

THE DEVELOPMENT TREND AND THE LAND-USE MANAGEMENT IN A LOCAL SUBURBAN AREA – BASED ON AN ANALYSIS OF KIYOTAKE-TOWN, JAPAN –

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Abstract: This paper aims to propose ideas to improve the land-use and management of Japanese suburban areas based on an investigation of development trends in Kiyotake town, a local town in the suburban area of a prefectural capital. Building permits during 1995 –1999 were analyzed by use of a geographic information system (GIS). The major results were as follows: 1) There were numerous undesirable developments in the *urbanization control area* and *outside of the city planning area*. 2) This was because of loose land-use management by the town authority, and loopholes in the conventional City Planning Law. 3) The City Planning Law 2000 has several features such as deregulation, decentralization and public involvement. However, the features have potentially deleterious effects. To achieve desirable land-use, stricter management should be adopted based on the strict stipulations and regulations of the Law. This management requires deliberate public involvement that attaches importance to the public interest.

Key Words: City Planning Law, development trend, building permits, GIS, Kiyotake

1. INTRODUCTION

Japanese cities now suffer from many problems, for example from deteriorated city-centers, inefficiently utilized former industrial areas, traffic congestion, inner-city housing districts without sufficient infrastructure, and deteriorated natural environments and agricultural lands; similar to other developed countries. Cities are also faced with the trends of globalization, privatization, deregulation, decentralization and so on. Further, Japan is now undergoing a severe economic depression; it is also becoming an aging society with fewer children, and many rural areas are affected by depopulation.

The Japanese City Planning Law, giving a framework to land-use management, was amended in 2000 to meet the issues above. The new Law mainly featured deregulation, decentralization and public involvement. Local governments have been given alternatives between strict or less strict regulations. However, under the circumstances of free market/competition, local governments, especially in the areas of lower development opportunities, are likely to seek the tax income for their budgets, and thus be likely to tend to less strict regulation. Private landowners are also likely to push the governments toward looser regulation. Public involvement and local autonomy would support this kind of deregulation. Thus, the effects of the new Law should be examined with an aim of better land-use management in the future. However, the effects are not yet clear because the Law only came into force in 2001.

Kiyotake town, population 28,852 (2002), is a typical suburban town in a provincial area in Kyushu Island. The town adjoins Miyazaki City, population 307,100 (2002), the capital of Miyazaki Prefecture. The town has been confronted with many suburbanization problems. In

1999, it established a '*city master plan*' to resolve existing problems. However, the new City Planning Law might become an obstruction to the *city master plan* because of its features of decentralization, deregulation and public involvement. There are now numerous cities and towns in Japan's suburban areas that are confronted with a similar dilemma.

Thus, a detail investigation in Kiyotake town of development trends and land-use management in a suburban area, and of the expected influences of the new Law, should contribute toward proper land-use management in Japan in the future.

With the above background, this paper investigates development trends and the problems of land-use. Then, it discusses future desirable land-use management. The investigation was based on the building permits issued by the town authority during 1995-1999, which are handled by use of a geographic information system (GIS), and on an oral survey of several town officials.

There are several papers that investigate land-use management in *urbanization control areas* (e.g. Morio and Kawakami, 1995, Kidani, *et al.* 1996, Seguchi and Kawai, 1998, Kidani and Kawakami, 1998, Wada, 1998, 1999, Li *et al.*, 2000, Kitaoka and Omura, 2000). These studies mainly focus on central cities in provincial areas, or in metropolitan areas. In this sense, there are few studies that have focused on suburban districts in provincial areas. This study should thus provide interesting information for land-use management in a provincial area.

On the other hand, there are only a few research reports of development trends outside of a *city planning area* (e.g. Miyake and Nakade, 1993). Research outside of a *city planning area* is generally difficult because of lack of data. Kiyotake town, exceptionally, has building data from outside of the *planning area*. Hence, this research is expected to show the reality and the problems of land-use management.

