Toward a Sustainable Community through Campus Planning and Town-Gown Partnerships

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First Chair, Campus Planning Committee
Chair, Urban Planning Committee, AIJ

Architectural Institute of Japan, Campus Planning Committee
AIJ : Architectural Institute of Japan

• Only Academic Organization of Comprehensive Architecture in JAPAN
• Established in 1886
• Number of members : 35,000

Campus Planning Committee

• Established in 1998 as Academic Platform for Campus Planning
• Research on 127 Campus Master plans throughout the world
• Academic Discussion with 35 Foreign Universities
• Publication :
  Campus Management Handbook, 2004
  Community Development through University-Region Partnerships, 2008
• Proposal on Campus Planning to MEXT (Ministry of Education, Culture, Sports, Science and Technology), 2008
Outline of Presentation

1. Present Situation of Universities in Japan
2. Review of Campus Master Plan from Viewpoints of “Sustainability”
3. Town-Gown Partnerships for Sustainability
4. Universities’ Roles for Growing Megalopolis in Asia
1 Present Situation of Universities in JAPAN

Population 127.7 million
The Number of Students 2.8 million

- Decrease in Government Funding
- Growing Competition for Enrollment

Administrative Cost of National University 1% Cut-down Every Year

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1 Present Situation of Universities in JAPAN

Until Now
Place Marking Plan and Building Design

- Upgrade and High-quality of Facilities
- Long Range Development Plan
- Facility Management

From Now
Sustainable Campus Planning and Management

- Level 1: Components of Campus
- Level 2: Campus as a Whole
- Level 3: Campus and Surrounding Communities
- Level 4: University and Region

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1 Present Situation of Universities in JAPAN

Need of Campus Master Plan

to demonstrate ----

1. Establishment and Manifestation of University’s Missions and Visions
2. Presentation of Components and Accomplishments by Public Investment to Universities
3. Conformity between Principles and Targets toward University Reform
4. Declaration of Initiatives, Strategies and Responsibilities by Top Executives
5. Clarification of University’s Will for Inducing Private Funding
6. Rationales for Raising Donations
7. Substantiation of Social Contribution and Cooperation
8. Accountability for Decision-Making and Priority-Setting in Campus Management
Mission of Campus Planning

Campus Plan needs to show ----

1. Visions of Campus Representing University’s Goals and Objectives
2. Long-term and Sustainable Framework Plan
3. Integration of Academic Plan and Management Strategies
4. Rationales for Backing up Action Plan
5. Linkages to Med-Term Goals and Plans for University
6. Guidelines for Evaluating and Utilizing University’s Resources and Attributes
7. Policies for Managing Facilities and Environment on Campus
8. Implementation Strategies and Management Systems
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2 Review of Campus Master Plan from Viewpoints of “Sustainability”

Toward Carbon Free

Kyoto Protocol

- Over-concentration of Population in Metropolitan area
- Aged Society
- Low Birth-rate
- Population Decrease

Present Situation of Local Cities

- Decline of Local Cities
- More Serious Population Decrease
  - Many Vacant Stores
  - Abandoned Farmland

In Local Cities, University’s Role is becoming extremely important.
Many Universities with Beautiful Campuses in JAPAN

- **Hokkaido University**
- **The University of Tokyo**
- **International Christian University**

**But...**
- there are few Universities which has Campus Master Plan

**Furthermore...**
- there are extremely few Campus-towns in Japan
2 Review of Campus Master Plan from Viewpoints of “Sustainability”

Good Practices of Universities in JAPAN

- Architectural Institute of Japan, Campus Planning Committee

Hokkaido University

Campus Master Plan

The 1st Campus Master Plan in Japan (1996)

Focusing on

- Eco Campus
- Green Building
- Open Space Network
- Car Free Zone
Good Practices of Universities in JAPAN

The University of Tokyo

Todai Sustainable Campus Project (TSCP)

Collaboration with society
- Model case of LCS
- Feedback of research results and application
- Scaling-up

Monitoring and optimal control of demand and supply

Co-evolution of TSCP

Low Carbon Campus
By energy saving and renewable energy production

http://www.tscp.u-tokyo.ac.jp/en/
2 Review of Campus Master Plan from Viewpoints of “Sustainability”

Good Practices of Universities in JAPAN

Nagoya University

• FM Consortium of Universities Initiative
• Benchmarking of National Universities

A University includes City Function.

