

□ Session 3

Environmental Cooperation Initiatives of Local Authority in North East Asia:

-Based on Seoul City's Experiences and Potential Lessons-

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WoonSoo Kim : woonkim@sdi.re.kr
Seoul Development Institute

Presentation Highlights

- **Challenges for Sustainable City Initiatives**
- **Community-Based Environment Protection Through Citizen Participation**
- **Seoul City's Experiences and Potential Lessons**
- **Environmental Cooperation of Local Authority in pursuit of Sustainable City**
- **Concluding Remarks**

Challenges for Sustainable City Initiatives

Issues on New Paradigm

- Introduction of ESSD to Urban Development
- Sustainability is the Key Idea
- Environment is the necessary Condition
- Transition of Role Definition

The role of the locality in environmental management is increasingly coming to the fore.

Sustainable development has become one of the touchstones of urban policy in recent years.

Building Good Governance

- Changes in the urban environment:
 - Globalization
 - Increased use of information
 - Localization
 - Increased power and awareness of rights of civil society
- Good Governance is the term that symbolizes the paradigm shift of the role of governments.
- How to pursue sustainable city?

The generic characteristics of good governance are such as participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness and efficiency, accountability, empowerment, and partnership.

Community-Based Environmental Protection through Citizen Participation

Mechanisms for Public Participation

- Voting
- Public Referendum
- Non-binding Direct Involvement
- Binding Direct Involvement

The theory of citizen participation has translated into numerous provisions, initiatives, and approaches. Often woven into the very fabric of policymaking, public participation falls into four broad categories.

Public participation is defined as the legal right and practical opportunities to affect decision-making, e.g. through statements to authorities making decisions on an activity, project, plan, process or programs.

Principle 10 of the Rio Declaration on Environment and Development, which states that: “Environmental issues are best handled with the participation of all concerned citizens, at the relevant level”`

Principle 10 of the Rio Declaration:

Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

Principles of Community-Based Environment Protection (CBEP) Initiative Program

- Focus on a definable area
- Work collaboratively with a full range of stakeholders
- Assess the local quality of the air, water, land, and living resources as parts of a whole
- Integrate environmental, economic, and social objectives and foster local stewardship of all community resources
- Use the appropriate regulatory and non-regulatory tools
- Monitor and direct efforts through adaptive management

Advantage of CBEP Initiative Program

- Comprehensive Identification of Local Environmental Concerns
- Priority and Goal Setting that reflect overall Community Concerns
- Development of Inclusive and Long-term Solutions

Public participation is directly related to working collaboratively with a full range of stakeholders, and monitoring and directing efforts through adaptive management.

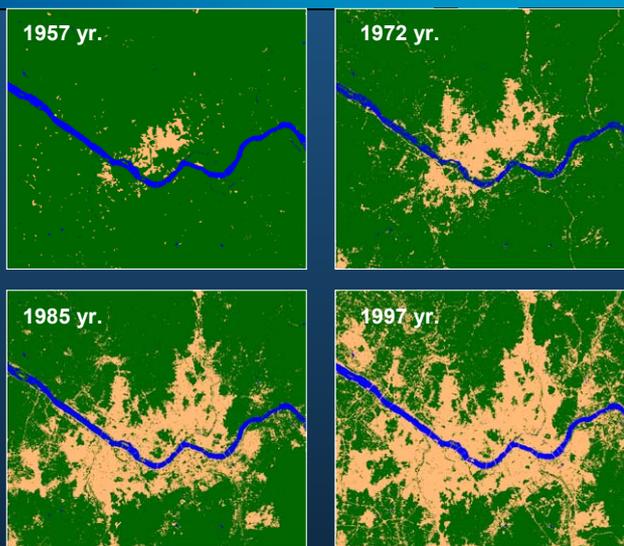
Seoul City' Experiences and Potential Lessons