Of course, there are numerous studies of land-use management in many countries (e.g. European Commission 1999 for Denmark, Koizumi and Nishiura, 2003, for the United States, Takamizawa, 1998 for the U.K.). Difference in the features of development could be derived from the differences of legal land-use systems in those countries. In other words, the investigation of actual developments will help an understanding of the real meanings (actual results) of the legal systems of various countries. Therefore, this research can provide profound knowledge for various countries.

This paper starts with an introduction of the Japanese framework of land-use management in chapter 2, then proceeds into the investigation of Kiyotake town in chapter 3, and concludes in chapter 4.

2. FRAMEWORK OF LAND-USE MANAGEMENT IN JAPAN

2.1 Policy instruments for planning/land-use management

The basic laws concerning land-use are the City Planning Law, the Agriculture Promotion Law, the Forest Law, the Nature Park Law and the Nature and Environmental Law. The City Planning Law and the Agriculture Promotion Law are the main laws for urban and suburban areas.

2.1.1 City Planning Law

The national government has amended the City Planning Law many times, and issued *planning directives* for each amendment to advise how to implement the changes to the Law. At a national level, there is no actual plan by the government. Table 1 summarizes the plans and the authorities from national to local levels.

The Prefectural governments should designate '*city planning areas*' and provide '*master plans of city planning area*'. The *master plan* provides the basic city planning policy in a *city planning area*, adjusting the municipal plans (*city master plans*) from the viewpoint of a regional level over the municipalities. The Prefectural governments may divide the *city planning area* into an '*urbanization promotion area*' and an '*urbanization control area*'.

Table 1 Japanese city planning policy framework

Level	Policy institutions	Policy instruments
National	Ministry of Land, Infrastructure and Transport	City Planning Law Planning directive
Regional	47 Prefectures (<i>To, Dou, Fu, Ken</i>)	Master plan of city planning area
Local	3,229 Municipalities (<i>Shi, Cho, Son</i>)	City master plan District plan

Table 2 Japanese agricultural planning policy framework

Level	Policy institutions	Policy instruments
National	Ministry of Agriculture, Forestry and Fisheries	Agriculture Promotion Law Guiding principle of agriculture field
Regional	Prefectures	Planning guidance for Agriculture promotion
Local	Municipalities	Agriculture land-use plan

Municipal governments carry out municipal planning by means of '*city master plans*'. These plans provide guidelines for land-use in *city planning areas*. Based on the *city master plan*, the use-zone system, described in 2.2.1, is applied in the *city planning area*. Additionally, since 2000, municipalities may designate *quasi city planning areas*, in which the regulations on the Law are applied, based on the *city master plan*.

Municipal governments may also provide detailed and legally-binding plans, the *district plans*, for specific areas to implement detailed regulations for specific developments. The *district plans*, however, are required only when the specific areas or developments require more/less strict regulations than usual.

It should be noted that for most planning decision-making, both at prefectural and municipal levels, the area designation/division and the zoning are based on discussions by external councils; the '*City planning councils (Shingi-kai)*'. The *city planning councils* generally consists of several people, of reputed learning and experience, representatives of the local assemblies, selected residents, and officials from other authorities.

2.1.2 Agriculture Promotion Law

According to the Agriculture Promotion Law, the national government provides the *guiding principle of agriculture field*, which however is not legally-binding for land-owners. Table 2 summarizes the plans and the authorities related to agricultural planning.

