Urban Planning Experience of Seoul
- Building a Smart and Sustainable City -

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Former Director-General of International Urban Development Collaboration, Seoul Metropolitan Government
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Outline

• Introduction
• Urban Planning Experience of Seoul
  – Master Plan with New Towns, Transit, Infra
  – Make Land Work (Land Readjustment)
  – Revitalize Old City Area
    (Cheonggyecheon Recreation)
• Concluding Remarks
Figure 2. Distribution of population according to level of income

Table 1. Population of Greater Bogotá (millions)

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2020</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bogotá Capital District</td>
<td>7.36</td>
<td>8.38</td>
<td>10.83</td>
</tr>
<tr>
<td>Suburban municipalities</td>
<td>0.91</td>
<td>1.14</td>
<td>1.78</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>8.27</td>
<td>9.52</td>
<td>12.51</td>
</tr>
</tbody>
</table>

*Source: Acevedo et al, 2009, with DANE information.*

Table 2. Population of Greater Bogotá (millions)

<table>
<thead>
<tr>
<th>STRATA</th>
<th>% of total population</th>
<th>Monthly income per capita (US$ 2004)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Lower income</td>
<td>13</td>
<td>99</td>
</tr>
<tr>
<td>2 – Lower income</td>
<td>38</td>
<td>141</td>
</tr>
<tr>
<td>3 – Middle income</td>
<td>39</td>
<td>279</td>
</tr>
<tr>
<td>4 – Middle income</td>
<td>7</td>
<td>690</td>
</tr>
<tr>
<td>5 – Higher income</td>
<td>2</td>
<td>1,147</td>
</tr>
<tr>
<td>6 – Higher income</td>
<td>1</td>
<td>1,501</td>
</tr>
</tbody>
</table>

*Source: Authors based on surveys from Secretaría de Hacienda de Bogotá.*

Source: Juan Pablo Bocarejo and Luis Eduardo Tafur (2013)

Note: Strata 5 and 6 included in category number 5.
Bogota, Colombia

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>City Centre: Candelaria, Chapinero, Santafe, Teusaquillo</td>
<td>0.53</td>
<td>-0.23</td>
<td>0.18</td>
</tr>
<tr>
<td>First ring: Barrios Unidos, San Cristobal, Mártires, Fontibón, Tunjuelito, Rafael Uribe, Puente Aranda, Antonio Nariño</td>
<td>1.43</td>
<td>1.38</td>
<td>0.37</td>
</tr>
<tr>
<td>External ring: Bosa, Usme, Ciudad Bolivar, Usaquén, Suba, Engativá Kennedy</td>
<td>16.75</td>
<td>3.40</td>
<td>3.42</td>
</tr>
<tr>
<td>Total Bogotá population growth rate</td>
<td>5.89</td>
<td>2.3</td>
<td>2.14</td>
</tr>
</tbody>
</table>

Source: Authors with information from DANE.

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Bogotá DC total population by urban zone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1973</td>
</tr>
<tr>
<td>City Centre</td>
<td>14.85</td>
</tr>
<tr>
<td>First Ring</td>
<td>55.10</td>
</tr>
<tr>
<td>External Ring</td>
<td>30.04</td>
</tr>
</tbody>
</table>

Source: Authors with information DANE.
Seoul is a major city located in Korea, with an area of 605.6 km². The population is 10,570,000. It has 25 Gu and 422 Dong administrative districts. The GDP per person is $23,375, and there are 2.98 million registered vehicles.
Comparison of Major Cities

- Seoul
  - Area: 11,730 km²
  - Metro Seoul: 605 km
  - Tokyo: 13,494 km²
  - Tokyo (12 Ward): 2,187 km

- London
  - Area: 26,976 km²
  - Greater London: 1,578 km
  - Paris (Petite-Couronne): 762 km

- Beijing
  - Area: 16,808 km²
  - Metro Beijing: 1,370 km
  - Singapore: 693 km

- New York
  - Area: 2,928 km²
  - Metro New York: 830 km

- Los Angeles
  - Area: 12,500 km²
  - Metro Los Angeles: 1,215 km
Seoul, approx. 50 years ago
Explosive Growth of Seoul