-Rethinking of Seoul City-



**Urbanization
Past, Present, and Future
Air Pollution in Seoul**

Seoul urban area using satellite Imagery



Source: SDI, Thematic Maps of Seoul, 2000

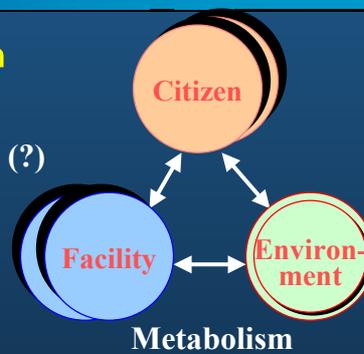
Urbanization

- **Expansion Path of Urbanization**

- Beyond the Optimal City Size
- Environmental Carrying Capacity (?)

- **Indicators**

- Urban Air Pollution
- Traffic Congestion



Traffic Speed (CBD)	Ozon Warning
1995: 18.3 km/h (auto)	1995: 5 days (Episode)
1996: 16.4 km/h	1996: 19 days
1997: 16.9 km/h	1997: 33 days

Past, Present, and Future

- **Land Use Pattern**

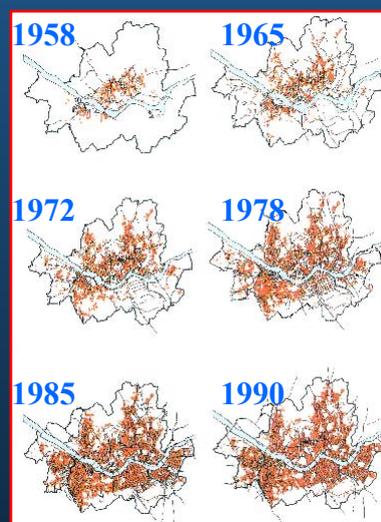
- Residential Area: 49.8%
- Open Space : 41.9%
- Others : 8.3%

- **Future Urban Development**

- Sustainable Development
- Environment-friendliness

- **Key Factors for Consideration**

- Transportation
- Air Quality



Air Pollution in Seoul



Statement of the Problem

Visibility

Air Quality Trends

Area-wide Air Pollution

Paradigm Shift in Seoul

Statement of Problem: Air Pollution

- **Natural Condition:**
 - Pollutants from West, North-West by Inverse Urban Form
 - Basin Area Surrounded by Mountains
- **Characteristics of Population/ Land-Use**
 - High Density · Over-Crowded than Carrying Capacity
- **Transport · Urban Planning**
 - Increase of Total VMT
 - Excessive Travel Demand
 - Short-span of Transport and Land-use Plan
- **Energy Consumption · Industries**
 - High Dependency on Energy Consumption

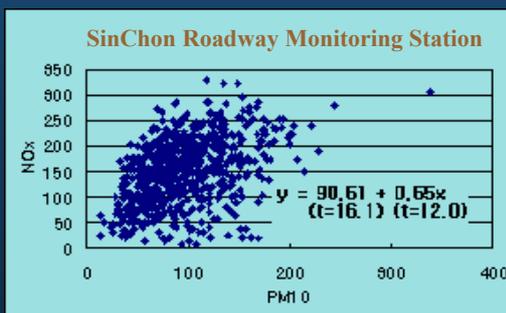
Visibility

- **Decreasing Factors**

- Complex Interaction of Meteorological Conditions
 - Distribution of PM sizes, Chemical Components, etc.

- **Remarks**

- Noxious PM



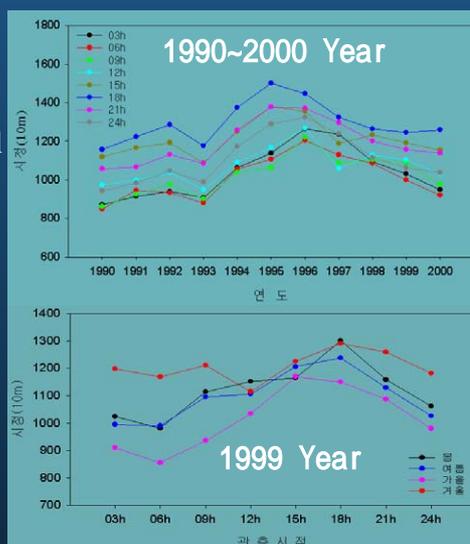
Visibility Analysis

- **Characteristics**

- After 1995 year: Not Good
- Summer . Autumn: Not Good
- Yearly Visibility: R. Normal
- Hourly Visibility: Not Good (09:00 A.M.~18:00 P.M.)



