

## **Urban Group: Field Survey 1 (Seoul, Korea)**

The survey to Seoul was conducted from May 23-26, 2006 to collect information on demography and population changes, economic infrastructures and industrial transformation, land use and cover changes, water supply and facilities, sewage and waste treatment facilities, historical evolution of environmental and land use policies, especially those related to water management.

Most of the basic data on demography and the socio-economic profiles as well as land use planning in Seoul and Korea were taken from the Seoul Development Institute (SDI), Gyeonggi Research Institute (GRI), Korea Research Institute for Human Settlements (KRIHS) and the University of Seoul. Environmental and water related policies were also discussed during the presentations and discussions in these institutes and our visit to Seoul National University has provided us with the basic background on the evolution of environmental laws affecting groundwater and the environmental agencies administering these laws. Basic situation on surface water and issues on groundwater supply and quality have also been discussed at SDI.

Our field survey also included a visit to Cheonggyecheon, the famous restoration project of a buried stream in Seoul. One of the most important functions of Cheonggyecheon was to collect sewage and transport it to the Hangang River.

The urban group needs to summarize the information gathered and start analyzing on the causality of environmental changes and its effect on the subsurface. This will include analysis of the effects of demographic changes and land use and cover changes in Seoul. Moreover, the historical evolution of environmental policies and land use planning and priorities are important in understanding these environmental changes. We can also start our descriptive summary and analysis on the impacts of water supply and facilities, and sewage and waste treatment facilities although detailed information for the material flow analysis (material consumption and waste generation) will be taken in the next field activity. One of our basic constraints at this time however, is that most of the materials which have been provided are written in the Korean language so we need to allot time for translation.

Our experiences in the Seoul survey can greatly help us in our preparations for the next field survey which will be in Taiwan in September. After this survey, and if our results permit, we will be able to start on the comparisons of causality changes among four cities: Tokyo, Osaka, Seoul and Taipei.

In addition, during the survey we have developed networks and the following are the contact information of the institutes we visited:

<b>Topics/ Themes</b>	<b>Contact Person</b>	<b>Institute Address/ Tel/Fax</b>
<b>Environmental planning and policy analysis</b>	Prof. Jung Wk Kim <a href="mailto:kimjw@snu.ac.kr">kimjw@snu.ac.kr</a>	Seoul National University ( <a href="http://gses.snu.ac.kr">http://gses.snu.ac.kr</a> ) San 56-1, Shilim-dong, Kwanak-gu, Seoul 151-742 Korea Tel: (82) 2 8805653; Fax: (82) 2 547 5038
	Dr. Kap-Soo Kim <a href="mailto:sportkim@sdi.re.kr">sportkim@sdi.re.kr</a>	Seoul Development Institute ( <a href="http://www.sdi.re.kr">www.sdi.re.kr</a> ) 391 Seocho-dong Seocho-gu, Seoul 137-071, Korea Tel: (82) 2 21491152; Fax: (82) 2 21491199
	Dr. Dong-Woo Lee <a href="mailto:dwlee@krihs.re.kr">dwlee@krihs.re.kr</a>	Korea Research Institute for Human Settlements 1591-6, Gwanyang –Dong, Anyang, Korea 431-712
<b>Urban water management issues</b>	Dr. Kap-Soo Kim <a href="mailto:sportkim@sdi.re.kr">sportkim@sdi.re.kr</a>	Seoul Development Institute ( <a href="http://www.sdi.re.kr">www.sdi.re.kr</a> ) 391 Seocho-dong Seocho-gu, Seoul 137-071, Korea Tel: (82) 2 21491152; Fax: (82) 2 21491199
	Dr. Chong-Won Kim <a href="mailto:cwkim@krihs.re.kr">cwkim@krihs.re.kr</a>	Korea Research Institute for Human Settlements 1591-6, Gwanyang –Dong, Anyang, Korea 431-712 Tel: (82) 31-380 0376; Fax: (82) 31- 380 0482
<b>Urban and land use planning</b>	Dr. Young-duk Kwon <a href="mailto:youngduk@sdi.re.kr">youngduk@sdi.re.kr</a>	Seoul Development Institute ( <a href="http://www.sdi.re.kr">www.sdi.re.kr</a> ) 391 Seocho-dong Seocho-gu, Seoul 137-071, Korea Tel: (82) 2 2149 1088; Fax: (82) 2 2149 1060
	Dr. Hee-Nam Jung <a href="mailto:hjung@krihs.re.kr">hjung@krihs.re.kr</a>	Korea Research Institute for Human Settlements 1591-6, Gwanyang –Dong, Anyang, Korea 431-712 Tel: (82) 31 380 0266; Fax:
	Dr. Seung-Woo Yang <a href="mailto:swyang@uos.ac.kr">swyang@uos.ac.kr</a>	The University of Seoul 90 Jeonnon- dong, Dongdaemun-gu, Seoul 130-743, Korea Tel: (82) 2 2210 2728; Fax: (82) 2 2243 2572
<b>Watershed management</b>	Dr. Mee Young Song <a href="mailto:mysong@gri.re.kr">mysong@gri.re.kr</a>	Gyeonggi Research Institute ( <a href="http://www.gri.re.kr">www.gri.re.kr</a> ) 179 Pajang-dong, Jangan-gu, Suwon, Gyeonggi-do, Korea 440-290 Tel: (82) 31 250 3236; Fax: (82) 31 250 3113
<b>Cheonggyecheon Restoration Project</b>	Dr. So-Won Yoon <a href="mailto:swyoun@sisul.or.kr">swyoun@sisul.or.kr</a>	Seoul Metropolitan Facilities Management Corporation Cheonggyecheon Restoration Project Headquarters Tel. (82) 2 2290 6885; Fax: (82) 2 2290 6808