- 270,000 people per year (22,000 people per month) for 3 decades, 1960-1990
Shanty houses with common toilets by Cheonggyechoen

Shanty houses climbing up to mountains

Shanty houses down to Han River (Flood)

- Shanty: 20,870
- Tent Houses: 10,537
- Cave: 1,688 호
- Beggars' places: 5,440
- Illegal houses: 38,535 호
- House with Kitchen 18.3%,
- House with Bath 3%, House with Electricity 29%
Urban Land & Housing Solution

Until mid 1960’s

- Restoration Housing, Prosperity Housing, Hope Housing, City Housing, Public Housing, Welfare Housing, ...
- Welfare Housing: an affordable housing for mid- and low-class

청량리 부흥주택 (1966)
용두동 후생주택 (1958)
Urban Land & Housing Solution until mid-1960’s
Problem #1: Supply Shortage

Housing Supply and Demand early 1960’s

3,000   vs.   300,000

1 housing unit per 100 people

(existing housing shortage of 1M aside)

Problem #2: Land Consumption, Sprawl, Transportation, public service
CHANGE OF APPROACH
Paradigm Shift: Small Patch to Big Push

Size and Speed of Pop Growth changed Policy Direction

Before 1960’s

Policy Direction
- Welfare
  ✓ Short-term, Relief
  ✓ Office in charge: Ministry of Welfare

Development
- self-help
  ✓ Site & Service, Upgrading

Main Agent
- Government

Financy
- Aid

After

Policy Direction
- Construction
  ✓ Housing Supply
  ✓ Office in charge: Ministry of Construction (1963년)

Development
- Low Cost Mass Production
  ✓ Large scale, high-rise

Main Agent
- Private

Financy
- Loan

National Housing Fund
Spatial Pattern: Two ways to go

**Uncontrolled Expansion**
Market (individual freedom)
- Low- or hyper-density
- Large land consumption and/or inefficiency

**Explosion of Pop.**

**Controlled Development**
Planning + Market
- High-density
- Small land consumption
- Personal vs. Social Interest
- Tension btw landlords vs. tenants
- Tension btw selected vs. non-selected

**Sprawl and/or Chaotic Over-crowd**
Not sustainable

**Compact**
Transit-Oriented
Eco-Friendly

Figures from UN-HABITAT (2013)
Which one is greener?

(a)

(b)

Total CO₂ emissions versus urban population rate in emerging markets (1980–2010, 5-year intervals)

Source: World Bank Development Indicators, Population Division of Department of the Economic and Social Affairs of the United Nations Secretariat, Credit Suisse

Emissions from transportation (public and private) versus population density for US metropolitan statistical areas

Source: US Census Bureau 2000 Census, Credit Suisse
### Scenario 1

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Family size</td>
<td>5</td>
</tr>
<tr>
<td>Dwellings</td>
<td>200,000</td>
</tr>
<tr>
<td>Dwellings size</td>
<td>60m²</td>
</tr>
<tr>
<td>Residential Floor Area</td>
<td>12,000,000m²</td>
</tr>
<tr>
<td>Other Floor Area</td>
<td>10,000,000m²</td>
</tr>
<tr>
<td>Total Floor Area</td>
<td>22,000,000m²</td>
</tr>
<tr>
<td>FAR</td>
<td>3.0</td>
</tr>
<tr>
<td>Plot Area</td>
<td>733 ha</td>
</tr>
<tr>
<td>Public Area</td>
<td>733 ha</td>
</tr>
<tr>
<td>Total Area</td>
<td>1,467 ha</td>
</tr>
<tr>
<td>Population Density</td>
<td>681.82 people/ha</td>
</tr>
<tr>
<td>Residential Density</td>
<td>136 dwellings/ha</td>
</tr>
</tbody>
</table>

