

CHAPTER 5

V AGENTS AND DEVELOPMENT STAGES IN MAEBASHI CITY

Based on the analysis of the relationship between land-use and land-ownership changes, the marked differences have been indicated in the pattern of land-use change; the number and kind of agents; and the roles of intermediators who influenced the main decision-maker indirectly according to the stages of development from rural to urban. In this chapter, the emphasis was on the relationship between the characteristics of each stage of urban development stated in the previous studies and those examined in the case study of Maebashi, especially in terms of the roles of agents.

In the context of the previous studies, for example, Yamaga (1981); Bryant *et al.* (1982); Pond and Yeates (1993; 1994a; 1994b), development could be divided into five stages: stage-1 is predominantly rural and the rate of its urban land-use is under 10%; stage-2 is when the infiltration of urban-oriented elements is clear although rural land-uses still dominates the landscape (the rate is under 40%); stage-3 is characterized by increased urban land-use which caused serious urban sprawl; stage-4 is when much of the area is clearly urban-oriented; and stage-5 is when the intensity of land-use is enhanced by renovating high-rise buildings.

In 1980, the percentage of rural land-use in the Rokku area, a sample area in the inner fringe, was more than 50% (Figure 32). On the other hand, the rate of urban land-use, for example, residences, offices, shops and parking lots, still remained at the level of 40 %. The remaining 10% was vacant land. By this division of land-use, the Rokku area in 1980 was at stage-2. In 1993, urban land-use increased remarkably in the

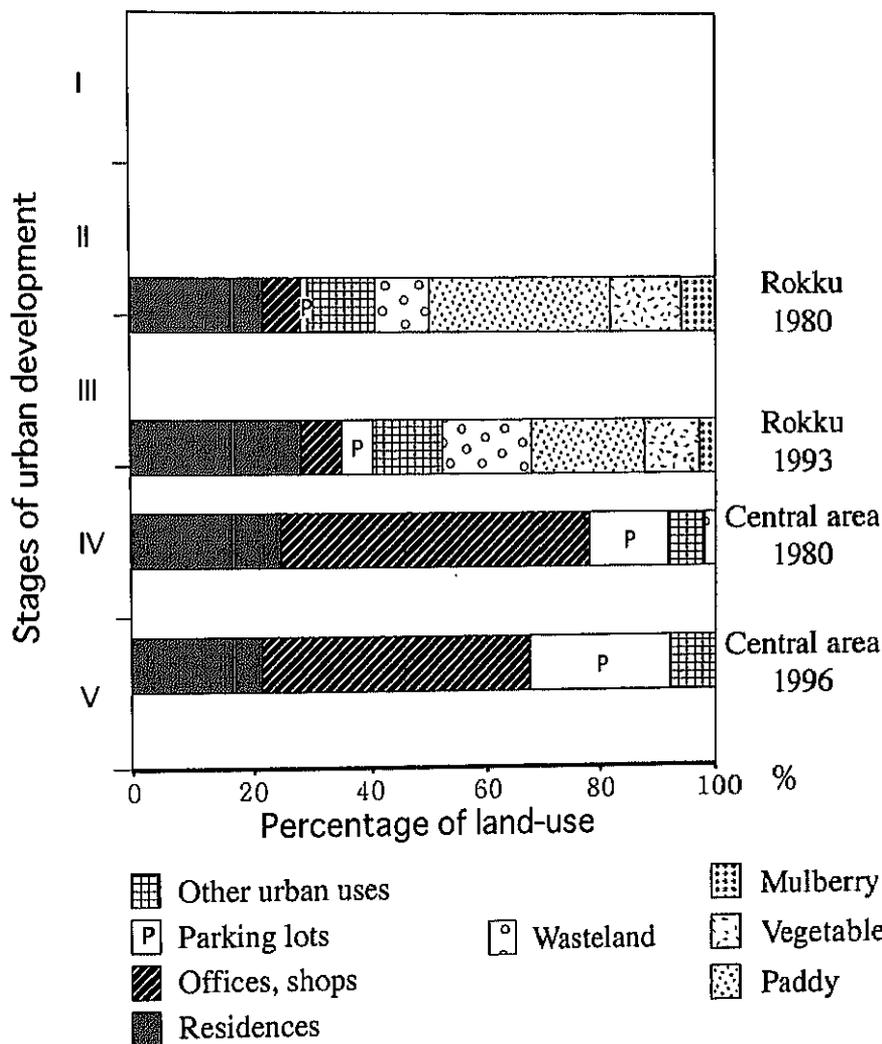


Figure 32. Percentage of each land-use type for sample areas in Maebashi city and their development stages for 1980, 1993 and 1996.