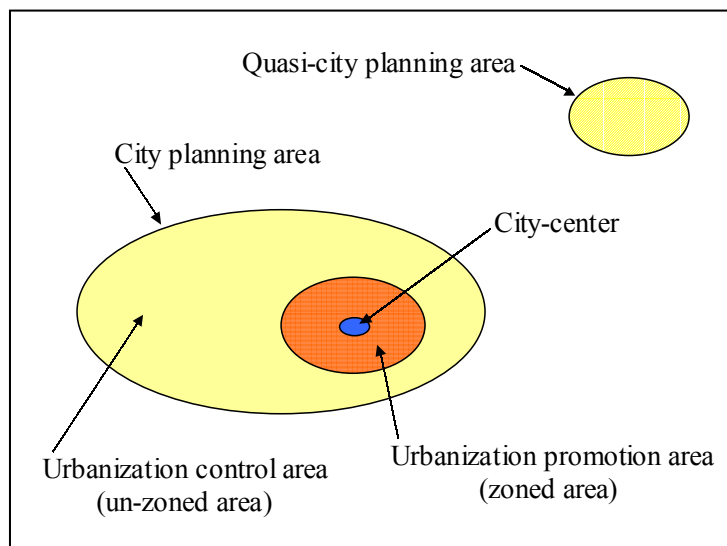
Prefectural governments should provide *planning guidance for agriculture promotion*; based on which they should designate *agriculture promotion areas*. However, in reality, the proposals of designation are usually provided at a municipal level. Municipal governments should provide the *agriculture land-use plan* based on which they should designate *agriculture promotion districts (Noshin-Aochi)*.

Similar to city planning, planning decision-making and areas/districts designation (or cancellation) are based on discussions by external councils; the '*Agriculture councils*' or the '*Agriculture committees*'; '*Nougyou-Kaigi* and '*Nougyou-Iinkai*', at prefectural and municipal levels, respectively. However, these councils are very different from those involved in city planning. That is, these councils consist of elected members from among and by interest groups (farmers). In this system, the stakeholders have the power, and it strongly features agricultural land-use management, especially under circumstances such as the globalization of the food market and economic depression. In other words, farmers dominate the actual land-use.

2.2 Framework of land-use regulations

2.2.1 City Planning Law

The City Planning Law stipulates the basic regulations for land-use and development in urban and suburban areas. Figure 1 shows a spatial model. The *city planning area* is the area in which the City Planning Law is applied. In other word, outside the *city planning area* and outside the *quasi city planning area* is free from the City Planning Law. (The *quasi city*



* The area of un-zoned area is almost equal to that of urbanization control area when a prefecture chooses non-division of the city planning area.

Figure 1. Spatial Model of a city planning area

planning areas are newly stipulated in the Law 2000 to effect on uncontrolled developments outside the *city planning areas*.)

The *city planning areas* basically should be divided into two areas: the *urbanization promotion area* and the *urbanization control area*. In *urbanization promotion areas*, the use-zone system is applied. The regulations applied in the use-zones are such as for the purpose of the land-use, building to plot ratio, and floor plot ratio. In the *urbanization control areas*, developments or any changes of land use for purposes other than agriculture are essentially prohibited.

The division of the *urbanization promotion/control areas* was a quasi-duty for prefectures before 2000, and had actually been effective to prevent undesirable developments in suburban areas in the *city planning areas*. However, many prefectural governments had suspended the division because of the objections of landowners, and the municipalities' intention to encourage developments to increase their budgets. In such cases, the *city planning areas* were divided into *zoned areas* and *un-zoned areas* (*Shirochi*). In *un-zoned areas*, use-control is not applied and regulations are less strict than those in *zoned areas*.

According to the Law 2000, prefectures may choose division or non-division of *urbanization promoting/control areas*. Recently, many prefectures/municipalities, especially in provincial areas, are seeking the cancellation of the division. Public involvement, based on the pressure of interest groups, may promote it, and the present economic recession may also support it.

In the *outside of city planning area*, the only regulations on developments are building structure codes against fires, earthquakes etc. There are no rules to prevent development- or building-actions, and no rules to push developments towards proper urban environments.

2.2.2 Agriculture Promotion Law

Prefectures designate the *agriculture promotion areas* and municipalities provide the *agriculture land-use plan* in the areas; and based on these, agriculture infrastructures are provided. However, prohibition of development is applied only in the *agriculture promotion districts*. Areas other than the *promotion districts* are potentially utilizable for non-agriculture purposes.

The *agriculture promotion districts* appear to be prevented from any developments. However, recently there have been many exceptions such as large-scale shopping centers. Such developments in the districts require two permits, the permit canceling the *promotion district* by the municipality government with the agreement of the prefectural government, and then, the permit of a land-use change by the prefectural government (the national government in the case of large-scale districts).