### Scenario 2

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION</td>
<td>1,467</td>
</tr>
<tr>
<td>Public Area</td>
<td>1,467</td>
</tr>
<tr>
<td>Total Area</td>
<td>2,933</td>
</tr>
<tr>
<td>Population Density</td>
<td>340.91 people/ha</td>
</tr>
<tr>
<td>Residential Density</td>
<td>68 dwellings/ha</td>
</tr>
</tbody>
</table>

### Scenario 3

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAR</td>
<td>0.2</td>
</tr>
<tr>
<td>Plot Area</td>
<td>11,000 ha</td>
</tr>
<tr>
<td>Public Area</td>
<td>11,000 ha</td>
</tr>
<tr>
<td>Total Area</td>
<td>22,000 ha</td>
</tr>
<tr>
<td>Population Density</td>
<td>45,45 people/ha</td>
</tr>
<tr>
<td>Residential Density</td>
<td>9 dwellings/ha</td>
</tr>
</tbody>
</table>

Source: UN-HABITAT (2013)
Invisible Beauty of Seoul: Green by “Proactive” Urban Planning
Walkable City

Spatial Framework (Land Use, Density, Location, Public Space) does matter

Source: UN-HABITAT (2013)
Making a plan for sustainable future development 1962-1965

MASTER PLAN 1980
Began with Urban Planning
Seoul Metro Area Master Plan (1965)

Visioning the future:
Time, space, people, scope were not limited by then situation as was the future growth

7 New Towns
## 7 New Towns

*(unit: 1,000 persons, km\(^2\))*

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pop. Plan</td>
<td>Area</td>
<td>New Town</td>
</tr>
<tr>
<td>Eunpyung</td>
<td>400</td>
<td>7.6</td>
<td>Eunpyung</td>
</tr>
<tr>
<td>Sungin</td>
<td>400</td>
<td>14.9</td>
<td>Miah</td>
</tr>
<tr>
<td>Mangwoo</td>
<td>150</td>
<td>6.9</td>
<td>Cheongryangri</td>
</tr>
<tr>
<td>Cheonho</td>
<td>300</td>
<td>8.6</td>
<td>Cheonho</td>
</tr>
<tr>
<td>Yungdong (Gangnam)</td>
<td>600</td>
<td>59.0</td>
<td>Yungdong(Gangnam)</td>
</tr>
<tr>
<td>Yungdungpo</td>
<td>800</td>
<td>8.6</td>
<td>Yungdungpo</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Gimpo</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,650</strong></td>
<td><strong>105.7</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

*Source: Kwon (2013)*
Gangnam was a New Town outside Seoul

Expansion of Boundaries

- Seoul doubled its administrative area in 1963 to resolve the urban problems, including southern area of Han river (In Korean, Gang means river and Nam means south)

<table>
<thead>
<tr>
<th>Date</th>
<th>Area (km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1946. 10. 18</td>
<td>136.00</td>
</tr>
<tr>
<td>1949. 08. 13</td>
<td>288.35</td>
</tr>
<tr>
<td>1963. 01. 01</td>
<td>613.04</td>
</tr>
<tr>
<td>1973. 07. 01</td>
<td>627.06</td>
</tr>
<tr>
<td>1988. 01. 01</td>
<td>605.40*</td>
</tr>
</tbody>
</table>

*the area did not shrink, but was merely readjusted by survey
Urban Transportation

Plan in 1965

Construction
Line #1 1971-1974
Line #2 1978-1984

Bus Reform with Single-fare System launched in 2004

Trunk / Feeder Lines
Circular Lines
Inter - Regional Lines
Urban Environment
Transforming to Circular Metabolism - Nanji

1980’s

2000’s

Sewage → Gas → Purification → Electricity
Dry Pallet

Fig. 5. The 'metabolism' of cities: towards sustainability (adapted from Girardet [3,4] and Rogers [6]).
Land Readjustment and New Towns

HOW TO REALIZE
Farmland Consolidation (FC), and we directly borrowed the idea and regulation of FC for urban LR. Specifically FC tries to make ① one side of the rice paddy should be road accessible so the produce can be distributed easily, ② the size and shape of the divided sections should be properly set-up for the efficient use of farm machinery, ③ the rice paddy should be dried easily for the effective use of farm machinery, ④ every section should be accessible through irrigation/drainage canals, ⑤ consolidate fragmented or scatted farm lands into a larger one.