Citizen's Sensible Air Quality Index



Air Quality Trends

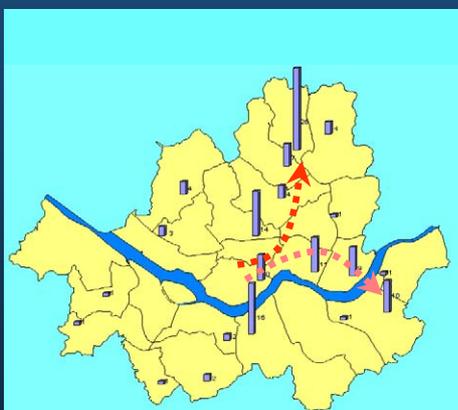
- **1985~2000 Year**
 - Decreasing Pattern: SO₂, PM10(within WHO Recommendation)
 - Supply of Clean Fuel, Road Pavement, etc.
 - Incremental Increase of Pollution Level: NO₂, O₃
 - Traffic Flows, VOC Emissions
 - Seasonal Properties : Summer(O₃), Spring(Dust, SO₂)

- **Key Properties**
 - Satisfaction of Long-term Ambient Air Quality Standards
 - Increasing Episode Days of Short-term Standards
 - PM10, NO₂, O₃(North-East, South-West Region)
 - Area-wide Smog Occurrence

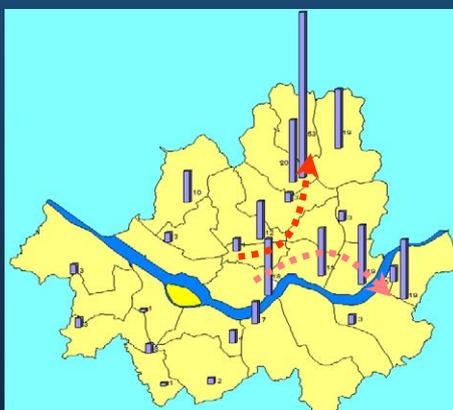
Air Quality Monitoring Stations: O₃ Level

(Years: 1995~2000)

8-hr O₃ Standard Exceeding Days



1-hr O₃ Standard Exceeding Days



Area-wide Air Pollution Problems

- **KeyongGi Province**

- Population Increase and Industry Location
- High NO_x Emission from Power Generation Facility

- **InChon City**

- Transport and Power Plants: High NO_x Emission (82.5%)
- Industry · Complex : VOC and Odor

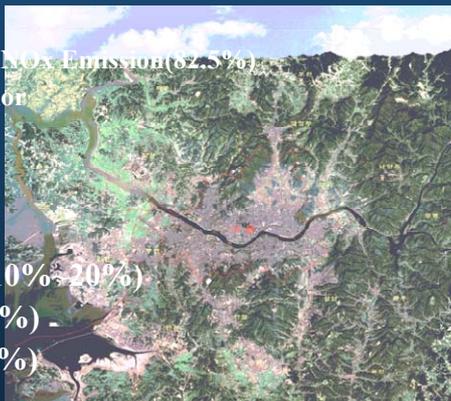
- **Implications**

- Area-wide O₃ Episodes Days
- Influence from Surrounding Cities

NO₂ (KeyongGi Seoul: 10% - 20%)

SO₂ (InChon Seoul: 23%) -

PM (InChon Seoul: 18%)



Paradigm Shifts to ESSD Principles with Building Good Governance in Seoul

- Since UNCED (Rio Conference in 1992) suggested the ESSD, Environmentally Sound & Sustainable Development, as the world project for the next generation, the Seoul city has tried to protect and reorganize the urban environment.
- Citizen participation as a way of building good governance is being implemented to deal with environmental problems efficiently.