Sources: Based on aerial photo and the author's field survey.

Rokku area and came to account for more than half of the total land area. Conversely, the rate of rural land-use dropped to 32%. This fact is sufficient to explain the growth of the area. In addition, as the land re-adjustment program was undertaken in this area, further growth in the area is presumed. Judging from these facts, the Rokku area in 1993 was situated halfway between stage-3 and stage-4.

As for the sample area of the city centre, the rate of urban land-use had already reached the level of 98% in 1980, which placed it at stage-4. In 1996, since parking lots, offices, hotels, and apartment houses replaced many pieces of land where old residences, low-rise offices, and food shops were located, the area reached stage-5 (completely urban). One reason why urban land-use occupied almost the entire area of central Maebashi was that infrastructural development through the post-war reconstruction project was the basis for present day growth.

To examine the relationship of the roles of particular agents to urban growth, the rate of land owned by each type of agent in the sample areas is shown in Figure 33 (Rokku area) and Figure 34 (central area). In the Rokku area, which underwent a change from stage-2 to stage 3 (or 4) during 1980-93, farmers, office workers, shopkeepers, normal offices, and Maebashi Municipal Office were typical agents. In 1980, the predominant agents were farmers accounting for more than 50%. In 1993, the land owned by farmers decreased remarkably to the level of 33.2%. On the contrary the land owned by office workers increased to 38.3% and went ahead of those of farmers. In addition, the amount of land belonging to shopkeepers, normal offices, and Maebashi Municipal Office also increased. In general, the original land owned by farmers was replaced by the other agents, who were recent arrivals to the area.

In the central area of Maebashi city, which underwent a change from the stage-4 to