① FC improved the productivity of farmland because farmland could get a sufficient and stable water supply from irrigation system and a good accessibility from roads and their link of farm land, ② FC decreased the need of labor input, partly thanks to labor efficiency with more machinery, which lead to free up labors for other economic activities, ③ FC built a protection against flood and natural disasters, ④ FC brought indirect effects including the enhancement of farmers’ hope and desire for better life and public interests in environmental conservation and prevention of natural disasters. For example productivity had increased by 5.4 %, labor decreased by 32.8 %, production cost decreased by 14.3 % (Korea Government, 1999).
Land Readjustment: Transforming Land Valuable
Build Together, Benefit Together (BT2)

Before
Gangnam Average Land Price 1,300 W/m²

Land Owner
Before: Area 1 m² & Price 1,300 W
After: Area 0.6 m² & Price 6,200 W

After
Price increased by 7.5 times to 9,750 W/ m²

1,300 W/m²

6,200 W 63.2%

9,750 W/m² 36.8%
Transforming Land into Sustainable Urban Land

*Road* is not only surface for cars but also artery (public space for public services) for a city.

Water, Sewage, Energy, Gas, Electricity, Communication, Heat, Cooling, Subway, etc.
Securing Public Space and Change Spatial Structure (without money and compulsory displacement)

**Land Use**

- Residential: 57.8%
- Re-sale (private): 7.0%
- Road: 22.7%
- School: 2.1%
- Green: 0.4%
- Etc.: 10.0%

**Contribution Rate: 34.4%**

**Income**

- 가계 486,000
- 기타 4,000

**Expenses**

- 가계 447,630
- 기타 35,000

*채비지매각대로 충당*
Contribution Rate

- Contribution Rate ranges from 39.1% to 68.3%
- Rate of Land for Sale (part of contribution) was 13.5% on average
- Revenue from land sale was a key public financial resource for infrastructures and development
- Public infrastructure and facilities can be located in right places

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Land Sold</th>
<th>Contribution Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950.12</td>
<td>5.5</td>
<td>37.4</td>
</tr>
<tr>
<td>1950.12</td>
<td>52.7</td>
<td>39.2</td>
</tr>
<tr>
<td>1950.12</td>
<td>5.5</td>
<td>40.6</td>
</tr>
<tr>
<td>1950.12</td>
<td>23.1</td>
<td>41.3</td>
</tr>
<tr>
<td>1950.12</td>
<td>14.4</td>
<td>42.1</td>
</tr>
<tr>
<td>1950.12</td>
<td>10.5</td>
<td>43.4</td>
</tr>
<tr>
<td>1950.12</td>
<td>1.4</td>
<td>44.8</td>
</tr>
<tr>
<td>1950.12</td>
<td>134.079</td>
<td>461.949</td>
</tr>
<tr>
<td>1950.12</td>
<td>2,945.372</td>
<td>4,320.949</td>
</tr>
<tr>
<td>1950.12</td>
<td>700.832</td>
<td>5,320.949</td>
</tr>
<tr>
<td>1950.12</td>
<td>996.888</td>
<td>3,958.025</td>
</tr>
<tr>
<td>1950.12</td>
<td>3,050.236</td>
<td>3,958.025</td>
</tr>
<tr>
<td>1950.12</td>
<td>114.149</td>
<td>3,958.025</td>
</tr>
<tr>
<td>1950.12</td>
<td>263.698</td>
<td>3,958.025</td>
</tr>
<tr>
<td>1950.12</td>
<td>2,331.121</td>
<td>3,958.025</td>
</tr>
</tbody>
</table>

Source: 이옥희 (2006), 서울 강남지역 개발과정의 특성과 문제점, 한국도시지리학회지
- 140㎢ (40% of Urban Area in Seoul) developed through Land Readjustment

