

PROCEEDINGS OF THE R & D CONFERENCE:



Urban Parks *AND* Green Cities A SUSTAINABLE FUTURE IN SOUTHEAST ASIA

ORGANIZED BY:



**Ecosystems
Research and
Development
Bureau**

IN COLLABORATION WITH :



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About ERDB

The Ecosystems Research and Development Bureau (ERDB) is the principal research and development (R & D) unit of the Department of Environment and Natural Resources (DENR). Its R & D and extension activities are focused on the five major ecosystems of the Philippines which include forests, upland farms, grassland and degraded areas, coastal zone and freshwater, and urban areas.

The ERDB was created in June 1987 under Executive Order (EO) 192 that merged the functions of the former Forest Research Institute (FORI) and the National Mangrove Committee. Its headquarters is located at the University of the Philippines Los Baños, College of Forestry and Natural Resources (UPLB-CFNR) campus in the municipality of Los Baños, province of Laguna, Philippines, about 65 km south of Manila.

ERDB's vision is relevant research, development and extension towards a healthy environment and sustainable natural resources for an improved quality of life. Its mission is to provide appropriate technology and information through research, development and extension towards the enhanced productivity and sustainability of natural resources and protection of the environment for the improvement of quality of life of the Filipinos.

ERDB has the following mandates and functions to carry out its mission:

Main Office Functions:

- Formulate, implement, coordinate, and evaluate integrated research, development and extension agenda/programs on environment and natural resources (ENR) and other related cross-cutting concerns to address the needs of the various sectors in support of the thrusts and programs of the Department;
- Conduct basic researches and develop standards, protocol and science-based technologies to address the needs of the different DENR Bureaus, end-users, and stakeholders;
- Provide technical assistance by developing and maintaining networks and linkages with DENR bureaus and offices, local and international institutions, other stakeholders, and civil society; and
- Perform other functions that may be assigned by higher authorities.

Research Centers' Functions:

- Formulate, implement and monitor and evaluate applied and action-oriented Environment and Natural Resources-Research, Development and Extension Programs/Activities/Projects (ENR-RDE PAPs) on the watershed, water resources, lands, agroforestry and upland farming systems, biodiversity, coastal areas, wetlands and ecotourism, mining and degraded areas, forests and timber resources, and toxic wastes and management of hazardous;
- Pilot test and verify the standards and protocols developed by the ERDB-MO;
- Provide the latter feedback towards their improvement;
- Conduct coordination and networking services with RDE stakeholders; and
- Provide technical assistance and extension services on ENR technologies.

LIST OF ACRONYMS

AC	Adaptive Capacity
AUR-SRT	Adjustable Urban Road Sustainability Rating Tool
AMS	ASEAN Member States
BMB	Biodiversity Management Bureau
CDEF	Citizen-Driven Urban Forestry
CENRO	City Environment and Natural Resources Office
CFNR	College of Forestry and Natural Resources
CLUP	Comprehensive Land Use Plan
CBI	City Biodiversity Index
DENR	Department of Environment and Natural Resources
DOT	Department of Tourism
DOST	Department of Science and Technology
DFA	Department of Foreign Affairs
EEG	Economy and Environment Group Philippines
EDSA	Epifanio de los Santos Avenue
EPIC	Educational Partnerships for Innovation in Communities
ERDB	Ecosystems Research and Development Bureau
ESWM	Ecological Solid Waste Management
FGD	Focus Group Discussion
GI	Green infrastructure
IUCN-CTSG	International Union for Conservation of Nature - Conservation Translocation Specialist Group
LGU	Local Government Unit
LST	Land Surface Temperature
LULC	Land Use Land Cover
NCR	National Capital Region
NDC	Nationally-Determined Contributions
NGO	Non-government Organization
OIC	Officer In-Charge
PAPS	Pollutant-Absorbent Plan Species
PO	People's Organization
REECS	Resources, Environment and Economics Center for Studies
SES	Socio-ecological System
SDG	Sustainable Development Goals
SCPW	Society for the Conservation of Philippine Wetlands, Inc.
SI	Singapore Index
SWM	Solid Waste Management
THWRDEC	Toxic and Hazardous Wastes Research, Development, and Extension Center
UBRDEC	Urban and Biodiversity Research Development, and Extension Center
UERD	Urban Ecosystem Research Division
UPLB	University of the Philippines Los Baños
WTP	Willingness to Pay

EXECUTIVE SUMMARY

The Research and Development Conference on Urban Parks and Green Cities: A Sustainable Future in Southeast Asia was held on October 11-13, 2022 at the Diamond Hotel, Roxas Boulevard, Manila, Philippines. With a growing body of research, the Ecosystems Research and Development Bureau (ERDB) organized the Conference as it targets to contribute in the sustainable development and management of parks and green cities. ERDB, the research arm of the Department of Environment and Natural Resources (DENR), is mandated to produce research and development activities focusing on five ecosystems including the urban areas in the Philippines.