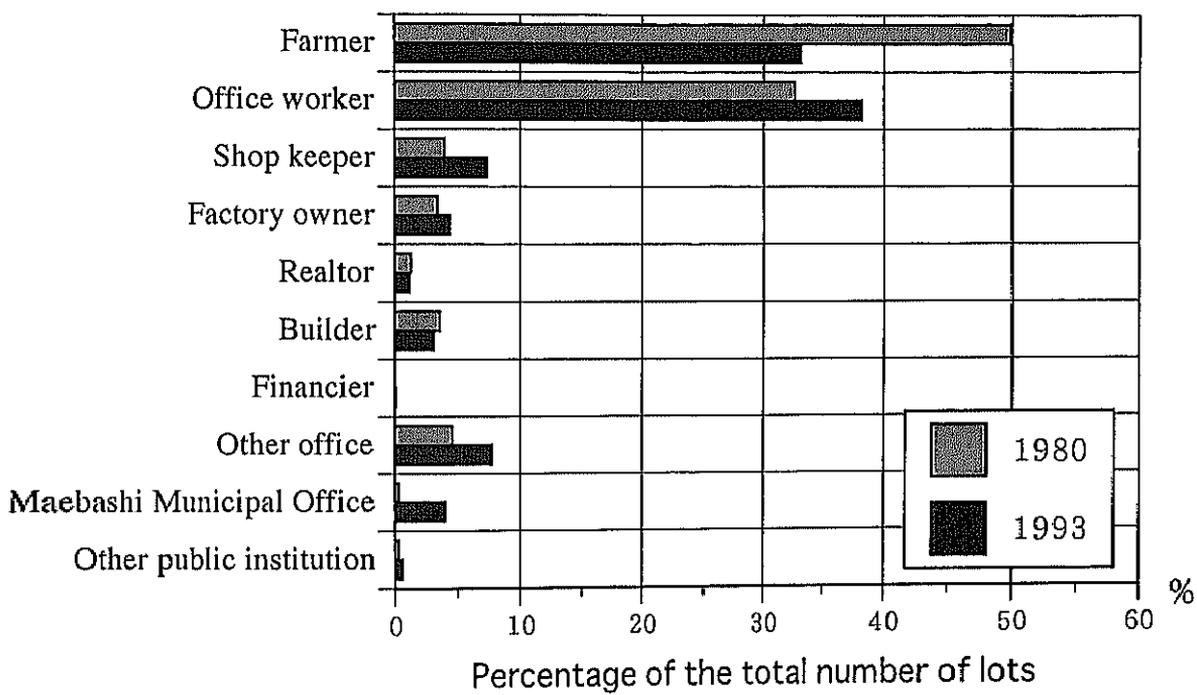


Figure 33. Percentage of each type of agent in the Rokku area of Maebashi city for 1980 and 1993.

Sources: Based on data from the Property Tax Division of Maebashi City Hall.

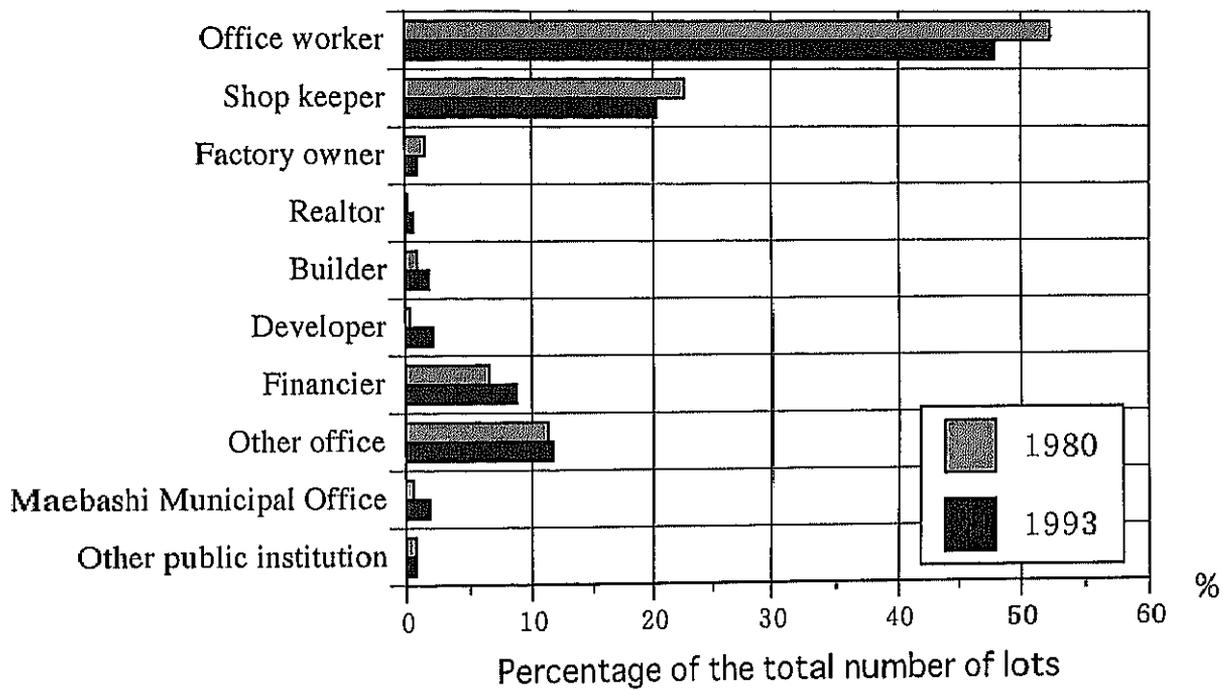


Figure 34. Percentage of each type of agent in the central area of Maebashi city for 1980 and 1993.

Sources: Based on data from the Property Tax Division of Maebashi City Hall.

stage 5 during 1980-96, office workers, shopkeepers, normal offices, financiers and developers were typical agents. In 1980, the majority of agents were office workers accounting for 52.3%. In 1993, although the rate of land owned by the two largest groups of agents, office workers and shopkeepers, decreased slightly, they still outnumbered the other agents. At the same time, financiers, developers, builders, and Maebashi Municipal Office increased their shares to additional 3 to 4%. In general, the original land owned by individuals (i.e., office workers and shopkeepers) was replaced by the several kinds of corporations.