<table>
<thead>
<tr>
<th></th>
<th>Sum</th>
<th>By Gov't</th>
<th>By Association</th>
<th>By Housing Corp</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Sites</td>
<td>58</td>
<td>51</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Area(㎢)</td>
<td>140</td>
<td>131.2</td>
<td>5.8</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg</td>
<td>19.8</td>
<td>19.4</td>
<td>13.8</td>
<td>7.0</td>
<td>6.2</td>
<td>6.3</td>
<td>4.4</td>
<td>7.4</td>
</tr>
<tr>
<td>Public</td>
<td>19.8</td>
<td>19.4</td>
<td>13.8</td>
<td>7.0</td>
<td>6.5</td>
<td>6.3</td>
<td>4.2</td>
<td>8.3</td>
</tr>
<tr>
<td>Assoc.</td>
<td>19.8</td>
<td>19.4</td>
<td>13.8</td>
<td>5.7</td>
<td>5.6</td>
<td>6.8</td>
<td>4.5</td>
<td>5.6</td>
</tr>
</tbody>
</table>

출처: 토지구획 정리사업의 고찰과 개선방안, 김동욱, 국토연구원
자료: 건설교통부 도시관리과(1995. 6. 현재)
Gangnam Development

- Envisioning vs. Forecasting
- 30 years of development from an idea to completion

Source: Lee (2006)
Grid is important
Consolidate or Co-development
Government Planning and Private Development

Urban Planning: Vision, Framework and Process

1972년
1976년
1980년
1987년
1988년
1995

출처: 서울연구원 (2009)
출처: 서울시 (2013)
Gangnam Development

Phasing Issues due to Financing

AID 아파트 미국 국제개발처 (AID) 자금을 들여와 논현동과 삼성동에 아파트를 지어 분양함

▲ 1971. 12. 28 공무원아파트 준공 (자료 : 국가기록원)
Virtuous/Vicious Cycle of Land Value Creation

Source: UN-HABITAT (2013)
Achievements

- Set *Land Use Framework* as the Ground of Future Growth
- Secure *Public Space* for *Public Services* (e.g., Transit, Water)
- Set *Growth Limit* for Protecting Nature from Sprawl and Citizens from Disasters (e.g., Flood)
- Provide *Urban Land and Infrastructures* for the Life, Work, and Play of Citizens

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Thousand)</td>
<td>5,509</td>
<td>7,150</td>
<td>7,500</td>
</tr>
<tr>
<td>Income per cap (KRW)</td>
<td>138,810</td>
<td>189,580</td>
<td>268,240</td>
</tr>
<tr>
<td><strong>Urban Land (㎢)</strong></td>
<td>130</td>
<td>201.7</td>
<td>261.7</td>
</tr>
<tr>
<td>Housing (Unit)</td>
<td>593,370</td>
<td>863,970</td>
<td>1,300,000</td>
</tr>
<tr>
<td>Hosing Supply Rate (%)</td>
<td>56.8</td>
<td>56.3</td>
<td>56.1</td>
</tr>
<tr>
<td>Housing Area per cap (㎡)</td>
<td>6.8</td>
<td>8.2</td>
<td>10.1</td>
</tr>
<tr>
<td>Water Prod (10T t/day)</td>
<td>111</td>
<td>210</td>
<td>302</td>
</tr>
<tr>
<td><strong>Road Area (㎢)</strong></td>
<td>34.85</td>
<td>44.57</td>
<td>55.69</td>
</tr>
<tr>
<td>Road Rate (%)</td>
<td>9.5</td>
<td>12.0</td>
<td>15.0</td>
</tr>
<tr>
<td>No. of Cars</td>
<td>61,000</td>
<td>170,000</td>
<td>315,000</td>
</tr>
<tr>
<td>Subway (km)</td>
<td>-</td>
<td>26.5</td>
<td>64.0</td>
</tr>
<tr>
<td>Green/Park per cap (㎡)</td>
<td>4.04</td>
<td>5.73</td>
<td>6.60</td>
</tr>
</tbody>
</table>

*Pop in 1960: 2.45 M*
5 New Towns in 1990’s

In the late 1980s, as the situation of housing shortages became worse and the existing available land for large-scale urban development was nearly exhausted, the population began to spillover beyond the green belt. Faced with limitations in land supply for urban development, the central government began to build several new towns in the Seoul Metropolitan Region including Bundang in Sungnam, Ilsan in Goyang, Pyeongchon in Anyang, Sanbon in Gunpo, and Jungdong in Bucheon.

