URBAN AND SPATIAL PLANNING IN JAPAN

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Abstract. This paper aims to introduce the urban and spatial planning in Japan. According to the national planning system of Japan, chapter 2, the planning system has 3 administrative levels and each territorial region has its own regulation. This paper introduces especially about planning and regulation system in city region in Japan.

Key words: urban and spatial planning, Japan, land use, Master Plan

1. The prefectural governments and municipalities

First of all, Japanese territory is divided into 47 units called prefectural governments (Fig.1). Each of them has its own administrative organization. The prefectural governments, differ from the municipalities which are locally based public organizations, in that they are concerned more comprehensively with a wider local area. Municipalities are the collective term of city (called shi), town (called machi), village (called mura), and district (called ku which exists only in Tokyo) and each municipality also has its own administrative organization. There are 786 cities, 753 towns, 184 villages and 23 districts in Japan (01/08/2011).

Fig. 1. Prefectural governments in Japan

2. The planning and regulation system of Japan

2.1. The national planning system of Japan

National Land Use Planning Law is a land use plan and also a regulation that aims to use the national territory comprehensively and systematically (Fig. 3). The law establishes National Planning, Prefectural Planning and Municipal Planning. The general plan for land use is as the basis for National and Prefectural Planning. The Prefectural Planning sets out five regions in each prefecture; a city region which is an area that needs to be developed and maintained as an integrated city, an agricultural region of which the primary concern should be to promote agriculture, a forest region which promotes the forest industry or maintains and enhances the variety of functions of the forest, a natural park region which has good natural scenery which should be preserved and its usage promoted and a nature conservation region which has good natural environment and should be preserved. The land use in each area is conducted with based on a plan which is established by the individual method, for example
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City Planning Law. The general plan functions to adjust the administrative division as the upper level plan of them.

2.2. The definition of city planning area

In 1919, a general idea called City Planning Area was brought in the City Planning Law in Japan. According to the operational guideline of city planning, there are the areas which need to be adjusted, developed and maintained comprehensively as a unified city and these are also the areas which are designated as the compass that can be sufficient to arrange the lands and facilities.

The specific definitions of City Planning Area are as follows; 1) it has 10,000 people in the municipality and 50% of the total employed workers are involved in commerce and industry or urban business categories, 2) it can be expected to meet the preceding issue of 1) in 10 years over the pace of development and the prediction of population and industry, 3) the central area of the target municipalities have over 3,000 of population, 4) specially good environment of the city needs to be developed in the city since it has resources for tourism and is expected a lot of tourists come, 5) a disaster has ruined quite a few buildings in the city central area and there have been a need for recovering systematically.

The City Planning Area covers only 25.7% of Japanese territory but 91.6% of the population live in the area. However, it has to be careful that the City Planning Area is not always specified to a whole area of a municipality but there are 4 cases how to set it (Fig.4). According to figure 4, Sendai extensive city planning area corresponds to the case 4. How to designate the city planning area is depends on the situation of the municipalities. The purpose of specify the City Planning Area is to make public investments more efficient and promote the land use reasonably and soundly. It is effective to designate the City Planning Area for the following reason. At first it will be regarded as a target for Area Division (terms described 2.4). Second, the developments in the area are demanded the development permissions. Third, it is applied to the group rule which is a stipulation of the relationship between buildings and cities in the Building Standards Law.

![Fig. 2. An example of the City Planning Area](image)

2.3. The regulation of land use

In the City Planning Area, it becomes to be possible to divide the area into two areas, Urbanization Promoting Area and Urbanization-restricted Area (the City Planning Law, Article 7). According to the City Planning Law, the Urbanization Promoting Area is defined as an area which already forms urban area and should be urbanized preferentially and systematically during about 10 years and the Urbanization-restricted Area is defined as an area which should be controlled its urbanization (Fig.6).
Fig. 3. The national planning system in Japan

Case 1: City Planning Area combined with Administrative Area

Case 2: A City Planning Area consists of a number of municipalities

Case 3: City Planning Area is a part of Administrative Area

Case 4: A City Planning Area consists of a number of municipalities and a part of it is outside of City Planning Area

