

Sustainable Urban Management under the Heavy Population Concentration

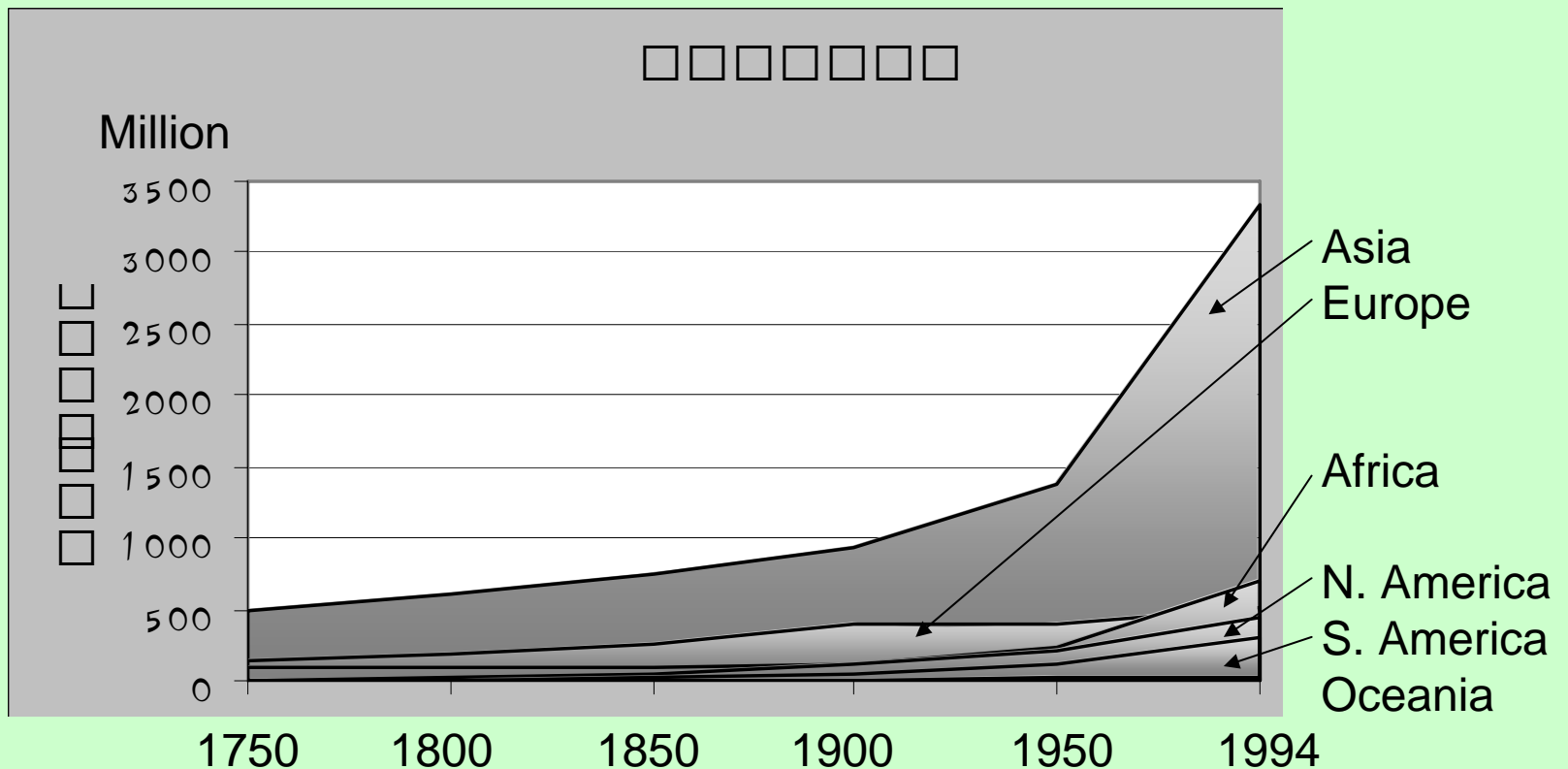
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1 Introduction

We are facing great urbanization wherever in the world and sustainable urban management is one of the most important issues in the 21st century. **We must have a reliable strategy to keep the sustainable urban management in such a heavy urbanization.**

According to the statistics of UN, world population is already over 6.5 billion and may reach to 9 billion in the middle of the 21st century.