The problem is that the applications for cancellation by the landowners (farmers) are first

Table 3 The manageability of agricultural land

City Planning Law	Agriculture Promotion Law	
	Promotion district	Outside of promotion district
Urbanization promotion area		
Zoned area		
Urbanization control area	strictly maintainable	manageable
Un-zoned area	manageable	unmanageable
Outside of city planning area	manageable	unmanageable

submitted to the *agriculture councils*, described in 2.1.2, and then, sent to the governments. Since the governments must respect the *councils*, the real decision-makers would be the *councils*. Taking into account that the *councils* are the representative organizations of vested interests, it is difficult to prevent developments that seem to bring benefits to the present landowners.

Summarizing the above discussion; agriculture land-use management as it is connected with city planning is shown in Table 3. That is, agriculture lands strictly maintainable are the ones in both the *agriculture promotion districts* and the *urbanization control area*, and relatively manageable ones are the ones in the *promotion districts outside of city planning area* or the *un-zoned area* in the *city planning area*. In other areas, there is no effective management.

3. A CASE STUDY IN KIYOTAKE TOWN

3.1 Overview of Kiyotake Town

3.1.1 Geography and demography

Kiyotake town is located in the mid-south of Miyazaki Prefecture, in Kyushu Island, Japan (Figure 2-1). The distance to Miyazaki City, the capital of Miyazaki Prefecture, is about 10 km (20 minutes by car). As shown in Figure 2-2, Route 269 is the main road between the town and Miyazaki City, however several local roads are also provided. The town also has three railroad stations: Kanou, Kiyotake and Hyuga-Kutsukake, respectively from east to west. The town also has an interchange of the East-Kyushu Expressway, and other interchange, of the Miyazaki Expressway, is near the town.

Since the distance from Miyazaki City is short, the town has grown as a suburban town over the past three decades. The population change is shown in Figure 3 with the area classification of the *urbanization promoting area*, the *urbanization control area* and the *outside of city planning area*, during 1970-2000. The total population in 2000 was 28,755, about 2.7 times that of 10,678 in 1970. The population growth is significant, and the infrastructure investment has not caught up with the rapid urbanization.

The figure also shows an extreme population increase in the *urbanization promotion area*. The population in the *promotion area* was 19,327 in 2000, which is 4.6 times that in 1970, however the *promotion area* has been enlarged several times since 1970. The major cause of the increase is shown in the figure: several large-scale residential developments and developments of industrial areas and schools.

Additionally, what should be noted from the figure is the population increase outside of the *city planning area*, especially since 1985. It is obvious that suburbanization has spread out from the *city planning area* by jumping over the *urbanization control area*. This situation is investigated in detail in 3.3.3.

3.1.2 Conventional development policy

The *city planning area*, with the division of the *urbanization promotion/control areas*, was designated in Kiyotake town in 1970. These areas and the *agriculture promotion districts* are also shown in Figure 2-2. The south part of the town is outside of both the city planning and agricultural areas because it is mountainous. The small white area in the northwest of the town is outside both of the *city planning area* and the *agriculture promotion district* because it is a gentle sloped area. In fact, this sloped area is the target of undesirable developments outside of the regulations of city planning and agricultural policies (shown in 3.3.3).

As shown in the figure, the *city planning area* is relatively small. This is because the residents