Fig. 4. 4 cases to specify the city planning area

Fig. 5. The conceptual diagram of area division
Large urban cities have to mandatory divide the City Planning Area into two areas. This area division is effective to centralize the public investments in the Urbanization Promoting Area and control certain amount of developments in the Urbanization-restricted Area. On the other hand, local cities can choose whether divide the City Planning Area or not, because once the area divided, it turns to be more difficult to develop in the Urbanization-restricted Area. As options for Undivided City Planning Area, there are 12 different kinds of “Use Districts” in which control the purpose of land use and its figure. Local cities which is not divided in the City Planning Area can designate the Use Districts selectively and control developments because in Undivided City Planning Area, all developments are allowed in principle.

According to the City Planning Law, Article 29, a person who is planning to use land for development action should get permission from prefectural governor. The target size of each development action is different between in the Urbanization Promoting Area, the Undivided City Planning Area and outside of the City Planning Area and development action is required to meet technical standards. Additionally in Urbanization-restricted Area, there are strict locational criteria and few development actions which meet the criteria can be constructed.

### 2.4 The use districts and group rule of buildings

There are 12 kinds of use districts - 7 kinds of residential districts, 2 kinds of commercial districts and 3 kinds of industrial districts - prepared in the City planning law and these districts can be specified in the Urbanization Promoting Area and the Undivided City Planning Area selectively. Each district controls the land use (Fig.7). For example, hotels cannot be developed in Category 1 exclusive low building residential zone. Depends on the objective of each district, it can be possible to decide the building coverage, floor-space ratio, height limitation, floor-space ratio limitation of road, diagonal line limitation for road and adjacent land and shadow area limitation.

![Fig. 7. The use district of a part of Sendai city](image)

Japanese building code (rule) is regulated by Building Standard Act and it sets out minimum standard (but it extends to so minute) of the site, facilities, infrastructure, usage and so on of a building. Whole codes can be divided into Single code and Group code. Single code sets out about safety and health of a building itself. For example, there is the strength code of structure to stand up when the earthquake comes and all buildings are required to meet this code. On the other hand, group code more concerns about relation between a building.
and city, surrounding environment not a building itself. It is deeply related with the City Planning Law. For example it sets out use control which decides the usage of the district.

![Fig. 8. The City Planning Area Master Plan, The layout plan of major facilities](image1)

![Fig. 9. The Municipal Master Plan, The zoning plan and location plan of hubs in the city](image2)

### 3. The master plans

In the Local Autonomy Law, each municipality is required to make a fundamental plan which describes basic ideas and purposes as a text to put into practice their own town management and plans. Differ from the fundamental plan there are “City Planning Area Master Plan” and “Municipal Master Plan” as texts including drawn plans. The City Planning Area Master Plan is applied to each City Planning Area and decided by prefectural governments (Fig.8). It describes the objective of city planning and whether to divide the City Planning Area into the Urbanization Promoting Area and the Urbanization-restricted Area or not. It also describes the principle for conducting the land use and city facilities in City Planning Area. The City Planning Area Master Plan is usually a larger scale plan than the Municipal Master Plan and reflects it. On the other hand the Municipal Master Plan is made in each municipality as a text including drawn plans and its contents must correspond to the fundamental plan and the City Planning Area Master Plan (Fig9). It describes the grand design of a city, for example the ideal images of the road ahead and problems that should be overcame. It also describes the regional designs which are plan and strategy of smaller part of the city. Both City Planning Area Master Plan and Municipal Master Plan are not mandatory regulations but just plans which describe the direction of developments in each area and municipality. However these are as important as the basic plans.

### 4. The district planning

In 1980, the district planning system was set up in the City Planning Law using examples from German B-Plan. The system is the first city planning system anchored by municipalities and citizens. Recently, more bottom-up approach to city planning is gathering strength in Japan. This system is a tool to make more micro plan and it is also a comprehensive plan in certain district. The contents and implementation tools of the system are flexible and citizens can participate to process of making the plan. The target districts of this system are in the use districts or the outside of the use districts (the Urbanization-restricted Area or the Undivided City Planning Area) which meet some requirements. The objective of the target district and the plan
how to adjust the district is planned with this system.