Urban population among them would be about half. This means that the urban population at present would be about 3 billion and will increase up to 4.5 billion within 50 years since now.

This will be the increase similar to that of Japan between 1960 and 2000.

Japanese newly urbanized population between 1960 and 2000 was about 40 million and urban population in Japan was doubled during this term.

The proportion of urban population was about 44% in 1960 and 65% in 2000.

This paper will show the Japanese experience of these 40 years and will show the way what the rapidly urbanizing areas should do in coming 40 years.



2. Outline of national and urban management

The Japanese cabinet decided the first National Development Plan in 1962, and promoted the industrial development in 21 local areas of the country. Before that, Japanese industrial areas were concentrated in Tokyo, Nagoya, Osaka and Kitakyushu regions, so called Tokaido and Sanyo axis extending for about 1000km. New plan proposed to develop the other areas by means of the construction of new marine ports, airports and highways together with the huge area development of industrial sites.

On the other hand, for example, Tokyo region accepted nearly half a million population increase every year. Municipalities within Tokyo region faced rapid urbanization and struggled by the shortage of houses, roads, water supply, telephone lines, schools and hospitals.

Governments made great efforts to construct highways, railroads, dams, sewage system, telephone lines, primary and junior high schools, hospitals and big new towns.

Private fields supplied houses, apartments (so called rabbit house because of the small size), private railways, shopping centers and other various services.

-  新産業都市区域
-  工業整備特別地域



**Newly
Assigned
Development
Area**

**Traditional
Development
Area**

Japan revised the National Development Plan in 1969 and decided the construction of 7,000km of Shinkansen (bullet train) and 14,000km of national expressway network and high grade sea and air ports all over the country.

The finance for these projects was covered mainly by the loan from the World Bank, gasoline tax, postal savings and reserved land de-accession of Kukakuseiri (land readjustment).

**In the middle of 1970's
the population migration was stabilized and
the national economy growth rate was also
lowered to the single digits.**

The third National Development Plan was decided in 1977 and directed to the slower development and put more importance on environmental protection. Japanese manufacturers invested huge amount of money for the purpose of environmental protection and realized the world top-level cleanness.

Growth of population and economy (Thousand & %)

Year	National Population ¹⁾	Urban Population ²⁾	Tokyo Region Population ³⁾	Economy Growth Rate ⁴⁾
1960	94,302	40,830	15,788	-
1970	104,665	55,997	21,953	10.0
1980	117,060	69,935	26,343	4.4
1990	123,611	78,152	29,200	4.1
2000	126,926	82,810	30,724	1.4

1) National Population Census

2) The population of densely inhabited district (“densely” means equal or over 40 persons/ha and a group population should be equal or over 5000)

3) The population within 50 km radius from central Tokyo

4) Average of national annual growth rate of last 10 years

Four decades of national background

(1) 1961-70

This decade showed high economy growth, rapid urbanization and heavy population concentration in Tokyo region. Japan was enjoying her strong development and managed Tokyo Summer Olympic Games in 1964 and Osaka World Exposition in 1970. The first Shinkansen operated in Tokaido Route and four big subway systems in Tokyo namely Hibiya Line, Tozai Line, Toei Asakusa Line and Chiyoda Line were completed during these 10 years.

National expressways and urban expressways were also completed in many sections around the country. Runways of many airports were extended to 2000, 2500 or 3000 meters in order to accept jet airplanes. Many seaports were modernized to accept container ships and large tanker ships.

The data of newly started **land readjustment projects** of this decade were not obtained but guessed to be about **2,500 project sites and 800 square kilometers** in total area. This area is good for about 8 million inhabitants and meets the half of the demand of newly urbanized population of 15 million.