Figure 2-1. Location of Kiyotake town

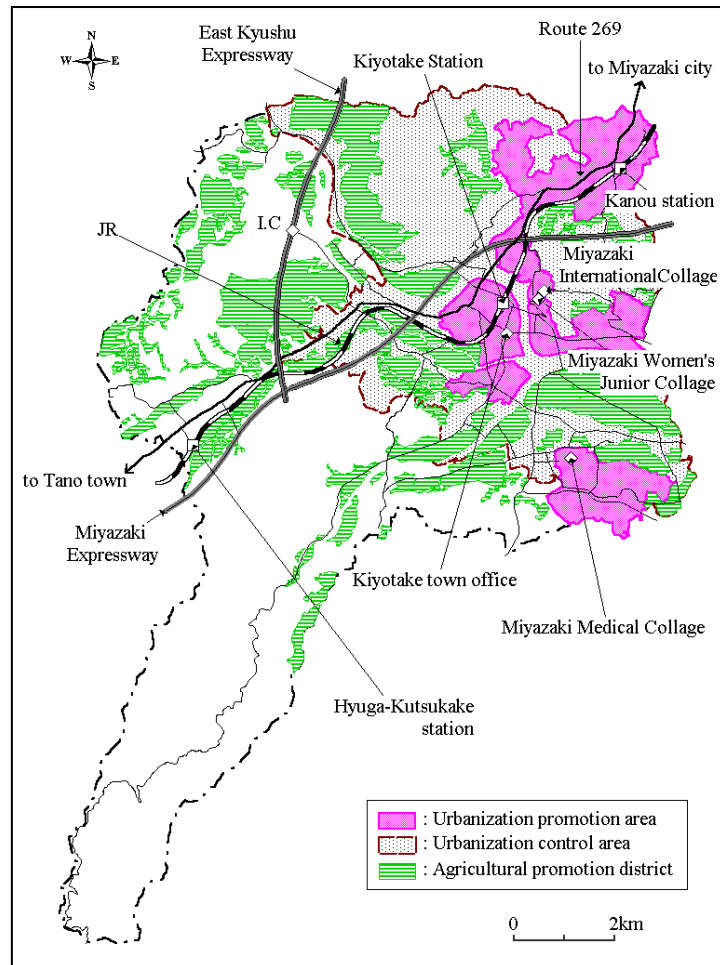


Figure 2-2. Map of Kiyotake town

(landowners) outside of the present *city planning area* strongly opposed inclusion into the *city planning area*, in 1970. After 1970, expansion of *city planning area* had become difficult because the prefectural government should include this area on the condition of the inclusion of many other places in other municipalities. It has been a difficult condition for the government.

The *city planning area* has been fixed since the designation, while several districts near Kanou-station were incorporated from the *urbanization control area* into the *promotion area*, and the *agriculture promotion districts* had gradually been released for developments.

As described above, the town had several developments that are strongly connected to the population increase, such as large-scale residential areas, schools, and industrial areas. The town authority has been trying to attract schools, factories and companies. Miyazaki Women's Junior College and Miyazaki Medical College were established in 1965 and 1984, respectively. Several big factories such as for electrical and medical companies were also invited into the town.

In 1984, the national government appointed the area, stretching over Kiyotake town and Miyazaki City, as a '*techno-polis model area*' to promote high-tech industries. The area includes the factories and the schools mentioned above. Several big industrial lots were developed in the area by the prefectural and the town governments. Miyazaki University was transferred into the area near Miyazaki Medical College. Large residential districts were also provided by the prefectural government. These developments actually strengthened development pressure in the neighborhood *urbanization control area*. This is investigated in 3.3.2.

In contrast to the development policy in the *city planning area*, there have not been any policies outside of the *city planning area*. The problems concerned with this are investigated