The goal of the conference was to provide an avenue for an exchange of information on strategies generated through research and development for sustainable urban parks and green cities. The conference also aimed to address the emerging issues and concerns, knowledge gaps and challenges faced by urban parks and green cities. The conference was attended by participants from various organizations, research agencies, academic institutions, national government agencies, local government units, non-government organizations and policy-making bodies from 11 countries namely; Bangladesh, Cambodia, Indonesia, Lao PDR, Malaysia, Philippines, Thailand, Timor-Leste, United Arab Emirates, Japan, and Vietnam. The participating organizations offered valuable inputs that enriched the discussions and contributed much to the success of the event. These organizations were:

1. Department of Environment and Natural Resources, Philippines
2. Ecosystems Research and Development Bureau, Philippines
3. University of Chittagong, Bangladesh
4. Universitas Jenderal Soedirman, Indonesia
5. Chulalongkorn University, Lao PDR
6. International School - Duy Tan University, Vietnam
7. Universiti Teknologi MARA, Malaysia
8. University of the Philippines Los Baños, Philippines
9. University of Science and Technology of Southern Philippines
10. Universiti Malaysia Kelantan Jeli Campus, Malaysia
11. Vietnam National University of Agriculture, Vietnam
12. International Union for Conservation of Nature - Conservation Translocation Specialist Group
13. University of the Philippines Open University, Philippines
14. Ateneo de Naga University, Philippines
15. Guru Ghasidas Central University, India
16. University of Santo Tomas, Philippines
17. Corurban Foundation, India
18. Department of Science and Technology, Philippines
19. Institute of Biodiversity and Sustainable Development, Malaysia
20. Ateneo de Manila University, Philippines

21. Malaysian Academy of SME and Entrepreneurship Development, Malaysia
22. The University of Tokyo, Japan
23. City Government of Calamba, Philippines
24. Kien Hung Investment Development Joint Stock Company, Vietnam
25. Central Bicol State University of Agriculture, Philippines
26. Royal University of Phnom Penh, Cambodia
27. Cebu Normal University, Philippines
28. DENR - National Capital Region, Philippines
29. Lyceum of the Philippines University, Philippines
30. Philippine Women's University, Philippines
31. Ateneo de Davao University, Philippines
32. University da Paz, Timor-Leste

The Opening Programme, graced by the DENR's Assistant Secretary for Policy, Planning and Foreign Assisted and Special Projects For. Marcial C. Amaro, Jr. welcomed guests and participants to the event while ERDB Assistant Director Mayumi Quintos-Natividad provided the context of the Conference. The DENR Undersecretary for Policy, Planning and International Affairs Atty. Jonas R. Leones delivered the keynote address on behalf of DENR Secretary Maria Antonia Yulo-Loyzaga. He underscored the livability of cities, and emphasized the importance of science-policy collaboration. There were 39 oral presenters and 35 poster presenters that showcased research results, and latest technologies that address various issues concerning urban parks and green cities. The posters were shown in the exhibit outside the plenary hall.

The Conference focused on four technical sessions, each addressing the following thematic concerns:

- Theme 1: Green and Resilient Urban Communities
- Theme 2: Urban Biodiversity, Ecosystem and Economics
- Theme 3: Management and Impact of Urban Parks
- Theme 4: Urban Governance and Policies for Greener Cities

The plenary speakers set the tone for the conference discussions. The two plenary speakers on the first day were Dr. Simplicia A. Pasicolan, Consultant for the Society for the Conservation of Philippine Wetlands (Theme 1), and Dr. Gem B. Castillo, Chairperson of the Board of the Resources, Environment and Economics Center for Studies and National Director of the Economy and Environment Group Philippines (Theme 2). The second day began with the plenary talks of Dr. Yun Hye Hwang, Director of the Bachelor of Landscape Architecture Programme of the National University Of Singapore (Theme 3), and Dr. Zulkiflee Abd Latif, Director of the Institute For Biodiversity And Sustainable Development, Applied Remote Sensing & Geospatial Research Group At Universiti Teknologi Mara, Selangor, Malaysia (Theme 4). An open forum and awarding of certificates followed after the plenary presentations.

