

Changes and Issues in Green Space Planning in the Tokyo Metropolitan Area: Focusing on the "Capital Region Plan"

Tetsuo Morita¹, Yoshihide Nakagawa², Akinori Morimoto³,
Masateru Maruyama⁴ and Yoshimi Hosokawa¹

¹Gunma National College of Technology, ²Waseda University,

³Utsunomiya University, ⁴Mizuho Research Institute, Japan

ABSTRACT: Large-scale green space planning in the Tokyo Metropolitan Area was formulated in 1939 with the "Tokyo Green Space Plan," and a greenbelt was proposed, however the plan was cancelled due to the end of the war. In 1958 the "First Capital Region Plan" was formulated, and a greenbelt was again proposed, however the second and later plans became plans that approved of urbanization. This paper focuses on the Capital Region Plan, and aims to (1) organize changes in green space planning in the Tokyo Metropolitan Area, (2) analyze the circumstances of urbanization of the area designated a greenbelt in the First Capital Region Plan, and (3) extract issues regarding green space planning in the Tokyo Metropolitan Area

Keywords: Tokyo Metropolitan Area, Capital Region Plan, National Plan, greenbelt

1. Changes in Green Space Planning in the Tokyo Metropolitan Area

1.1 Tokyo Green Space Plan

In 1939 the "Tokyo Green Space Plan" was formulated. Although this planned area had no legal basis, it included a 50 kilometer region, 962,059 hectares of production green spaces and scenic districts centered around on Tokyo. A greenbelt was planned for Tokyo's outer region, following rivers into urban areas [1].

The base section of the greenbelt was set in the city plan as a planned city green space, and preparations were made through site purchases. In 1940, with the war escalating, Tokyo industrialized six green spaces for air defense, and by 1945 had realized the plan by deciding on 22 green spaces for the city plan. The air defense designation prohibited the construction of buildings other than those affiliated with agriculture, forestry, livestock, or park sports grounds.

However, after losing the legal backing of air defense with the end of the war, these large green spaces became a target for opening agricultural space, and 62% of the 746 hectares of purchased sites were transferred to private landowners.

1.2 First Capital Region Plan

Due to the rapid concentration of population in Tokyo during the period of high economic growth, chaotic urban expansion became a problem, and the National Capital Region Improvement Act was enacted (1956). Based on this Act, the first through fifth National Capital Region Improvement Plans (abbreviation: "Capital Region Plan") were formulated, aiming to facilitate the construction and ordered development of a metropolitan area suitable to be the center of Japanese politics, economics, and culture. The First Capital Region Plan of 1958 referenced the Greater London Plan, creating Suburban Area (Greenbelt), and

aimed to "control the chaotic and swollen development of Built-up Area, and facilitate healthy development by creating an outer greenbelt." The greenbelt was planned on the outer side of Built-up Area, with a width of 10 kilometers, and satellite cities were planned outside the greenbelt (Figure 1).

However, the understanding of municipalities and land owners of the areas designated as Suburban Area was not gained, and improvement was made difficult by opposition activities of residents. Furthermore, the land use planning system regarding green spaces was left incomplete. In addition, achievement of the plan became difficult with the chaotic development of Suburban Area in the 1960s due to the intense concentration of population and the rapid expansion of urban areas, making change unavoidable.

1.3 Second Capital Region Plan

The Second Capital Region Plan was formulated in 1968 (Figure 2). The Suburban Area (Greenbelt) of the First Capital Region Plan was changed to Suburban Development Area "in order to prevent chaotic urbanization through planned maintenance of urban areas and preservation of green spaces," and the concept of a greenbelt faded. Most of the urban areas in the 50 kilometer zone designated as Suburban Area in the First Capital Region Plan became Suburban Development Area meant for commuting to Tokyo.

The greenbelt concept partially remained. Among the green space in the Suburban Development Area, areas in danger of chaotic urbanization were designated Suburban Green Space Preservation Area (18 zones, 15,693 hectares). Furthermore, 9 districts, 758 hectares of Suburban Green Space Preservation Area that were considered important districts especially in need of preservation were designated Suburban Green Space Special Preservation Area, making permission of the governor necessary before conducting certain development activities.