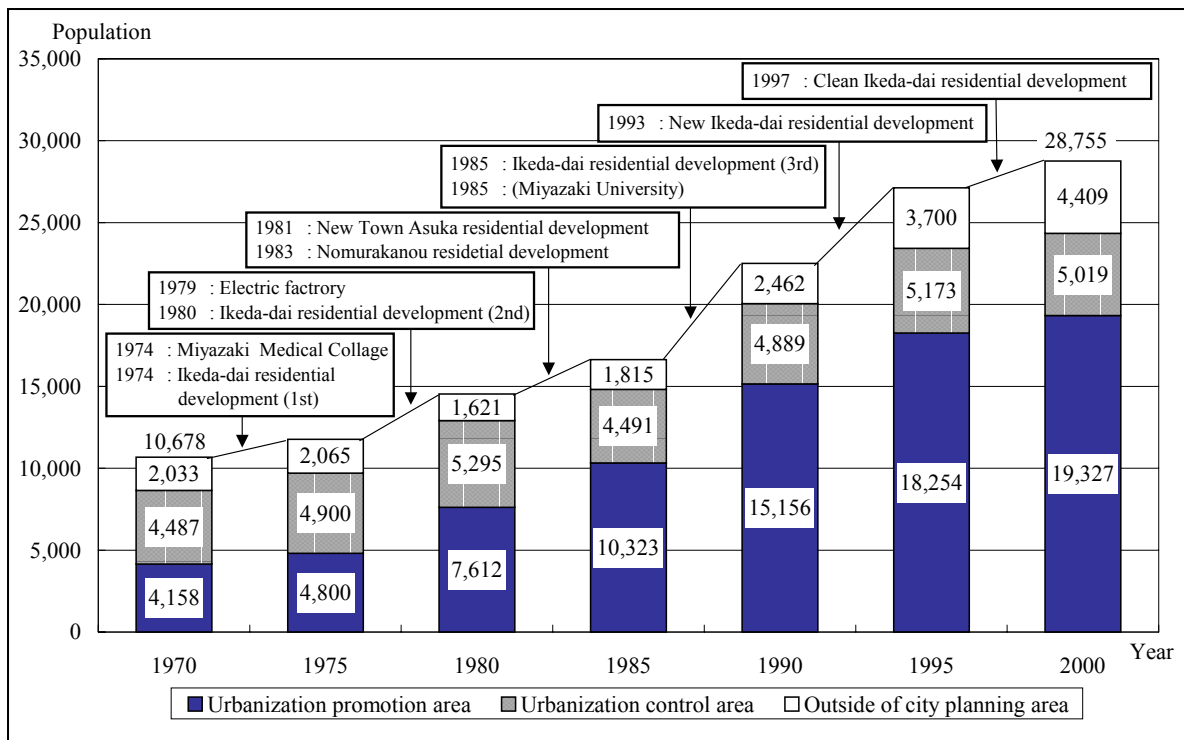


Figure 3. Population change in Kiyotake town

in 3.3.3.

3.1.3 City master plan, 1999

The town published the *city master plan* in 1999 to resolve planning problems caused by both suburbanization and the town's conventional development policy. Although the plan includes policies for the overall area of the town, the major features of the plan are for the *urbanization control area* and the area outside of the *city planning area*.

Major policies are as follows.

- Introducing *district plans* for proper development in the *urbanization control area*
- Extending the *city planning area* to include the undesirably developed area. The extended area should be included in the *urbanization control area*
- Introducing *district plans* in the extended area as a)

These policies are aimed to prevent areas of nature and the agricultural fields from having undesirable developments, and to establish proper residential environments in the undesirably developed areas, in the *urbanization control area* and outside of the *city planning area*.

Needless to say, these features are strongly based on the division of the *urbanization promoting/control areas*. It is doubtful that the *city master plan* can fulfill its policies in spite of the deregulation offered in the City Planning Law 2000.

3.2 Research design

The building permits issued by the town authority during 1995-1999 were surveyed to investigate development trends in Kiyotake town. Although application for a permit is a legal obligation for developers/landowners in the *city planning area*, the town authority also requires application to be made in areas outside of the *city planning area*. Therefore, fortunately, our survey based on permits can clarify the situation in the whole municipal area. The research process is shown below. The investigations b)-d) were conducted using GIS.