Environmental Cooperation of L.A. in pursuit of Sustainable City

Building Good Governance in Seoul

Cheonggye Stream Restoration Project

Seoul Local Agenda 21

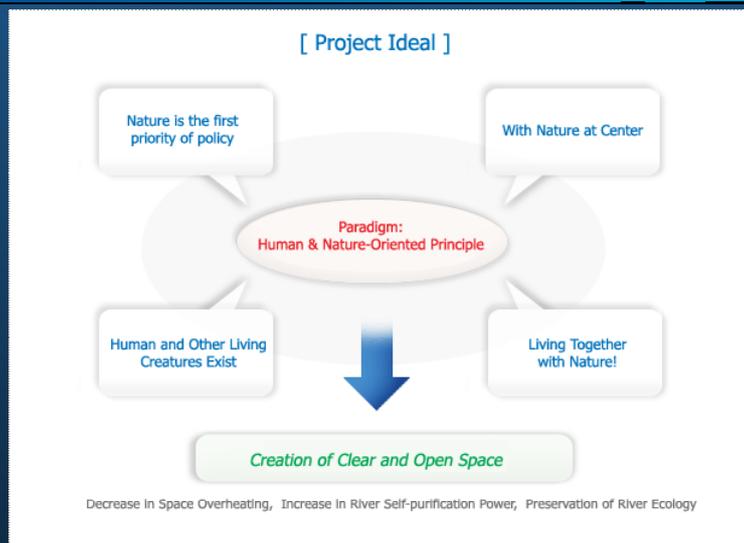
Building Good Governance in Seoul

- Both citizen participation and partnership are designed and implemented in the form of good governance.
- Case 1: Partnership & Citizen Participation
- Cheonggye Stream Restoration Project (CSR)
- Case 2: Citizen Participation & Partnership
- Local Agenda 21, as an action plan for a sustainable city

Cheonggye Stream Restoration Project



Basic Concept and Project Ideal

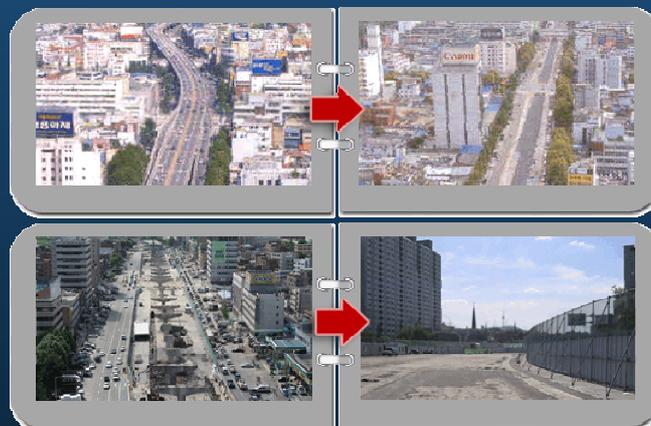


[Methods and process of the Cheonggyecheon Restoration Project]