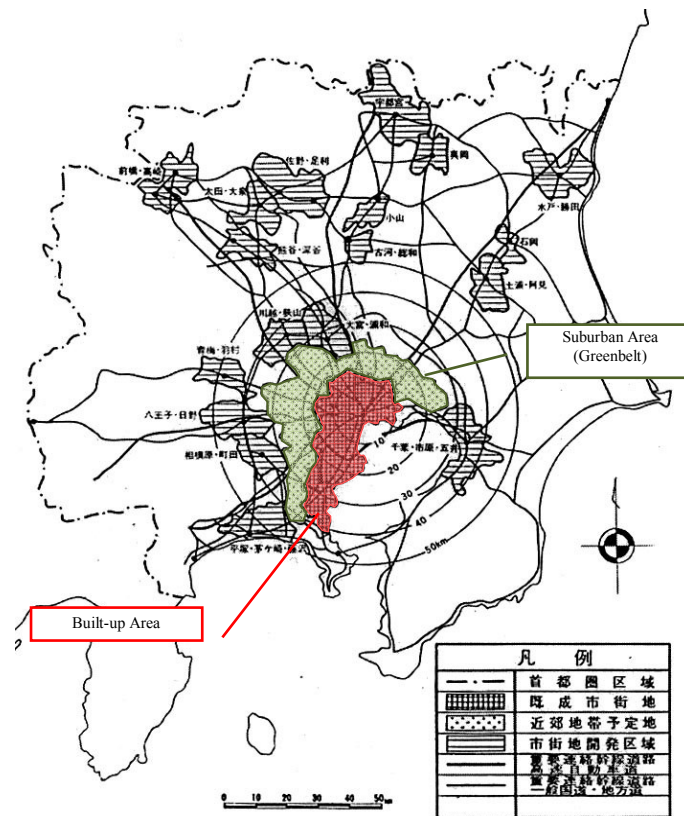


Figure 1: First Capital Region Plan [2]

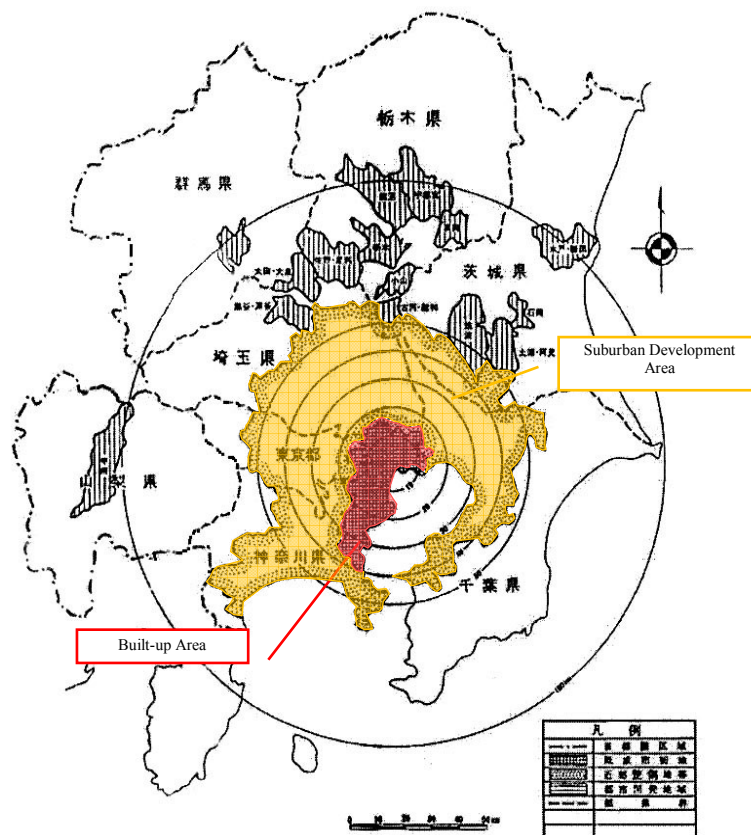


Figure 2: Second Capital Region Plan [2]

2. Changing Land Use of Suburban Area over Time

This section takes up Kawaguchi City in Saitama Prefecture, planned in the First Capital Region Plan as Suburban Area (Greenbelt), and analyzes its subsequent land use over time. Kawaguchi City contains both a designated Built-up Area and a designated Suburban Area[4] (figure 3).