Another big change of this decade was the **revision of City Planning Law in 1968**. This new law introduced the **public involvement** process and development permission system in city planning and divided the city planning area into urbanization promotion area and urbanization control area. Control area is the area for the future development and should be strictly conserved for the time being.

In 1967, people in Metropolitan Tokyo chose innovative governor Mr. Minobe and many of the big projects faced difficulty to continue. This stream of stopping the projects gradually spread widely over the country.

Leading personal consumption in this decade was **housing, domestic electrification and private cars.**

(2) 1971-1980

Japan faced **big changes in this decade**. Environmental Protection Agency of Japanese government was established in 1972, **foreign money exchange rate was floated in 1973**, oil producing countries declared the sudden hike of oil price in the same year, and so on. **Economy growth rate was dropped from 12% in 1969 to minus 0.5% in 1974**. Prime Minister Mr. Tanaka, one of the powerful leaders for national development, was arrested for his Lockheed scandal in 1976.

In this dark atmosphere of this decade, Japan tried to invest in fundamental infra-structures and environmental protection devices. Industrial dark smoke changed into white one and exhaust gas of automobiles cleaned. Waste water treatment was quickly advanced and river water became clean gradually. While the economy growth was stabilized, Japan could build up these kinds of social stock.

But the population urbanization and concentration to Tokyo region were still continued in the beginning half of the decade and Japan got new urban population of 14 million of country total and 4.5 million in Tokyo region. Additional 4 lines of subway system in Tokyo were came into operation. They are Yuracho Line, Toei Mita Line, Hanzomon Line and Toei Shinjuku Line.

Newly started land readjustment projects in 1975 was quickly dropped to 50 square kilometers from 109 in previous year.

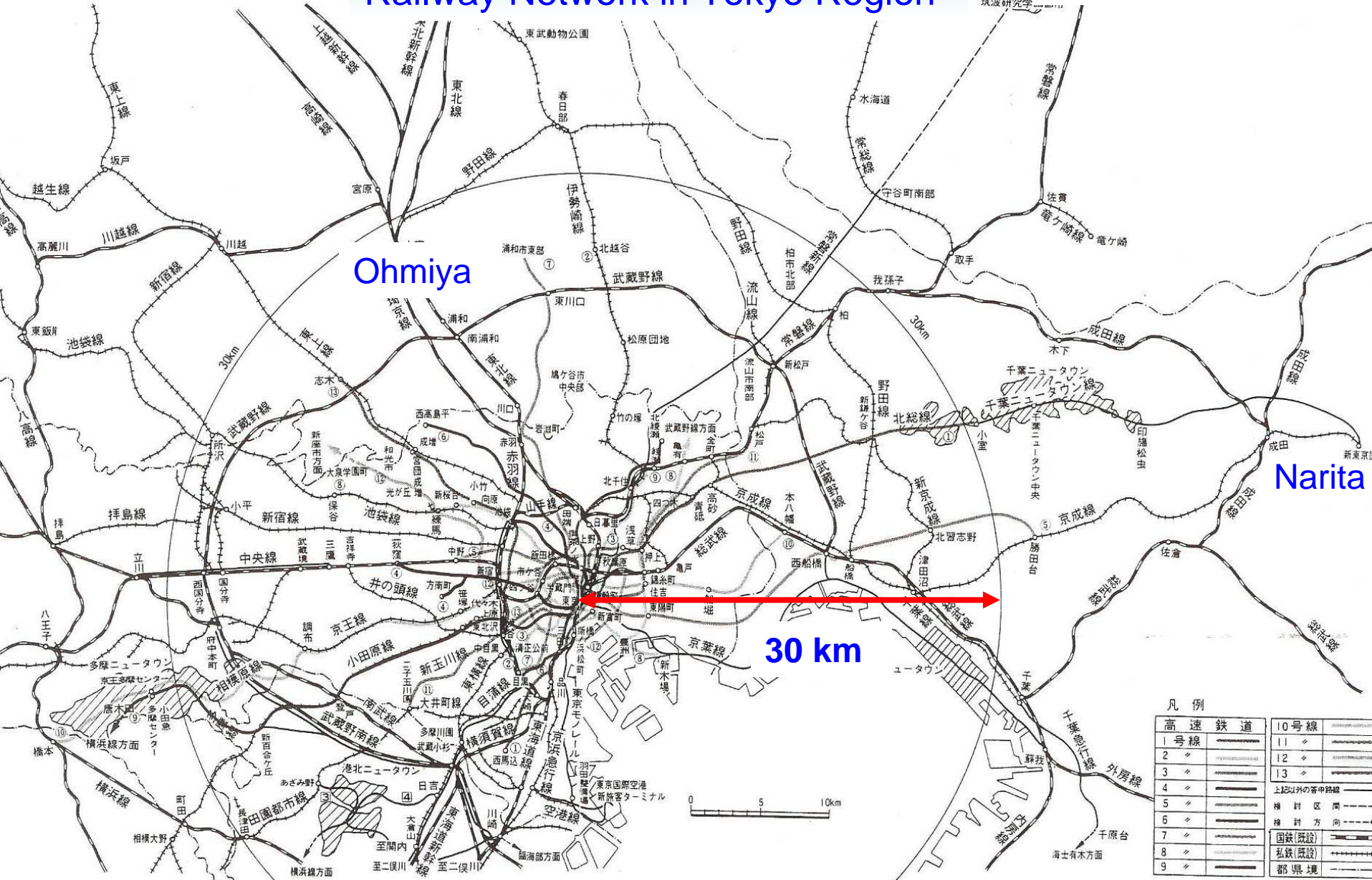
Total area of newly started land readjustment projects of this decade in Japan was 2,700 sites and 834 square kilometers. The latter half of the decade was almost half of the beginning half.