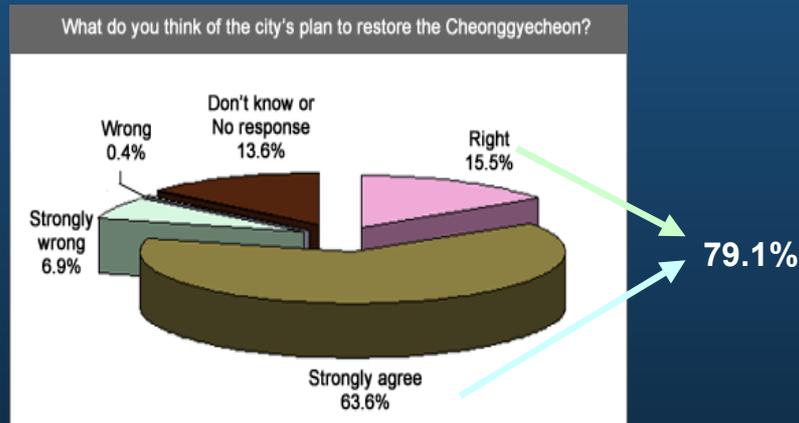
1. **Setting up facilities for transportation, safety and construction**
erection of scaffolding and demolition chutes under the overpass
2. **Dismantling of decks, crossbeams, and the covering**
dismantling of overpass decks by the segment cutting method – dismantling of metal beams by using crane – dismantling of the covering by the segment cutting method
3. **Dismantling of piers**
cutting off piers and disposal – construction of road for temporary use
4. **Construction of intercept sewers and a road for temporary use, and dismantling of the coverings in the commercial area**
construction of intercept sewers – dismantling of the covering by sectors and road construction
5. **Landscaping for the recovered area including the river**
restoration of the river – landscaping – lighting design

100 days after CSRP

It has passed 100 days as of Oct. 7, 2003 since the construction for the CSRP began on July 1. The work has been proceeding without any significant troubles in the face of some concerns of possible problems like heavy traffic congestion.



- Telephone survey of 1,000 citizens over 20 years old from Aug. 11 to 14 to find out how much people are aware of the project, and whether they are satisfied with the city affairs since the launch of the CSRP July 1 2003.



80% of citizens support stream restoration project

Citizen's Committee for CSRP

- ❑ **Steering Committee: 29 Members**
- ❑ **Planning and Mediation Committee: 14 Members**
- ❑ **Subcommittees: 85 Members**
- **History and Culture Subcommittee** : In charge of restoring cultural properties and establishing cultural spaces
- **Natural Environment Subcommittee** : In charge of preserving the ecosystem and the environment
- **Public Works Subcommittee** : structure dismantlement, road construction and stream restoration
- **Transportation Committee** : traffic reorganization affairs
- **Urban Planning Committee** : city planning related to the project
- **Public Opinion Subcommittee** : conducting and analyzing public opinion survey concerning the project

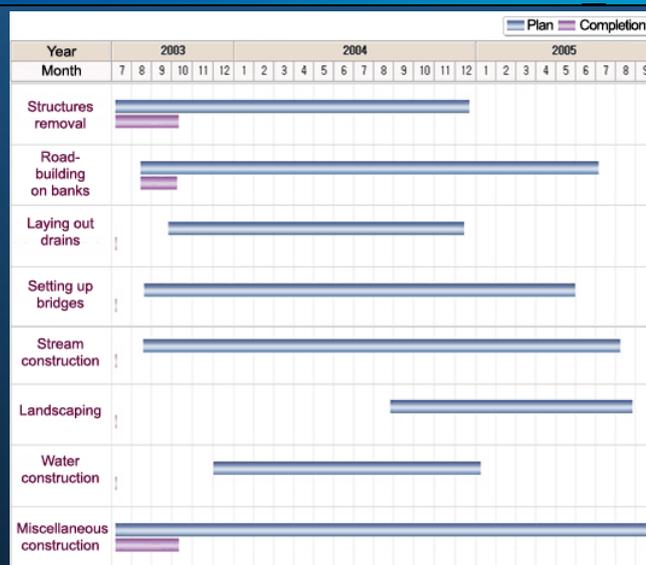
Brief view of Citizen's Committee for CSRP

The Citizen's Committee for CSRP is made up of citizens representing various social circles and experts in the environment, culture and traffic fields.

The Committee do research, review initiatives and make a decision on the project. It also implements the project closely with the executive organization, the CSRP Headquarters of the Seoul Metropolitan Government, and the research group of the Seoul Development Institute (SDI).

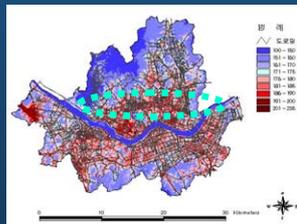
The Committee members are made up of as follows: 53% of experts in related fields, 17% of civilian groups, 16% of citizen representatives in the fields of religion, economy, law and the media, and 16% of the city councilmen and general directors from relevant offices or divisions.