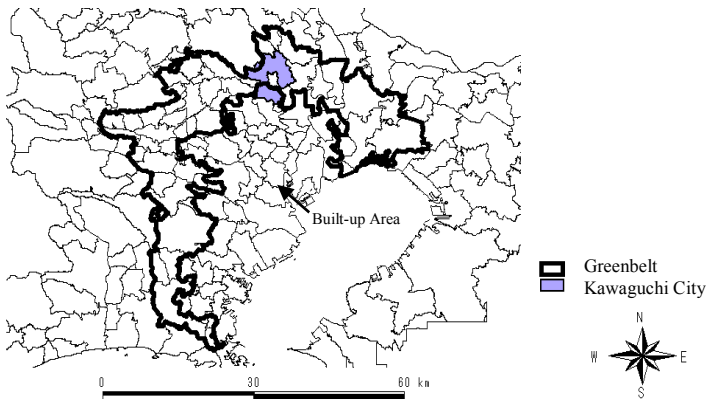


Figure 3: Kawaguchi City and Greenbelt

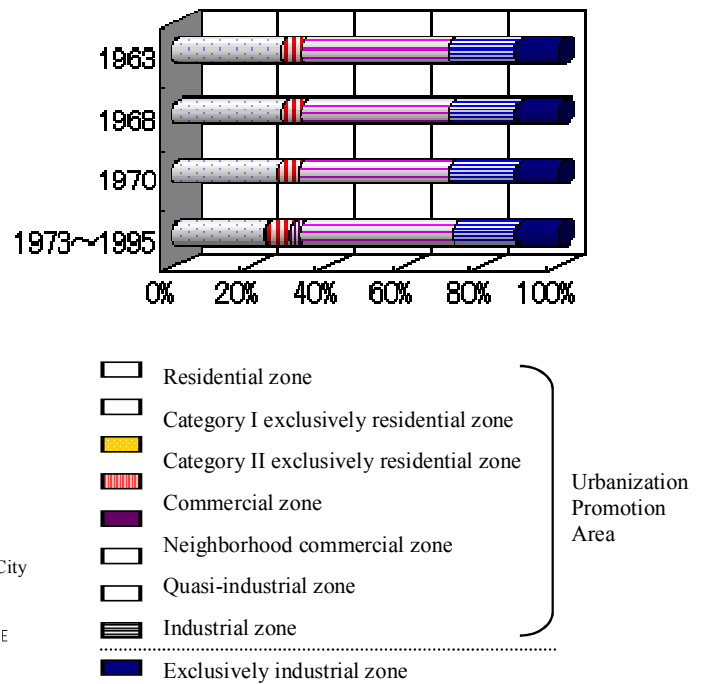


Figure 5: Percentage of Various Land Use Plan of Built-up Area (Kawaguchi City)

2.1 Changes in Land Use Planning

In 1963, five years after the formulation of the First Capital Region Plan, approximately 20% of Kawaguchi's Suburban Area was designated an urbanization area, however in 1970, with the increased demand for housing due to rapid population growth, approximately 85% had become an urbanization area. As a result, Kawaguchi City had nearly as much designated urbanization areas as existing urbanization areas (figures 4 & 5). Compared to Built-up Area, the ratio of land use of Suburban Area for residential uses had greatly increased.