The following pages consist of the summary report of the field survey. The topics discussed, the documents, books and other information materials that we have acquired during the survey have been listed for everyone's information.

## Survey Report

Field Survey in Seoul, Korea

May 23-26, 2006

### Participants:

Dr. Shinji Kaneko (IDEC, Hiroshima University)

Dr. Akimasa Fujiwara (IDEC, Hiroshima University)

Dr. Ryo Fujikura (Faculty of Humanity and Environment, Hosei University)

Dr. Backjin Lee (IDEC, Hiroshima University)

Karen Ann Jago-on (Research Institute for Humanity and Nature)

### Schedule:

May 23, 2006	12:30	Departure from Hiroshima (Dr. Kaneko, Dr. Fujiwara, Dr. Lee and Karen)
	14:00	Arrival at Incheon International Airport
	19:20	Departure from Haneda Airport (Dr. Fujikura)
	21:40	Arrival at Gimpo Airport
	16:00	Graduate School of Environmental Studies, Seoul National University
	18:30	Hotel check-in (Savoy Hotel Seoul)
May 24, 2006	10:00	Seoul Development Institute
	14:00	Cheong Gye Cheon Restoration Project Headquarters Cheong Gye Cheon Museum
	17:30	University of Seoul
May 25, 2006	9:45	Gyeonggi Research Institute
	15:00	Korea Research Institute for Human Settlements
May 26, 2006	8:45	Departure for Haneda (Dr. Fujikura)
	9:00	Departure for Hiroshima (Dr. Kaneko, Dr. Fujiwara, Dr. Lee and Karen)

## Details

**May 23, 2006**      **16:00**                      **Seoul National University**  
Graduate School of Environmental Studies  
San 56-1, Shilim-dong, Kwanak-gu  
Seoul 151-742 Korea  
<http://gses.snu.ac.kr>

**Prof. Jung Wk Kim** ([kimjw@snu.ac.kr](mailto:kimjw@snu.ac.kr))

Discussion on the environmental policies in Korea in relation to water issues, especially groundwater.

Discussion on the history of the formulations of basic law on water and the creation of government agencies/ institutions mandated to implement the environmental laws and regulations.

### Documents received:

- Goundwater law (Korean)
- Historical development of environmental laws in Korea (Korean)

**May 24, 2006**      **10:00**                      **Seoul Development Institute (SDI)**  
391 Seocho-dong Seocho-gu  
Seoul 137-071 Korea  
[www.sdi.re.kr](http://www.sdi.re.kr)

**Dr. Kap-Soo Kim** ([sportkim@sdi.re.kr](mailto:sportkim@sdi.re.kr))

Senior Research Fellow, Dept. of Urban Environment  
President, Korean Society of Environmental Engineers

**Dr. Young-duk Kwon** ([youngduk@sdi.re.kr](mailto:youngduk@sdi.re.kr))

Senior Research Fellow, Dept. of Urban Planning and Design

**Kwang-Joo Park** ([kjp@sdi.re.kr](mailto:kjp@sdi.re.kr))

Manager, Office of Planning and Coordination

Dr. Kim and Dr. Kwon made a 45 minute presentation each on the (1) surface and groundwater situation, issues and management policies; and (2) Seoul city's history and development plan, respectively. After the presentation, 15 minutes was allotted for questions and discussions.