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The substance of each theme and lessons from experts were discussed and shared during the plenary and breakout sessions. Research specialists posed questions and commented on the discussions. The presenters of each parallel session identified issues and gaps raised. Issues and concerns that emerged during each session are summarized as follows:

Theme 1: Green and Resilient Urban Communities. Carbon sequestration potential of urban parks and green spaces to help mitigate impacts of climate change; strategies to enhance resilience of urban communities (tools developed to manage water shortage and public transport system, effective disaster risk reduction plans (Flood risk planning and management), enhancement of social capital; utilization of solid wastes to produce construction materials as a way to contribute in the reduction of CO2 emission; prioritize pending bills to be passed into law; need for further valuation studies to calculate the benefit/utility cost of urban green spaces; benefits of urban mangroves on settlements particularly the correlation between mangrove decline and saltwater intrusion.

Theme 2: Urban Biodiversity, Ecosystem, and Economics. Trade-off between biodiversity conservation and economic growth; integration of biodiversity to urban planning and management; presence of invasive alien species in urban areas; Willingness to pay for ecosystem services in urban areas; scientific research is necessary for evidence-based and effective policymaking, policy implementation, and evaluation. Likewise, there is a need for a policy advocate to ensure results and planning make it to the formal policymaking process; provision of incentives for citizen scientists can boost as well as sustain research services and activities; applying the Singapore City Biodiversity Index is not a competition between cities but a 'self-assessment' tool; regardless of the analysis tools utilized, the generated estimates should be validated and compared with other studies with similar sites.

Theme 3: Management and Impact of Urban Parks. Aligning local policies with national policies; development of scorecards for greening initiatives to contribute to policy and decision making; linking up urban farming to the attainment of food justice and how to motivate low-income communities to do urban farming; information, education and communication campaigns need to increase awareness on the importance of urban parks; need for capacity building for park managers and employees

Theme 4: Urban Governance and Policies for Greener Cities . Self-governance without proper monitoring and evaluation leads to mismanagement of parks; the public needs to have a sense of ownership to participate in collective action performances for sustainable park management; assessment of sustainability framework in urban areas are relevant to its selection and application of sustainable development indices; valuation tools can supplement assessment frameworks to recommend management actions; incentive mechanisms for low carbon initiatives; challenges in using green technologies - people's awareness of carbon issues, policy and regulatory frameworks, high cost; aligning local policies with national policies; development of scorecards for greening initiatives to contribute to policy and decision making; linking up urban farming etc.; urban farming in green spaces should be coordinated with LGUs and other collaborators; find effects on air pollution, livelihood for urban people; engaging the stakeholders in the development of communication plans to embed pro-environment behavior.

UERD's OIC and Overall conference coordinator Dr. Lynlei L .Pintor delivered the synthesis of the Conference. Dr. Pintor emphasized four important way forward for the future of R&D. One is research collaboration with the academe, and other stakeholders. Second is engage in holistic, multidisciplinary research approach to address contemporary urban problems. Third is science-policy collaboration, having to further upskill researchers to translate their R &D results and effectively speak to policymakers. Fourth is the need for effective science communication for UPGC. Information dissemination is very important to promote awareness, embedding scholarly outputs to the communities.

The conference closing message was delivered by ERDB Director Maria Lourdes G. Ferrer urging the participants to not leave any city behind in their R & D endeavors, and relentlessly support and work together in identifying ways of enabling a green city, and sustainable urban parks, advocating for a greener and inclusive future for the ASEAN cities. On the final day of the conference, the participants visited Rizal Park, Arroceros Forest Park, and the National Museum of the Philippines in the City of Manila.