Cheonggye Stream Restoration Schedule



Cheonggye Stream Restoration Project's Impacts Assessment on Micro-climate

- Identify the potential differences in urban microclimate that may exist between 'before' and 'after' restoring Cheonggye Stream.
- The ambient temperature will decrease to about 1.0°C.
- CSRP, with more open space and water body may lead to achievement of cooling effects on UHI in CBD area.



Microclimate Change Before/After Cheonggye Restoration Project

Seoul Local Agenda 21

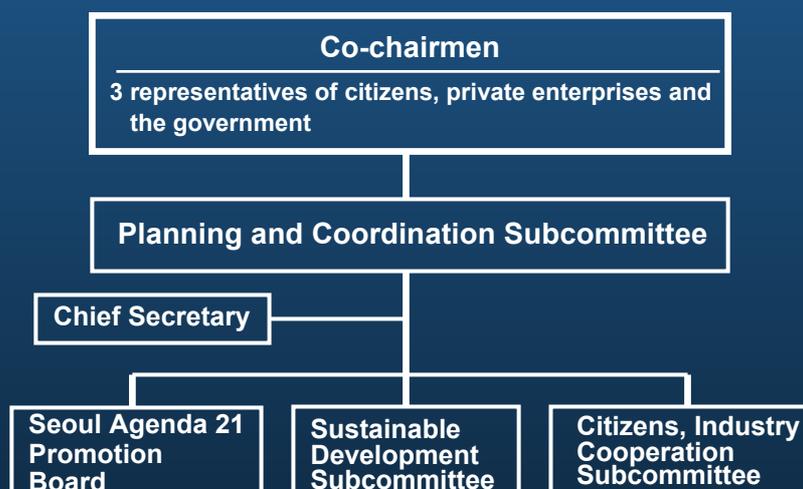
Citizens' Committee for a Green Seoul

- The Citizens' Committee for a Green Seoul was organized in 1996 under the Special Ordinance of Seoul Metropolitan Government.



Functional Flowchart of the Citizens' Committee for a Green Seoul

- The Citizens' Committee for a Green Seoul is a civic organization established by the Seoul Metropolitan Government to develop Seoul into a more pleasant and environment-friendly city in the 21st century through a cooperative partnership with citizens and private enterprise.
- Under the auspices of the Committee, citizens, private enterprise and the Seoul Metropolitan Government jointly establish, execute and evaluate Seoul city's environmental policies as well as implementing the action plans of Seoul Agenda 21.



Organization of the Citizens' Committee for a Green Seoul

Institutionalization of Citizens' Committee for a Green Seoul

■ Overview

The Citizens' Committee for a Green Seoul has been institutionalized over three stages, each of which introducing changes in the characteristics and the status of the Committee.

■ 1st stage

A transformation from the stage of cooperation and settlement among different interest groups over the issue of participation in the environmental administration of the Seoul Metropolitan Government to the stage where various groups sought compromise and cooperation to facilitate sustainability took place.

■ 2nd stage

A transformation from the stage where compromise and cooperation over the issue of establishing independent organizations (i.e. Sustainable Development Council) to realize sustainability to the stage where confrontation, compromise and cooperation among interest groups over the methods and strategies to promote sustainability (i.e. formulation, revision and implementation of Agenda 21) was achieved.

■ 3rd stage

At first, confrontation and conflict among the three sectors of citizens, private enterprises and the government amounted to a serious crisis in partnership. However, the Committee was able to overcome the crisis through a compromise on the principle of collective governance, as reflected in the drafting of the Ordinance.