<table>
<thead>
<tr>
<th>1st Phase</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>50 Km²</td>
</tr>
<tr>
<td>Pop</td>
<td>1.2 M</td>
</tr>
<tr>
<td>Housing</td>
<td>292,000 (Condo 281,000)</td>
</tr>
</tbody>
</table>
## Land Use Plan

[unit: thousand m², %]

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>%</th>
<th>Bundang</th>
<th>Ilsan</th>
<th>Pyung-chon</th>
<th>Sanbon</th>
<th>Jung-dong</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>50,140</td>
<td>100.0</td>
<td>19,639</td>
<td>15,736</td>
<td>5,106</td>
<td>4,203</td>
<td>5,456</td>
</tr>
<tr>
<td>Residential</td>
<td>17,230</td>
<td>34.4</td>
<td>6,350</td>
<td>5,261</td>
<td>1,931</td>
<td>1,811</td>
<td>1,877</td>
</tr>
<tr>
<td>Commercial</td>
<td>3,866</td>
<td>7.7</td>
<td>1,640</td>
<td>1,233</td>
<td>247</td>
<td>178</td>
<td>568</td>
</tr>
<tr>
<td>Public</td>
<td>29,044</td>
<td><strong>57.9</strong></td>
<td>11,649</td>
<td>9,242</td>
<td>2,928</td>
<td>2,214</td>
<td>3,011</td>
</tr>
<tr>
<td>Road</td>
<td>10,388</td>
<td>20.7</td>
<td>3,860</td>
<td>3,290</td>
<td>1,187</td>
<td>639</td>
<td>1,412</td>
</tr>
<tr>
<td>Green</td>
<td>9,548</td>
<td>19.0</td>
<td>3,810</td>
<td>3,705</td>
<td>801</td>
<td>649</td>
<td>583</td>
</tr>
<tr>
<td>Gov't</td>
<td>676</td>
<td>1.3</td>
<td>166</td>
<td>92</td>
<td>150</td>
<td>100</td>
<td>168</td>
</tr>
<tr>
<td>School</td>
<td>2,402</td>
<td>4.8</td>
<td>732</td>
<td>584</td>
<td>343</td>
<td>327</td>
<td>416</td>
</tr>
<tr>
<td>Etc.</td>
<td>6,030</td>
<td>12.0</td>
<td>3,081</td>
<td>1,571</td>
<td>447</td>
<td>499</td>
<td>432</td>
</tr>
</tbody>
</table>
Urban Development Protects Environment

Bundang
Seoul – Smart and Sustainable City

Chengguyecheon (stream) Restoration

URBAN REGENERATION
Target sector of Cheonggyecheon restoration
Cheonggyecheon Elevated Highway
Rising Congestion and Its Cost

- Decreasing Average Travel Speed: 30.8 km/h in 1980 -> 13.6 km/h in 2004
- Increasing Socio-economic congestion cost: over KRW 7 trillion in 2007 (five times that of 1991)
Regeneration by Creative Economy

Industrial Economy: Quantity and Efficiency

Decline

Creative Economy: People and Nature

Cheonggyecheon

Time Line:
- 1M: Drainage, Sewage, Road
  - Flood prevention (dredge)
  - Urban sanitation
  - 1958 Cover and road construction
- 10M: Change of Atmosphere in Seoul
  - Cheonggyecheon re-creation plan in earnest
- 2000: Downtown Management Plan
  - 1990: 600th anniversary of the establishment of Seoul as the Capital (1994)
  - Namsan park rehabilitation project (1991)
- 2004: Downtown Development Plan
  - 2003: Cheonggyecheon Restoration Project
- 2005: Cheonggyecheon Opening
- 2010: ‘New’ Urban Plan
- 2014: Cheonggyecheon Eco Stream Restoration Plan