PROGRAMME

DAY 1 - OCTOBER 11, 2022 (AM)

8:00 - 8:45	REGISTRATION	
8:45 - 8:50	SAFETY BRIEFING	
	OPENING PROGRAM	
8:50 - 9:15	Invocation and National Anthem	
9:15 - 9:30	Welcome Remarks	For. Marcial C. Amaro, Jr., CESO II DENR Assistant Secretary for Policy, Planning, and Foreign Assisted and Special Projects
9:15 - 9:30	Keynote Message	Atty. Jonas R. Leones, CESO I DENR Undersecretary for Policy, Planning and International Affairs
9:30 - 9:50	Photo Opportunity	
9:50 - 10:35	Opening of Exhibit & Coffee Break	
10:35 - 10:50	Overview of the Event	For. Mayumi Quintos-Natividad DENR-ERDB Assistant Director
10:50 - 10:55	Introduction of the Plenary Speaker for Theme 1	For. Marie Abbie Gail L. Dela Cueva Chief PICTD, DENR-ERDB
10:55 - 11:10	First Plenary Talk on Green and Resilient Urban Communities	Dr. Simplicia A. Pasicolan Former Chief of Urban Ecosystems Research Division, DENR-ERDB (Philippines)
11:10 - 11:15	Introduction of the Plenary Speaker for Theme 2	Mr. Emmanuel M. Cuison Chief AFMD, DENR-ERDB
11:15 - 11:30	Plenary Talk on Urban Biodiversity, Ecosystem, and Economics	Dr. Gem B. Castillo Chairman, Resource and Environmental Economics Foundation of the Philippines, Inc. (Philippines)
11:30 - 11:45	Open Forum	
11:45 - 12:00	Awarding of Certificates of Appreciation	
	LUNCH	
12:00 - 1:00		

DAY 2 - OCTOBER 12, 2022 (PM)

1:00 - 3:05 **CONTINUATION OF SIMULTANEOUS PAPER PRESENTATIONS**

DAY 1 - OCTOBER 11, 2022 (PM)

1:30 - 5:00	SIMULTANEOUS PAPER PRESENTATIONS	
	Theme 1: Green and Resilient Urban Communities	Moderators: For. Conrado B. Marquez & Ms. Florita E. Siapno DENR-ERDB
	Theme 2: Urban Biodiversity, Ecosystem, and Economics	Moderators: For. Gregorio E. Santos, Jr. & Ms. Helen A. Maddumba DENR-ERDB

5:00 - 6:00 **FREE TIME**
 6:00 onwards **DINNER & SOCIALS**

DAY 2 - OCTOBER 12, 2022 (AM)

8:00 - 8:30 **REGISTRATION**

8:30 - 8:35 Introduction of the Plenary Speaker for Theme 3
Ms. Helen A. Maddumba
 Center Head of WWRDEC, DENR-ERDB

8:35 - 8:50 Plenary Talk on Management and Impact of Urban Parks
Prof. Yun Hye Hwang
 Associate Professor, National University of Singapore (Singapore)

8:50 - 8:55 Introduction of the Plenary Speaker for Theme 4
Ms. Nery A. Alba
 Center Head of THWRDEC, DENR-ERDB

8:55 - 9:10 Plenary Talk on Urban Governance and Policies for Greener Cities
Dr. Zulkiflee Abd Latif
 Director of Institute for Biodiversity and Sustainable Development, Universiti Teknologi MARA (Malaysia)

9:10 - 9:25 Open Forum

9:25 - 9:35 Awarding of Certificates of Appreciation

9:50 - 12:00 **SIMULTANEOUS PAPER PRESENTATIONS**

Theme 3: Management and Impact of Urban Parks
 Moderators:
Dr. Jose Isidro Michael T. Padin & Dr. Maria Lourdes Q. Moreno DENR-ERDB

Theme 4: Urban Governance and Policies for Greener Cities
 Moderators:
Mr. Juan B. Ebor
& Dr. Marilyn Q. Lalican
 DENR-ERDB

12:00 - 1:00 **LUNCH**

Theme 3: Management and Impact of Urban Parks
 Moderators:
Dr. Jose Isidro Michael T. Padin & Dr. Maria Lourdes Q. Moreno DENR-ERDB

Theme 4: Urban Governance and Policies for Greener Cities
 Moderators:
Mr. Juan B. Ebor
& Dr. Marilyn Q. Lalican
 DENR-ERDB

CLOSING PROGRAM

3:20 - 4:05 Poster Presentation Fast Talk Plenary Hall

4:05 - 4:35 Awarding of Certificates of Participation for
 - Paper Presenters
 - Poster Presenters