Below is the outline of the presentation:

### **Presentation 1.1: Surface water Situation**

#### 1.1. 1. Surface Water Supply Situation

##### 1.1.2. Water source areas

- Water source situation
- Current situation of clean water
- Tap water current collection rate
- Water distribution

##### 1.1.3. Surface Water Resource Management

- Water resource quality management
- Drinking water quality inspection

##### 1.1.4. Tap water quality inspection

- Water quality management implementation
- Legal basis on water quality inspection
- Evaluation committee on water quality inspection
- Seoul city automatic water quality monitoring system

### **Presentation 1.2: Groundwater Situation**

#### 1.2.1. History of groundwater use in Seoul city

#### 1.2.2. Groundwater facility and management

- Groundwater supply
- Water Recycle Center
- Groundwater Flow system
- Maintenance management

#### 1.2.3. Groundwater treatment systems

- Development of sewage systems
- Expansion of treatment facilities

### **Presentation 2: Seoul City Plan**

#### 2.1. Current situation of Seoul city

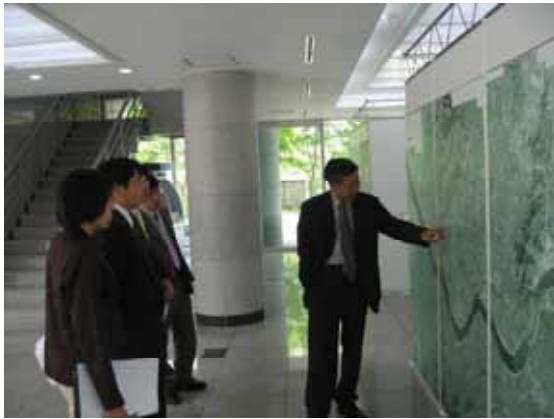
- Issues on Seoul city planning

- Prospective and issues to tackle
- Current government measures and policies

## 2.2. History on Seoul city planning

### Documents/ books received:

1. Outline and Summary of the above 2 presentations (Korean)
2. Kwang-Joong Kim (editor) 2005. *Changing Profile of Seoul: Major Statistics and Trends*, Seoul Development Institute, Seoul. (English)
3. Kwang-Joong Kim (editor) 2003. *Seoul, 20<sup>th</sup> Century: Growth and Change of the Last 100 Years*, Seoul Development Institute, Seoul. (English)



With Dr. Young-Duk Kwon showing us the map and explaining the built-up areas in Seoul city



At the lobby of SDI with Dr. Kap-Soo Kim (3<sup>rd</sup> from left) and Dr. Young-duk Kwon (3<sup>rd</sup> from right)

May 24, 2006

14:00

**Cheong Gye Cheon Restoration Project Headquarters**

540, Cheonggyecheonno, Sungdong-gu

Seoul 133-050, Korea

Cheong Gye Cheon Museum

**Soo-Hak Kang**, General Manager ([smland@paran.com](mailto:smland@paran.com))

**Dr. So-Woon Yoon**, Environmental Management P.E.

([swyoun@sisul.or.kr](mailto:swyoun@sisul.or.kr))

Soo-Hak Kang, assisted by Dr. Yoon, made a presentation on the historical restoration of Cheong Gye Cheon. The restoration began in July 1, 2003 with the demolition of the 5.8km of Cheonggye overpass which ran through the heart of Seoul city.

Cheonggyecheon (stream) begins at the southern ridge of Mt. Inwangsan and Mt. Bugaksan and the northern ridge of Mt. Namsan. It flows east through Seoul, passing Dongdaemun. It meets with Jungnangcheon (stream) and flows into Hangang River. It is both a natural and artificial stream with a length of 8.14 km.

The most important function of Cheonggyecheon was to collect sewage and send it to Hangang River. After several process of digging, dredging and filling to avoid flooding, Cheonggyecheon was buried in 1978 and disappeared in the history of Seoul. In order to deal with increasing traffic, an overpass was built but it made the Cheonggyecheon buried twice in concrete.

For the restoration, covering structures and the Cheonggyecheon overpass were removed. Existing facility plan covering waterways, sewerage, roads, bridges, environment, landscape architecture was established. Expenses totaled 386.7 million won and this included costs related to the removal of facilities such as the overpass, building of bridges and restoring the Cheonggyecheon with clear water and green foliage.

