban Green Spaces for the Social Interaction, Health and Well-Being of Older People—An Integrated View of Urban Ecosystem Services and Socio-Environmental Justice. **Environmental Science & Policy**. 109: 36-44.
- Grove, Silalak et al. (2021). Dust Particles as Small as 2.5 Microns (PM 2.5) in Buildings and Educational institutions. **Environmental Journal**. 25(3): 1-9.
- Hung, K.; & Crompton, J. L. (2006). Benefits and Constraints Associated with the Use of an Urban Park Reported by A Sample of Elderly in Hong Kong. **Leisure Studies**. 25(3): 291-311.
- HealthServ.net (2022). **Get to Know 37 Parks in Bangkok**. Retrieved on June 25 2022, from <https://healthserv.net/สวนสาธารณะในกรุงเทพมหานคร-12966>
- Macintyre. V. G.; Cotterill. S.; Anderson. J.; Phillipson. C.; Benton. J. S.; & French. D. P. (2019). "I Would Never Come Here Because I've Got My Own Garden": Older Adults' Perceptions of Small Urban Green Spaces. **International Journal of Environmental Research and Public Health**. 16(11): 1994.
- Millennium Ecosystem Assessment (MA). (2005). **Ecosystems and Human Well-Being: Synthesis**. Retrieved on June 25, 2022, from <https://web.archive.org/web/20131203005715/http://www.unep.org/maweb/documents/document.356.aspx.pdf>
- Pongthana, Phattita. (2022). Creating a Physical Environment in Community Public Spaces to Facilitate and Improve the Quality of Life of Elderly People : A Case Study of Kradang Nga Sub-district, Samut Songkhram. **Journal of Cultural Approach**. 23(43): 3-18.

- Population and Housing Census. (2010). **Situation of the Thai Elderly 2016**. Retrieved on June 25, 2022, from https://www.dop.go.th/download/knowledge/th1512367202-108_0.pdf
- Rahman, K. A.; Meiyu, P.; & Shorkar, M. A. N. (2020). **Public Green Space and Mental Health: Building Self-esteem for Elderly Population in Dhaka**. Shanghai: Shanghai University.
- Ruthirako, Poonyanuch. (2013). Sustainable Urban Green Space Management in Compact City. **Journal of Suddhiparitad**. 27(84): 55-76.
- Srion, Packawadee. (2012). **Landscape Design and User's Behavior of Public Park : A Case Study of Rommaninat Park**. Thesis M.L.A.(Landscape Architecture). Bangkok: Graduate School, Silpakorn University. Photocopy.
- Sukolratanameteer, Sineenart. (2019). **Green Space in the City: Proactive planning is Required**. Retrieved on June 25, 2022, from https://www.matichon.co.th/article/news_1585145
- Thapthong, Jirapat. (2017). **Sport Center for the Elderly**. Bangkok: Faculty of Architecture, Sripatum University.
- United Nations. (2022). **THE 17 GOALS - Sustainable Development Goals**. Retrieved on June 25, 2022, from <https://sdgs.un.org/goals>.
- Wen, C.; Albert, C.; & Von Haaren, C. (2018). The Elderly in Green Spaces: Exploring Requirements and Preferences Concerning Nature-Based Recreation. **Sustainable Cities and Society**. 38: 582-593.
- World Health Organization (2021). **Ageing and Health**. Retrieved on June 25, 2022, from <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>
- Yang, J., Chang, Y; & Yan, P. (2015). Ranking the Suitability of Common Urban Tree Species for Controlling PM 2.5 Pollution. **Atmospheric Pollution Research**. 6(2): 267-277.