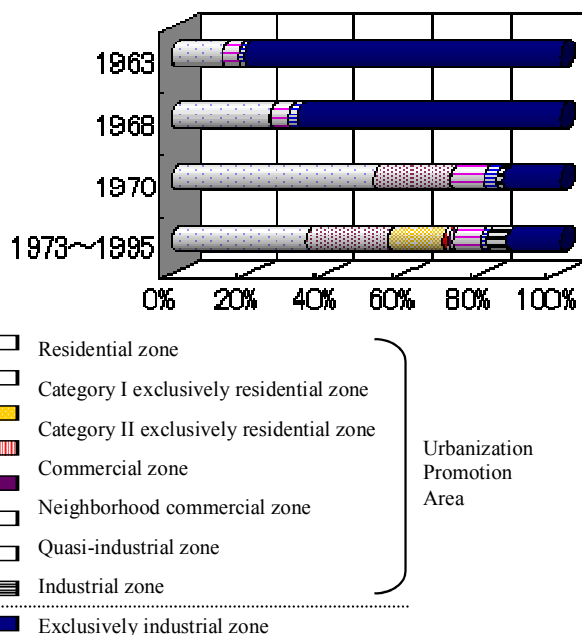


Figure 4: Percentage of Various Land Use Plan of the Suburban Area (Kawaguchi City)

This indicates that Kawaguchi City, after the First Capital Region Plan (1958) was revised by the Second Capital Region Plan (1968), rapidly transitioned towards urbanization areas, and its character as a Tokyo bed town strengthened.

Viewed from a map (figure 6), in 1963, following the formulation of the First Capital Region Plan (1958), approximately 80% of the Suburban Area was designated an urbanization control area.

In 1968, when the Second Capital Region Plan was formulated, residential demand increased, and the designation of urbanization control areas for residential use can be seen. In 1970, in the period between the formulation of the Second and Third Capital Region Plans, approximately 70% of the area that had been designated as Suburban Area in the First Capital Region Plan had become designated for residential use. In 1985, when the Fourth Capital Region Plan was formulated, 85% of the Suburban Area of the first plan had been designated for use, leading to urbanization, and at the same time an intention to halt the increasing population in Suburban Area can be seen.

2.2 Changes in the Record of Land Use over Time

Looking at the change in the record of land use over time (figure 7), in Built-up Area designated in the First Capital Region Plan, there was an urban land use structure, with building sites occupying approximately 80%. Looking at the Suburban Area of the first plan, after the period of the Second Capital Region Plan in 1976, building sites increased annually, and the ratio of fields and rice paddies decreased. This can be seen as due to Kawaguchi City assuming the role of Tokyo's bed town, taking on the increase in housing in its Suburban Area. Population continued to increase in Suburban Area, and green spaces (forests, fields, rice paddies) in 1996 were approximately 30% of the overall Suburban Area and decreasing annually.