For example in Sendai City, there are 93 districts which have district plans. Jozenji street district (Fig.10), one of the 93 districts in Sendai City, decides its own regulation for developments of buildings. In particular, [A] Use control is set up in this plan and the facility of entertainment, dance hall, love hotel, gas stand and so on are not allowed to be built (Fig.11). [B] ground-floor area is set up more than 200 m². [C] Back space from edge of ground is also decided. [D] Height of a building must be more than 10 m. [E] The shape and design of a building must consort wooden street. [F] The fence of a building must be considered surrounding environment. This district is aiming to be a stronghold that creates new culture and environment for communication in Sendai City.

5. Problems of Japanese cities

Nowadays many cities in Japan are facing on problems such as existence of multi-occupied zone with tall buildings and decrepit wooden houses, while scattering of unused lands in the middle of urban area. In surrounding part of the urban area, many residential complexes have been developed and there are many sprawling developments in Urbanization-restricted area because of exceptional rules for development (Fig.13).

Additional expansion of urban area might cause increase of the unused lands, declination of city center and disappearance of prime agricultural lands under the situation of anticipated population decrease in Japan. One of the methods of solution is “Compact City”. Some cities including Sendai City are aspiring to make the range of urban area more compact. For example in Sendai City Master Plan, the basic objectives to develop Sendai City are described as switching form to more intensive urban area, building up city function and locate it appropriately and developing the quality of urban space from various aspects. Sendai City aims to deliver these objectives and change to be a more convenient and economic city (Fig.14).
5. Conclusion – The great east Japan earthquake
11. March, 2011, a massive 9.0-magnitude earthquake hit the Tohoku area in Japan. Many lives were claimed and hundreds of thousands of houses were damaged or lost by the earthquake and tsunami which hit the coastal area of east Japan. In addition, lifelines such as the public transportation system commencing with rail and road, sewerage systems and electric, water and gas supply were shredded. The damage is unparalleled in Japanese history of previous disasters. The most damaged areas were Iwate prefecture, Miyagi prefecture and Fukushima prefecture.

Half year has passed since 3.11, each prefecture and municipality has been drawing up the basic plans toward recovery. In Miyagi prefecture, the final plan of earthquake disaster reconstruction has decided 17 on August. The term of the plan to recovery is 10 years (until 2021). In 10 years, there are 3 years of restorative stage, 4 years of regenerative stage and 3 years of developing stage. One of the main idea of recovery and prevention from tsunami is described the figure15. Miyagi prefecture has decided to relocate coastal residential area to more upland and separate from industrial area. In industrial area, the evacuation buildings which have high elevation will be built to evacuate from tsunami (Fig.15). Figure16 describes the idea of multiple prevention from tsunami. The coastal levee and green space will be located in the sea shore. Roads and railways are planned to locate every border of agricultural area, commercial and industrial area and residential area. Actually, there was a fact that the limited highway prevented tsunami from...
intruding in the urban area (Fig.16). The most impressive points of this plan is that it aims not only restoration of devastated area but also drastic restructuring of the whole prefecture and it is also trying to resolve the problem with the modern Japan such as population decline, the aging population, preservation of the environment, symbiosis with nature and creation of safe and comfortable communities.

The recovery of east Japan has just started. There must be a lot of barrier which we have to get past and various ways of planning will be needed.

REFERENCES

Fig. 1, Geospatial Information Authority on Japan
Fig. 2, Sendai extensive city planning area in Miyagi prefecture
Fig. 7, Department of city planning of Sendai city
Fig. 8, Sendai extensive city planning area master plan in Miyagi prefecture
Fig. 9, Sendai City Master Plan in Sendai city
Fig. 10, 11, 12, The district plan of jozenji street in Sendai city
Fig. 13, Google map
Fig. 14, Sendai City Master Plan in Sendai city
Fig. 15, 16, The basic plan of recovery in Sendai city

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