**Document received:** Seoul: Back to a Future

CheongGyeCheon Restoration Project documentary (Published by the Seoul Metropolitan Government)



With Soo-Hak Kang (4<sup>th</sup> from right) and Dr. So-Woon Yoon (2<sup>nd</sup> from right) at the Cheonggyecheon Restoration Project headquarters



Monitoring room of the Cheonggyecheon



Cheonggyecheon area – in front of the Metropolitan Facilities Management Corporation



Cheonggyecheon area fronting the Museum

**May 24**

**17:30**

**University of Seoul**

90 Jeonnong-dong, Dongdaemun-gu

Seoul 130-743 Korea

**Dr. Seung-Woo Yang** ([swyang@uos.ac.kr](mailto:swyang@uos.ac.kr))

Vice Provost, Office of Planning and Development

Discussion on the history of the development of Seoul

Discussion on urban and land use policies governing Seoul Metropolitan area.

**Documents received:**

1. Copy of historical pattern of Seoul's urban growth (Korean)
2. Copy of land use plan (Korean)
3. Copy of Seoul city's land use and management plan, 2004 (Korean)
4. Copy of Journal articles:
  1. Comparative Study on Urban Land Use Control  
Focusing on the zonings of Germany, USA, Japan and Korea, 1995 (Korean)
  2. Generating Process of Mixed Land use as a byproduct of Amendments of  
Zoning regulations, 1991 (Korean)
  3. A Comparative Study on the Changes in Land Policy and Residential  
Development system of S. Korea and China, 2005 (Korean)

**May 25, 2006**

**9:45**

**Gyeonggi Research Institute**

179 Pajang-dong, Jangan-gu, Suwan

Gyeonggi-do, Korea 440-290

[www.gri.re.kr](http://www.gri.re.kr)

**Dr. Hyun-Chan Sung** ([hcsung@gri.re.kr](mailto:hcsung@gri.re.kr))

Director, Division of Planning and Coordination

**Dr. Ki-Young Lee** ([kylee@gri.re.kr](mailto:kylee@gri.re.kr))

Research Fellow, Dept. of Environmental Policy

**Dr. Mee Young Song** ([mysong@gri.re.kr](mailto:mysong@gri.re.kr))

Research Fellow, Dept. of Environmental Policy

**Dr. Mi-Sung Sung** ([hanabira@gri.re.kr](mailto:hanabira@gri.re.kr))

Research Fellow, Dept. of Environmental Policy

Discussion on Paldang Watershed Management program and Han River development plan

1. Paldang watershed management strategies on water quality assurance
2. Relationship of Paldang watershed and the water sources for Seoul Metropolitan region

Discussion on groundwater situation/ issues in Kyeonggi province

**Documents received:**

1. Paldang Watershed Implementation Plan (Korean)
2. Strategic Plan for the management of Han River watershed Fund, Collected as Water Use Charge System (Korean)
3. Han River Future Plan (Korean)
4. Paldang Watershed Management Strategy (water quality) (Korean)
5. A Study on Groundwater Management and Utilization in Kyeonggi-Do (Korean)



In front of the Gyeonggi Research Institute with Dr. Hyun-Chan Sung

**May 25, 2006**

**15:00**

**Korea Research Institute for Human Settlements  
(KRIHS)**

1591-6 Gwanyang-Dong, Dongan-gu, Anyang-si  
Gyeonggi-do, Korea 431-712

[www.krihs.re.kr](http://www.krihs.re.kr)

**Dr. Byung-Sun Choe**, President ([sunchoe@krihs.re.kr](mailto:sunchoe@krihs.re.kr))

**Dr. Dong-Woo Lee**, Research Fellow ([dwlee@krihs.re.kr](mailto:dwlee@krihs.re.kr))

**Dr. Chong-Won Kim**, Research Fellow

([cwkim@krihs.re.kr](mailto:cwkim@krihs.re.kr))

**Dr. Won Sup Lee**, Research Fellow ([wslee@krihs.re.kr](mailto:wslee@krihs.re.kr))

**Dr. Je-Jin Park**, Research Fellow ([jjpark@krihs.re.kr](mailto:jjpark@krihs.re.kr))

Short meeting and introduction with the President, Dr. Byung-Sun Choe

Discussion on water supply and sewage facilities in Korea including history of water management agencies and policies

Discussion on the urban development pattern and history of land use policy in Korea

#### **Documents/ books received**

1. Korea National Land Use Plan 2005 (Korean)
2. Korea National Land Use Plan 2006-2020 (Revised version) (Korean)
3. Cities of World (Korean)
4. Pioneer in modern spatial theories (Korean)
5. KRIHS Gazette (English)
6. KRIHS Organizational report (English)



Presentation and discussion on Korea's national land use plan and water management with KRIHS Research Fellows



In front of the building of KRIHS