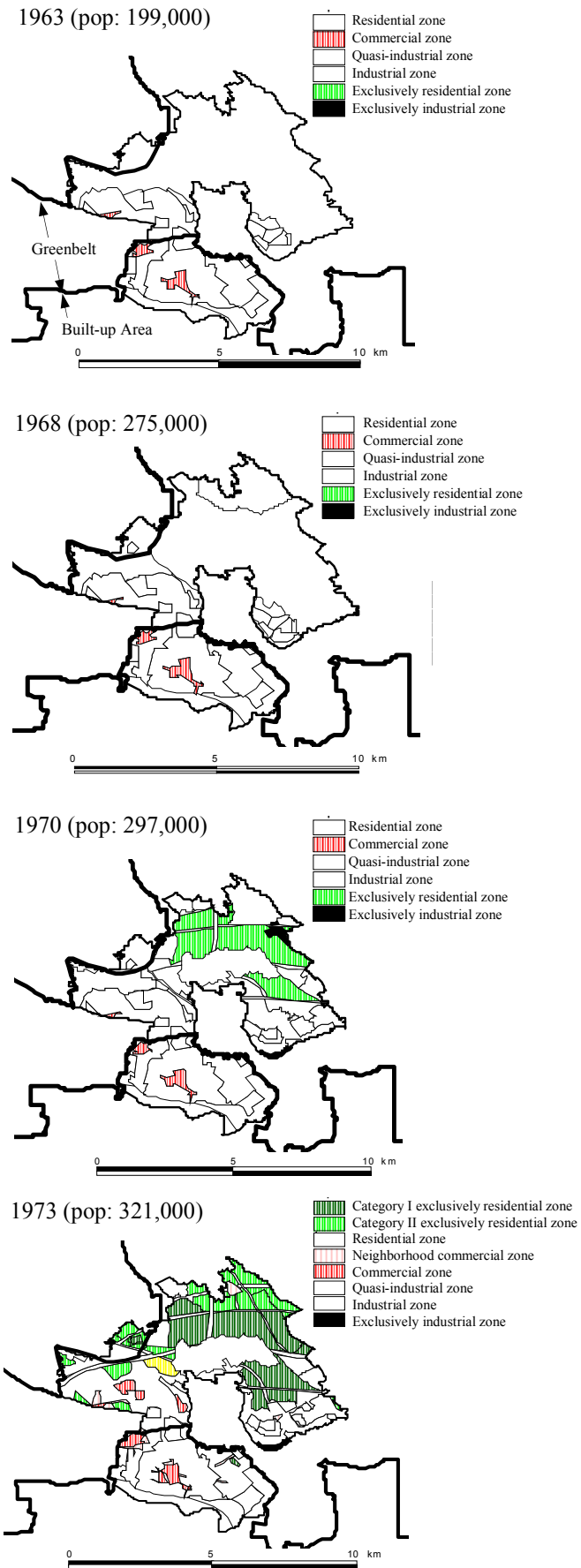


Figure 6: Changes in Land Use Planning (Kawaguchi City)

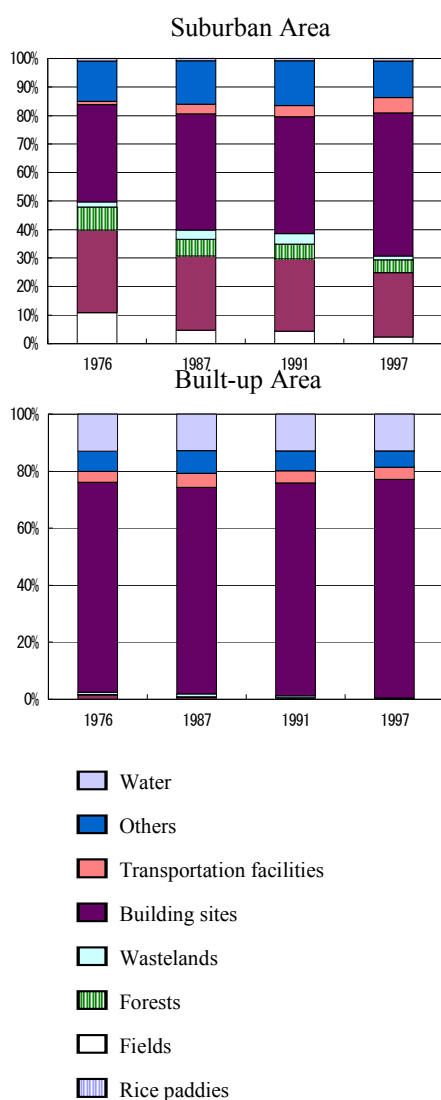


Figure 7: Changes in the Record of Land Use (Kawaguchi City)

3. Issues in Green Space Planning in the Tokyo Metropolitan Area

3.1 Verifying the Greenbelt Concept

The concept of a greenbelt in the First Capital Region Plan was an admirable plan meant to sketch an ideal city, however in reality this had little practical effect, and it remained as regional green spaces. This section will investigate the reasons why the greenbelt concept was not fully realized, covering the formative concepts of the plan, land use planning of the Suburban Area of Kawaguchi City, and changing land use.

(a) Expansion of Urban Areas Due to Population Concentration during the Greenbelt Concept Period

Following the war, the concentration of population from rural areas to Tokyo can be called rapid and extraordinary. In Kawaguchi City, designated as Suburban Area, the population was 144,000 when the First Capital Region Plan was formulated, and 343,000 in 1976 at the formation of the Third Area Plan, a 2.4 times increase. The policy of preserving green spaces can be seen to have been unable to resist the trend for expansion of urban areas due to the

concentration of population in a short time. The area division system with regulatory power was introduced, however urbanization control areas were not arranged on a broad scale, and green spaces were reduced in each municipality.