Comprehensive Energy Management

- Site Area: 697,276m²
- Total Floor Space: 424,592m²
- Number of Buildings: 244 buildings
- Population in Campus: 21,150 persons

- Contract Demand for Electricity: 15,900 kW
- Total Power: 74,300 MWh
- Natural Gas Usage: 24.3 million m³
- Water Usage: 597,900 m³
- CO₂ emissions: 46,600 t

- Budget of Univ.: 88.8 billion YEN
- Charge for Energy: 2.4 billion YEN
2 Review of Campus Master Plan from Viewpoints of “Sustainability”

Good Practices of Universities in JAPAN

Kyushu University

Kyushu University Hydrogen Project
For establishing Model Hydrogen Society

Hydrogen Campus Project

http://www.mech.kyushu-u.ac.jp/h2/english/

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3 Town-Gown Partnerships for Sustainability

1. Physical Attributes of Campus as Environmental Resources to Enhance Sustainability of Community

2. Intellectual and Human Resources of University to Contribute to Sustainability of Community

3. University Campus as an Experimental Bed to Demonstrate Sustainability of Community
Town-Gown Partnerships for Sustainability

Town-Gown Partnerships to Enhance Sustainable Regional Community

The Space Model Between Town and Gown (University)
Making Compact City by Distributed Campus

University has no direct contact with Town
University is hard to contact with Town
Direct Contact with Town by Environmental Power of University
Japanese university sets ISO 14001 example for education sector
Not only the smokestack industries pollute – universities do too. So Chiba University in Japan set about reducing the environmental impact of chemical waste from laboratory experiments, plus waste and energy use from everyday campus life, by implementing an ISO 14001-certified EMS. (ISO Management Systems, January - February 2006)

Town-Gown Model utilizing EMS & FM in Campus

- Student Initiatives on EMS
- EMS open to the local community with reflection of their opinions.

http://www.chiba-u.ac.jp/e/about/environmental_policy_e.pdf
3 Town-Gown Partnerships for Sustainability

Good Practices of Universities in JAPAN

International Campus Town Initiative in Kashiwa-no-ha

- Chiba Prefecture
- City of Kashiwa
- The University of Tokyo
- Chiba University
- Urban Design Center
- Tsukuba Express

Area Management by Private- Public-Academia Partnerships

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The G8 University Summit
at Hokkaido Univ. (Sapporo)  June 29 ~ July 1, 2008

Sapporo Sustainability Declaration (SSD)

<table>
<thead>
<tr>
<th>Joint Affirmations and Actions for Sustainability</th>
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<tbody>
<tr>
<td>1. The importance of sustainability.</td>
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<tr>
<td>2. Sustainability issues have become urgent political concerns.</td>
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<td>3. The responsibility of universities.</td>
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<td>4. The need to restructure scientific knowledge.</td>
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<td>5. The need for a network of networks.</td>
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<td>6. The need for &quot;knowledge innovation.&quot;</td>
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<td>7. The role of higher education for sustainability</td>
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<td>8. The function of the university campus as an experimental model.</td>
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</tbody>
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||Our Commitments
||Proposal to the G8 Leaders Summit 2008

Architectural Institute of Japan, Campus Planning Committee
Universities’ Roles for Growing Megalopolis in Asia

Megalopolis in the world

(10 million people or more 1950-2025)

<table>
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<tr>
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<th>1975</th>
<th>2000</th>
<th>2025</th>
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<tr>
<td>World</td>
<td>2</td>
<td>3</td>
<td>16</td>
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Architectural Institute of Japan, Campus Planning Committee
4 Universities’ Roles for Growing Megalopolis in Asia

Promotion of International Cooperation between ISCN and CPC/AIJ

- International Sustainable Campus Network (ISCN / EU)
- Campus Planning Committee, Architectural Institute of Japan (AIJ)

1. Sustainable construction, renovation, and campus operation
2. Sustainable campus master planning, development and community integration
3. Linking facilities, research and education for sustainable development

1. Sustainable Campus Planning considering Native Culture, Climate and Population Density
2. Shearing Experience in Asia
3. Sustainable Planning and Redevelopment through Town-Gown Partnership

Organizing Working Group for An Asian Model of Sustainable Campus & Community
For Further Information

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I would like to thank you all.