Based on the analysis taken so far, the characteristics of each development stage are illustrated in Table 3. In stage-1, the majority agents were farmers whose typical behaviour was to abandon or sell their farmland. In stage-2, although rural land-use still dominated the landscape, some kind of urban land-use extended along the main road (so-called ribbon development). In this stage, office workers, realtors, shopkeepers, and factory owners become the new important agents. That is, some shops and factories dispersed from the city centre to the inner fringe area due to the growth of the city. In this process, some local real-estate firms (realtors) intermediated the transactions between the predevelopment owners (farmers) and final consumers.

In stage-3, due to further urban expansion of the city, many residences and large-scale shops were built not only along the main roads leading to the city centre, but also around existing urban land use (so-called plain development). Either rural or urban land-use shared a comparable rate of around 50%. Thus some problems like land-use conflict and urban sprawl occurred in this stage. With a rapid increase of urban land demand, as well as office workers and realtors some builders and developers entered the area for the purpose of developing low-rise residential and

Table 3. Development stages and decision agents in Maebashi city.

Stages of Development	Characteristics of Land-use	Characteristics of Land-use Change	Primary Decision-makers	Notable Intermediator
I	Agricultural	almost no change	farmers (sell land, purchase land)	realtors
II	Early urban influence A proportion of urban land-use is under 40%.	<i>ribbon development</i>	farmers (sell land) office workers (purchase land) shop-keepers (purchase land) factory-owners (purchase land) realtors (purchase land)	realtors
III	Exurbanization or Suburbanization A poroportion of urban land-use is almost equivalent to that of agricultural land-use. And problems of urban sprawl arise.	<i>plain development</i>	farmers (utilize land) office workers shop-keepers factory-owners realtors builders (purchase land) developers (purchase land)	realtors
IV	Urban	dissolution of urban sprawl	office workers shop-keepers builders (utilize land) developers (utilize land) other offices (purchase land)	realtors municipality financiers
V	Completely urban many buildings are renovated to high-rise buildings.	vertical extention	developers other offices financiers (purchase land)	realtors municipality financiers developers

office buildings. Moreover, farmers come to utilize their own land by renovating shops or offices themselves as well as selling land. The change in behaviour by farmers from one kind (selling only) to several kinds (e.g., selling and utilizing) was one of the most notable features of stage-3. When the number of choices increased due to the urban growth, farmers took of combination of options, whereas only one option was taken in the earlier stages.

Infrastructural development by the municipal office and some residential or commercial developments by large-scale developers played very important roles in the shift from stage-3 to stage-4 (Tsutsumi, J. *et al.*, 1994; Chiba, 1998). The feature of stage-4 is rapid increase of urban land-use rate because of several development projects. In stage-4, the major agents were office workers, shopkeepers, factory owners, developers, and builders. Moreover, the roles of normal offices that occupied rental space in the buildings became more important (Wilder, 1988). It is typical behaviour of agents (builders and developers) seen in this stage to renovate their own buildings. Furthermore, they purchased land through the mediation of realtors, financiers or a municipal office. A financier and a municipal office acting as mediators was unique to stage-4.

Stage-5 is characterized by renovation of high-rise buildings. When an area is in this stage, the major agents are limited to builders, financiers, and normal office that have ample funds, while the roles of farmers and office workers decreased. In this stage, the majority agents make decisions by themselves and also behave as intermediators. Some examples of renovation caused by these agents required large-scale areas and finance, which is the most typical type of conversion in stage-5.

Figure 35 is a schematic model for the land conversion process in Maebashi city according to the stages of development from rural to urban in terms of the pattern of land-use change, the number and kind of agents, and their behaviour.