Waterfront Park
Strategy: Public-Private Competitive Collaboration
Green: Env. Sustainability

Fish
- 4 to 15 to 25 species

Birds
- 6 to 34 to 36 species

 Thermal Images, September 8, 2005

  Classroom
  New Street
Growth: Competitive City

New Developments

Land Price Increase

Office Rent Increase

Usage Changes: 44 during 2002~2005년; 895 during 2006~2009년
Urban Regeneration through Cheonggyecheon Restoration
Diverse Concerns and Importance of Leadership
Set off Public Transportation Reform and Switch Citizens’ Behavior
CONCLUDING REMARKS
What Urban Planning does?

Old Days
Few People, Low Density

Activity
Building

Nature / Community & Society

Much freedom of individuals in land use and location is acceptable.
What Urban Planning does?

Old Days: Few People, Low Density
Today: Many People, High Density

Activity
Building
Neighborhood
District
(Transit, Water, etc.)
(Energy, Waste, Internet, etc.)
Infrastructure
Urban Planning
(Spatial Framework; Land Use in order)
Nature / Community & Society

private
seen
unseen

What we can see is the tip of an iceberg
What we cannot see is crucial for sustainability of community

We need an interface between individual right of freedom and sustainable development of city community – planning.
Smart and Sustainable Urbanization

• With rapid growth of cities; proper urbanization planning (including infrastructure) is required

• “Urban planning is not about images but is a way to make a difference; it is a framework that helps cities transform a vision into reality using space as a key resource for development and engaging stakeholders along the way.” (UN-HABITAT, 2013)

• Urban planning is an important tool for cities to achieve sustainable development.

• Leadership is crucial.
Smart and Sustainable Urbanization
Economic Growth, Social Inclusiveness, and Environmental Health
Three Major Problems and Corresponding Goals

- Poverty / Low Productivity
- Pollution
- Inequality

- Growth
- Green
- Justice

How to use Land, a key resource / Right Urbanization
Three plus One (3+1) Goals
Innovative Synthesis among 3 goals and Public-Private Competitive Collaboration

Three goals can conflict with each other. This demands innovative solutions and urban planning for a quality synthesis.

Three parties can conflict with each other. This demands leadership and mutual learning.
Action without Vision is only passing time, Vision without Action is merely day dreaming, but Vision with Action can change the world.

Dream don’t work, unless YOU DO.

– Nelson Mandela–

2015. 4.

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Professor of Urban and Regional Planning, University of Seoul
Former Director-General of International Urban Development Collaboration, Seoul Metropolitan Government
mkangcity@gmail.com
Individual vs. Collective Urban
Housing shortage and Low Quality of Living

Cheonggyecheon Informal Settlements circa 1960

▲ 60년대 청계천 판자촌

사진출처: 서울역사박물관, 2011, 강남 40년 영동에서 강남으로
Effects: Three plus One (3+1) Goals

- Provides flood protection for up to a 200-year flood event and can sustain a flow rate of 118mm/hr.
- Increased overall biodiversity by 639% between the pre-restoration work in 2003 and the end of 2008 with the number of plant species increasing from 62 to 308.
- Reduces the urban heat island effect with temperatures along the stream 3.3° to 5.9°C cooler than on a parallel road 4-7 blocks away.
- Reduced small-particle air pollution by 35% from 74 to 48 micrograms per cubic meter.
- Contributed to 15.1% increase in bus ridership and 3.3% in subway ridership in Seoul between 2003 and the end of 2008.
- Increased the price of land by 30-50% for properties within 50 meters of the restoration project.
- Attracts an average of 64,000 visitors daily.
- Increased citizens’ annual economic value of a natural stream from KRW 20,226 (before) to KRW 37,724 (after) per household.

- Innovative Synthesis of three goals, beyond sectoral optimization.
- One City, One Goal, and One Planning, for one urban optimization.