Measurement Method for Sustainability Index of Seoul Agenda 21

ITEM	INDEX(unit)	MEASUREMENT METHOD
Seoul, a city where the air is fresh and clean	Per capita oil consumption(unitℓ)	Per capita oil consumption (gasoline, diesel oil, kerosene, Bunker-C oil) - Annual statistics, Seoul city
	Number of ozone alerts(frequency)	Number of ozone alerts - Seoul city
	Emission from motor vehicles (10,000 tons)	Statistics on volume of air pollutants generated nationwide - Ministry of Environment
Seoul, a city where children can enjoy playing in water as much as they please	Noise in residential areas along roadsides(dB)	Measurement of noise in residential areas along roadsides in Seoul - Seoul city
	Water quality of Han River(BOD, mgℓ)	Measurement of water quality of Han River - Seoul city
	Per capita water consumption(ℓ)	Average volume of piped water production ÷ pollution x leakage ratio
Seoul, a city where the citizens work hard to reduce waste and recycle it into useful resources	Number of streams being restored to their natural condition(number)	Survey by Seoul city and district governments
	Per capita volume of waste generated (kg/person)	(Total volume of waste generated reduction and treatment at source of generation) ÷ population
	Recycling ratio(%)	(Recyclable goods collected ÷ total volume generated) x 100
	Food waste generation(kg/person/day)	Total waste generated ÷ population

Source: Seoul Metropolitan Government, 2002 Green World Cup, 2003.

ITEM	INDEX(unit)	MEASUREMENT METHOD
Seoul, a city where wildlife has returned	Ratio of urban green areas(%)	Statistics on current state of parks - Seoul city
	Number of wetlands to be created	Survey of implementation performance of Seoul city and district governments
	Number of freshwater fish species in the Han River	Survey of ecosystem of the Han River - Seoul city
Seoul, a city where the streets are pleasant, and where promenades and public transportation are favored.	Citizens' satisfaction with pedestrian environment(based on scale of 0 to 100)	Survey of citizens' satisfaction - Seoul city
	Ratio of cars stopping before the stop line at crosswalks	Survey of traffic volume - Green Consumers Network
	Citizen satisfaction with public transportation system	Survey of citizens' satisfaction - Seoul city
	Number of pedestrian fatalities in traffic accidents(person)	Statistics on traffic accidents - National Police Agency
Seoul, a city where citizens work together to create a pleasant and friendly environment	Number of bicycles per household	Survey - Seoul city
	Per capita park area in residential areas	[park area - (national parks + urban natural parks + other parks + areas of cemeteries)] ÷ population
	Citizens' environmental conservation programs supported by Seoul city	Survey by Seoul city and district governments
Seoul, a cultural center imbued with the richness of history and nature	Number of cultural facilities	Survey by Seoul city and district governments
	Number of experts in district culture	Survey by Seoul city and district governments
	Number of cultural programs per district	Survey by Seoul city and district governments
Seoul, a city of neighborly togetherness	Ratio of convenience facilities	Ratio of convenience facilities - Seoul city
	Number of youth halls	Number of youth halls - Seoul city
	Ratio of employment of the elderly	(Number of the elderly employed through the municipal employment service center ÷ population of the elderly aged 65 or older) x 100
	Ratio of economically active women	White paper on Women - Seoul city

Source: Seoul Metropolitan Government, 2002 Green World Cup, 2003.

Nanji Millennium Park using Landfill Site For a 2002 Green World Cup Games



Concluding Remarks

- The on-going citizen participation and partnership patterns in Seoul show a number of achievements and constraints in the process of implementing CSR and Local Agenda 21.
 - ✓Citizens, businesses, and local authority share roles based on the spirit of participation and partnership.
 - ✓Collection of citizens' diverse views on Seoul's environment through participation.
 - ✓Remaining a declaration of environmental protection and action guidelines.

Partnership
Public
Participation

Integrated
Management

Environment
Information

Connectivity
Institution



- Some recommendations for involving citizens in the environmental cooperation initiatives of local authority are as follows:
 - ✓Preparation of guiding principles on public involvement in environmentally sustainable aspects in local authority.
 - ✓Support the development of and exchange of information on public participation and environmental awareness.

Clean Environment



For the Present, For the Future . . .