4:35 - 4:50 Synthesis
Dr. Lynlei L. Pintor,
 Overall Conference Coordinator, DENR-ERDB

4:50 - 4:55 Audiovisual Presentation of Conference Highlights

4:55 - 5:10 Closing Message
Ms. Maria Lourdes G. Ferrer, CESO III
 DENR-ERDB Director

6:00 onwards **DINNER**

Ms. Jonah Nuisa DT. Garcia & Mr. Alon J. Velasquez
 Masters of Ceremony

DAY 3 – OCTOBER 13, 2022

Field trip

7:30 - 7:40 Assembly at the Hotel lobby

8:00 - 12:00 Visit to Rizal Park and Arroceros Forest Park
 National Museum of the Philippines

12:00 - 1:00 **LUNCH**

DAY 4 – OCTOBER 14, 2022

Homeward bound

ATTITUDES OF YOUTH TOWARDS URBAN PARKS AND GREEN SPACES FOR URBAN SUSTAINABILITY IN HANOI CITY, VIETNAM

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ABSTRACT

Urban parks and green spaces support a wide array of species and play an important role in long-term sustainability. It also brings many benefits for the younger generation, including a place to express and build their social identity. Nevertheless, the young people who visit and utilize green spaces in Vietnam, and in non-western urban contexts in general is still limited. This paper aimed to fill this gap by using the case of Hanoi where youth (18–24 years old) make up almost 20% of the population and their socio-cultural characteristics are changing rapidly. An intercept survey, using convenience sampling with quotas, was deployed in four parks in dense central areas and newer suburban zones (n = 382).

This study showed that heat, crowded sidewalks, street crossings, and traffic near parks were the most problematic obstacles to park access. Security was mentioned as an obstacle, with no significant difference between men and women. Participants reported on average 6.6 visits over two weeks and 77.5 min per visit. Perceived obstacles to access, duration of stay and frequency of visits were fitted in a series of models against gender, timing of visits, travel modes, previous location, travel time, and performed activities (only in the last two models). Travel modes proved the most important features explaining obstacles to access. Practicing sports and exercises were predominant in explaining higher frequency and duration of visits. Gender differences were significant after controlling for other variables: women go to the park less frequently and stay for shorter periods than men. The study's findings suggest avenues for park design and planning, such as providing equipment to support physical activities and addressing travelling obstacles near parks.

Key words: Urban parks, green spaces, attitude, youth, Hanoi.

INTRODUCTION

Urban parks and green spaces play an essential role in ecosystem services such as filtering air, water, wind, noise, and microclimate stabilization (Chiesura, 2004). They also provide psychosocial services, which are essential for public well-being. For example, using parks and green spaces improves mental health by providing serenity and tranquility and promoting the development of social ties. Although urban parks and green spaces also bring many benefits for youth, including providing a place to express and build their social identity, the number of these groups accessing and using parks and green spaces in Vietnam, especially in Hanoi, still needs to be increased. This study aims to identify the youth's demands for urban parks and green spaces and to provide essential information to establish strategies for urban sustainability to improve quality of life.

METHODOLOGY

Hanoi, the capital of Vietnam, is the country's political-economic-cultural, scientific, and technological center. Hanoi is also an ancient city with nine urban districts and five rural districts. Hanoi has been developing to increase the provision of open public spaces. However, public parks in Hanoi still represent less than 1.6 per capita. With only 6.5 m² of green space per capita (including lake areas and public parks), Hanoi is far behind other cities in the region, such as Kuala Lumpur (12.9 m² per capita) or Singapore (20 m² per capita) (Said & Mansor, 2011; Ngo & Gao, 2018).

An intercept survey was conducted in four parks: Yen So, Nghia Do, Thong Nhat, and Ngọc Lam. A non-probabilistic quota and convenience sampling method were applied to collect data from 382 youth (18-24 years old).

RESULT AND DISCUSSION

Frequency of Park Visit

For the 382 respondents, weekday afternoons were the period when they came the most (44.2%), followed by weekday mornings (33.7%) and weekend afternoons (24.1%). Young males and females in our sample came more often on weekday afternoons and much less on weekend afternoons. In terms of travel modes, almost 53% came by foot. The motorbike was the second most common mode, followed by bicycle and bus. Males tend to walk more, and females tend to use the motorbike more.