In 1980, in the earlier stages of development, the number and kind of agents were limited. Agent-A and B were active only in the inner fringe area, while Agent -C, D, E were active only in the city centre where urban land demand were relatively higher. In addition, their type of behaviour was naturally limited. During 1980-96, the CBD and the built-up area were expanded outward due to the growth of Maebashi city. In accordance with the growth, some agents having been active only in the inner fringe advanced into the city centre, while conversely other agents only in the city centre came to open their branch offices or shops in the inner fringe area. As a result, the number of agents and the types of their behaviour in the sample areas generally increased. Moreover, the most important feature was that when development progressed to the next stage, the particular agents who only choose limited behaviour during the earlier stages took several kinds of behaviour in the same area. The reason for their behaviour can be considered as follows: 1) The causes and conditions for their land-use decisions diversified due to the increase of the number of agents: 2) As a result of diversification of decisions, the choices for their behaviour also diversified, thus the behaviour itself becomes more complicated.

The several kinds of behaviour taken by one agent was a phenomenon only observed in the city centre with high urban land demand. However, when the change in urban structure was due to urban growth; characteristic behaviour of the later stages of development was seen even in the suburbs, which were previously at an earlier stage of development.

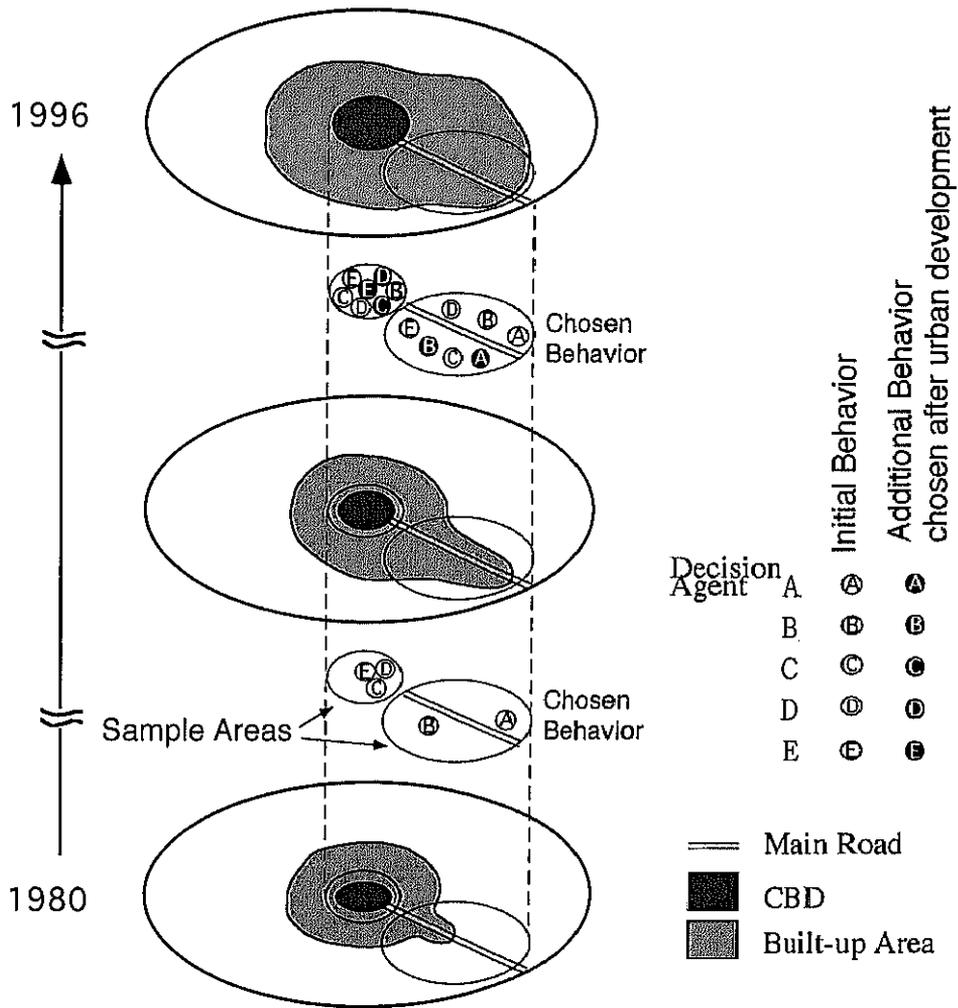


Figure 35. Schematic model of the land conversion process in Maebashi city in terms of land-use decisions.