(b) Political Understanding and Popular Support for the Greenbelt Concept

The period when Suburban Areas were planned coincides with Japan's high economic growth, which produced a housing shortage due to the concentration of population in large cities, and political consideration for satisfying housing demand took precedent over the greenbelt policy for controlling the expansion of urban areas. Furthermore, with the social background of prioritizing the economy, there was no understanding among municipalities and citizens, and regulation was difficult. Even among experts, arrangement and concern for green spaces was not established. Because there was no political or popular understanding, there was no agreement regarding the Suburban area, and the plan became weak with no regulatory or legal effect.

(c) Substance of the Greenbelt Plan

The Suburban Area was 10 kilometers from the city center. On the other hand, the greenbelt of the Greater London Plan was 20 kilometers from the city center. Viewed from this comparison, the Suburban Area created in the Capital Region Plan can be called too close to the city center. As a result only partial green spaces remained. This can be understood to be due to the fact that, in addition to not foreseeing the population increase, the Greater London Plan and the Town and Country Planning Law were not sufficiently studied, and the experience of England was not made use of.

3.2 Issues in Green Space Planning in the Tokyo Metropolitan Area

In 2005, the population of Japan began to decline, and further population decline is assured. The greenbelt concept of the First Capital Region Plan could not resist the pressure of population concentration during the period of high economic growth, however its significance today is worth a second look. In order to realize the creation of compact cities with a small environmental impact, city planning with appropriate arrangement of green spaces should be considered.

During the period of the First Capital Region Plan, residential policy took precedent over green space policy, however today the significance of green spaces is being reconsidered. The role of green spaces in creating scenery, food production, and disaster prevention measures is increasing. The administration, citizens, and experts share the value of green spaces, and there is a need to study the proper structure of cities and green space planning.

In addition to the Capital Region Plan, in 2009 the "Regional Plan of Metropolitan Area" was formulated, and a network connecting existing waterside space and green space has been proposed. This plan does not indicate a concrete method for preserving green space. What is needed is the creation of a green space plan in the Tokyo Metropolitan Area that is based on a study of the experiences of the greenbelt plan in the Greater London Plan, Japan's Capital Region Plan, and green space planning in various countries, as well as an understanding

of present land use in Japan, and future population and economic trends.

4 REFERENCES

- [1] Committee of Metropolitan Area (1959), Metropolitan Area Research, Tokyo. (in Japanese)
- [2] Suzuki, S. (1993) Current of City Planning -Tokyo, London, Paris and New York-, Sankai-do, Tokyo. (in Japanese)
- [3] Sato, A. (1977) History of the Development of Japanese Park Green Spaces (upper) (lower), Chikuma-syobo, Tokyo. (in Japanese)
- [4] Maruyama, M. Nakagawa, Y. (2004) A study on the changes of green space policies of National Capital Region Improvement Plan, Proceedings of annual conference of the Japan Society of Civil Engineers, Vol59(4), pp334-335.
- [5] Takeuchi, T., Ishikawa, M. (2009) A study on the effect of urban development projects on the open space

environment in areas once designated as green districts, LRJ, 72(5), pp.705-708.

- [6] Takeuchi, T., Ishikawa, M. (2009) A study on the green space policies on the planned areas for Green Belt in the National Capital Region during the period of urban expansion -a study in the North Tama Area-, Journal of the City Planning Institute of Japan, No.44-3, pp.877-882.

International Journal of GEOMATE, March, 2012, Vol. 2, No. 1 (Sl. No. 3)

MS No.1253 received August, 2011, and reviewed under GEOMATE publication policies.

Copyright © 2012, International Journal of GEOMATE.

All rights reserved, including the making of copies unless permission is obtained from the copyright proprietors. Pertinent discussion including authors' closure, if any, will be published in the March 2013 if the discussion is received by Sept. 2012.

Corresponding Author: Tetsuo Morita