Table 1. Frequency of Park Visit

	All (n=382)	Male (n=202)	Female (n=180)
	%	%	%
Time			
Weekday afternoon	42.2	46.5	37.2
Weekday morning	33.7	34.2	33.3
Weekend afternoon	24.1	19.3	29.4
Travel Mode			
Bike	13.1	11.9	14.4
Bus	6.5	6.4	6.7
Motorbike	27.6	22.3	33.9
Walking	52.6	58.4	15

Source: Author's calculations (2021)

3.2. Main purpose of Park Visit

The most common primary purpose of visiting parks was "relaxing and walking" (35.8%), followed by "meeting with friends" (26.2%), "playing sports and using exercise facilities" (24.4%) which showed relaxation, socialization, recreation, leisure, and scenery were the primary purposes of visiting parks.

Table 2. The primary purpose of a Park Visit

Purpose	All respondents (%)
Relaxing and walking	35.8
Meetings with friends	26.2
Playing sports and using exercise facilities	24.4
Enjoying the nature	5.6
Attending community events and meetings	4.8
Spending with family	3.2

Source: Author's calculations (2021)

Reason for visiting parks

The main reason for going to the frequently visited parks was "close to home" (38.9%), followed by "various facilities and programs" (22.2%), "clean facilities and environment" (15.8%), "safe facilities and environment" (13%) and "good natural environment" (10.1%). This result revealed the importance of convenience in terms of distance and time when using parks.

Table 3. Reason for visiting parks

Reason	All respondents (%)
Close to home	38.9
Various facilities and programs	22.2
Clean facilities and environment	15.8
Safe facilities and environment	13
Good natural environment	10.1

Source: Author's calculations (2021)

Role of green spaces

The highest proportion of respondents (30%) recognized the role of green spaces as "providing leisure space"; 18.5% of respondents regarded the role of green space as "reducing air and environmental pollution, followed by "giving mental stability" (17.6%), "making scenery beautiful" (12.8%), "maintaining healthy natural ecological state" (9.3%), "preventing indiscriminate urban development" (4.9%), "raising real estate prices in the surrounding area" (3.8%), and "preventing natural disasters" (3.1%).

Table 4. Role of green spaces

Role of green spaces	All respondents (%)
Providing leisure space	30
Reducing air and environmental pollution	18.5
Giving mental stability	17.6
Making scenery beautiful	12.8
Maintaining a healthy natural ecological state	9.3
Preventing indiscriminate urban development	4.9
Raising real estate prices in the surrounding area	3.8
Preventing natural disasters	3.1

Source: Author's calculations (2021)

Opinions and methods to expand parks and green spaces

The highly ranked opinions were "expanding pedestrian paths (3.65)" and "expanding bicycle paths (3.59)", followed by "greening rooftops, walls of buildings and fences (3.55)", "making parks with public buildings and schools (3.48)", "making parks with a relocated site of factory (3.44)", "conservation of wet and dry field as a green space (3.42)", "making parks with legally protected trees and empty lots in the neighborhood (3.40)", and "making parks with areas of cultural assets (3.39)."

Table 5. Opinions and methods to expand parks and green spaces

Role of free spaces	All respondents
	Average Likert scores
Expanding pedestrian paths	3.65
Expanding bicycle paths	3.59
Greening rooftop, walls of a building, and fence	3.55
Making parks with public buildings and schools	3.48
Making parks with a relocated site of the factory	3.44
Conservation of wet and dry fields as a green space	3.42
Making parks with legally protected trees and empty lots	3.40
Making parks with areas of cultural assets	3.39

Source: Author's calculations (2021)

CONCLUSION

The study can only be considered an initial step in collecting more comprehensive information on urban parks and green spaces for setting the future direction of urban sustainability to improve quality of life. The study disclosed five significant findings: Youth visit parks on weekday afternoons. Second, the primary purpose of visiting parks was relaxation and walking. Third, the main reason for visiting the frequently visited parks was "close to home ."Fourth, the highest proportion of respondents recognized the role of green spaces as "providing leisure space ." Fifth, youth suggested the method to expand parks and green spaces were "expanding pedestrian paths" and "expanding bicycle paths" These results, therefore, should be taken into account in future park planning and management to maximize the quality of life in cities.

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