These are good for about 8 million new urban population.

Leading personal consumption in this decade was still not so different from previous decade. Many Japanese started to enjoy oversea travel under the deregulation of exchange control.

Railway Network in Tokyo Region

Tsukuba



Ohmiya

Narita

30 km

Yokohama

凡例

高速鉄道		10号線
1号線	11	
2	12	
3	13	
4		上記以外の各路線
5		検討区間
6		検討方向
7		国鉄(策設)
8		私鉄(策設)
9		都県境

Time Table of 8:00-9:00 AM

Odakyu Railway Line

Time table of Shin-yurigaoka Station (in the middle) between 8:00 AM and 9:00 AM, Inbound

One train consists of 10 cars and the capacity of a car is about 150 passengers.



1	4	7	8	10	14	15	17	20	24	29	31	35	38	43	47	48	51	55	57
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Tokyu Den-en-toshi Railway Line

Time table of Tama-plaza Station (in the middle) between 8:00 AM and 9:00 AM, Inbound

One train consists of 10 cars and the capacity of a car is about 150 passengers.



2	4	6	10	13	15	19	21	23	26	27	30	32	34	38	41	45	47	50	55	57
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Table 1

Kawasaki's Output of Sulfur Dioxide

Year

Output by ton per year

1973

45,879

1976

11,781

1986

2,462

1996

1,389

Table 2

Kawasaki's Output of Nitrogen
Dioxide

Year

Output by ton per year

1974

28,554

1976

23,217

1986

12,521

1996

11,821

Year	Output by ton per year
1974	28,554
1976	23,217
1986	12,521
1996	11,821

Table 3	Kawasaki's Output of Floating Soot
Year	Output by ton per year
1976	2,688
1986	724
1996	564

(3) 1981-90

This decade started just in the dark atmosphere after oil shock and environmental problems of previous decade. Land Readjustment Law was revised in 1982 and introduced new urban renewal method by former Housing and Urban Development Corporation. Dockland in Yokohama City, so called MM21, was developed by this new method. Many big projects were proposed or completed in these years as Tokyo Disney Land opened in 1983. Those days were the last chance in Japan to propose new big development projects. Since then, urban development was focused on renewal rather than new development.

Prime Minister Mr. Nakasone (1982-87) made a strong influence in the middle of this decade. He proposed better use of existing urban areas especially down town Tokyo. Deregulation of city planning was also expected and land price in down town was sharply raised to almost three times higher in 1987 than in 1985. This was called bubble economy mainly caused by unregulated finance for land purchase.

The government, mainly National Land Minister, Mr. Moriyoshi Sato, proposed to introduce a strong regulation for land finance. Finally the Ministry of Finance decided to introduce such regulation as the proportion of land finance of each bank should be less than 3% of total lendings outstanding. This 3% was too strict and Japan faced sharp drop of land price for her first experience in the history and struggled for the deflation of bubble burst economy in the coming decade.

Newly started land readjustment projects in this decade were about 2,200 sites and 540 square kilometers. Average area of project site became smaller than before and many land readjustment unions faced difficulty to sell their reserved (money resource) land.

Housing and private cars are still strong leading personal consumption in this decade but domestic electrification came to the peak and gradually shifted to leisure, culture and education. Oversea trips of Japanese people grew remarkably.

(4) 1991-2000

Average of annual economy growth of this decade was only 1.4% including minus growth in 1993 and 1998. National and local governments faced severe financial deficit. The word “restructuring” became buzzwords in private field and the unemployment rate was jumped up. The fifty year governance of Democratic Party came to an end and Prime Minister, Mr. Murayama, was elected from Socialist Party in 1994. This governmental confusion influenced on the municipality system and the consolidation of municipalities was promoted. Table 2 shows the recent change of the number of municipalities.

Table 2 The change of number of municipalities in Japan

Year	Total	City	Town	Village
1961	3,472	556	1,935	981
2006*	1,822	777	847	198

* 2006 is the estimation

This was aimed to strengthen the financial backbone of municipalities and make them slender body. As a result, urban development sections of municipalities are also facing restructuring and some municipalities are going to give up the land readjustment project.

Land price of 1995 is almost 40 to 50% of the peak in 1987 and down town projects became feasible. This caused the big supply of office and residential floor in down town of big metropolitan areas.

Newly started land readjustment projects of this decade were 2,268 sites and 529 square kilometers. This may be good numbers but the figures of 1998 and 1999 show the lowest of these 40 years as about 170 sites and 33 square kilometers each year. This is the half in number of project sites and a quarter in project area of the peak in 1972.

This stream of reform and devolution have been continued by the Koizumi administration up to now.

5. Conclusion

Sustainable urban management in Japan is still under the progress. Almost half of municipalities have been consolidated within these 45 years and trying to make up slender body of administration.

Improvement of homepages and the introduction of internet procedure are also being challenged.

Preservation of culture and history, improvement of landscape, to strengthen the countermeasures for urban disasters and the regeneration of down town are the common tasks of every municipality together with the environmental improvement and the financial reform.

Now, Japanese municipalities are going to be sustainable by mean of above mentioned efforts except those in extremely remote areas.

As a whole, following efforts would be understood to be useful.

1) To strengthen the financial and physical structure of municipalities by means of urban development and the introduction of manufacturers supported by the national effort of disaster prevention and the establishment of nationwide transportation system,

2) To prevent too quick population concentration to certain areas by means of reasonable control of urban development or the introduction of development levy,

3) To improve environmental protection systems and promote the protection works both in public and private fields,

4) To shift the development policy from rapid growth to slow and steady growth,

5) To put more importance on history and culture together with better landscape, and

6) To promote deregulation, administrative decentralization, privatization, consolidation of small municipalities and to realize the small government.

All through the process, **public involvement system becomes more important** by step by step and the administrative decision making would be more complicated and should be more cautious.

As a whole, shortage of many urban facilities such as houses, water supply, railways, highways, schools, hospitals, telephone lines, sewage system, and etc. had been overcome by **the efforts of national government, local governments, executives of business corporations, manufacturers, and the many managers of land readjustment projects (many of them were farmers).** Moreover, the **stable governance of the central government** for these decades could be also pointed out to be another valuable contributor.



Thank you very much

for your kind attention!