- Investigation of total numbers of permits in the *urbanization promotion area*, the *urbanization control area* and out of the *city planning area*. This indicates the overall trend of developments in the areas. (3.3.1)
- An overview of the development locations in all of Kiyotake town. (3.3.1)
- Detailed investigation of developments in the *urbanization control area*. The purpose is to

evaluate land-use management in the *control area*. (3.3.2)

- d) Detailed investigation of developments outside of the *city planning area*. This is to clarify the situation of land-use management outside of both the *city planning area* and the *agriculture promotion districts*. (3.3.3)
- e) Total evaluation and alternatives for city planning and land-use management in Kiyotake town. (3.4)

3.3 Development trend

3.3.1 Developments in the whole town area

Figure 4 shows the numbers of buildings (permits) constructed during 1995-1999. Total numbers vary between 176 in 1998 to 233 in 1999. The variance is relatively small. The number of permits in the *urbanization control area* varies between 37 (1997) and 23 (1999). The numbers outside of the *city planning area* are over 60 except for in 1997 and 1998. From the viewpoint of correct city planning, permits in the *urbanization control area* and the *outside of city planning area* should be very few; the problem is that the reality is far from what it should be.

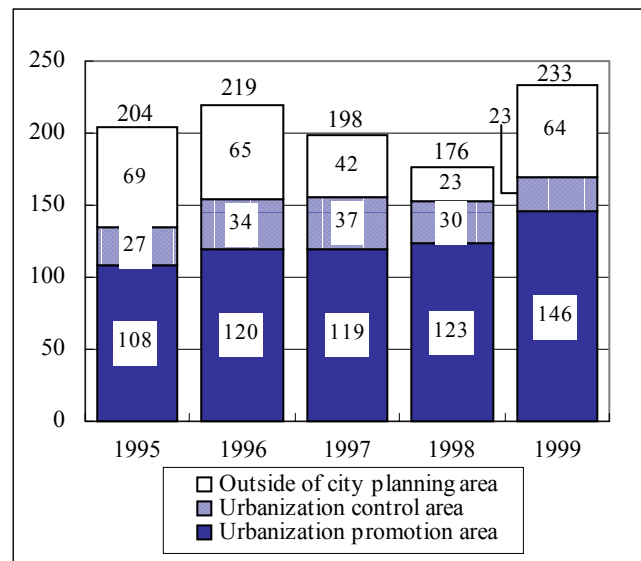


Figure 4. Number of permits

The locations of new buildings are displayed in Figure 5. Several concentrations of buildings are found and can be categorized as follows.

- a) Zone A: The northeast area of the town, including Kanou-station. It is the nearest area to Miyazaki City, and is developed as a residential area. Middle- and large-scale shops are found along Route 269. This area is in the *urbanization promotion area*. However, the most densely concentrated district, 'Clean Ikeda-Dai' in west of the area, is an area previously developed in the *urbanization control area* and then included into the *promotion area* in 1999. The permits in the district were issued after inclusion.
- b) Zone B: The town center area, including Kiyotake-station, town-office, and shops for daily life. Several land readjustment projects have been executed and re-locations of houses are found. This area is also in the *urbanization promotion area*.
- c) Zone C: The area close to Miyazaki Medical College. It is in the *urbanization control area*. Old villages are located along the local road. Developments as exceptions to the regulations are many.
- d) Zone D: The area close to Tano town, west neighborhood of Kiyotake town. It includes Hyuga-Kutsukake station and Route 269. Building concentrations are found outside of both of the *city planning area* and the *agriculture promotion district*. This area is most problematic for undesirable and uncontrollable developments.

These four zones have serious problems in connection with land-use management, such as roadside shops in Zone A, deteriorating town center in Zone B, gradual urbanization in Zone C and undesirable developments in Zone D. However, this paper will investigate the situations in just Zones C and D, because the main purpose of this study is to clarify the problems of suburbanization. Zones C and D are the front lines of suburbanization.

3.3.2 Developments in the urbanization control area

The developments in the *urbanization control area* are basically prohibited with some exceptions. The exceptions are the developments for agricultural purpose, houses for farmers' children, renewal of existing houses, houses in the lots developed before the designation of the *control area* (1970), and similar.

Figure 6 shows the numbers of permits in the categories of the exceptions in the whole *urbanization control area* during 1995-1999. The number of the houses for farmers' children is the largest at 39, and then the number of the developments for agricultural purpose is large at 26. The numbers of renewals and the houses in the lots developed before are 17 and 13, respectively. It is generally accepted that most farmers' children do not work in agriculture

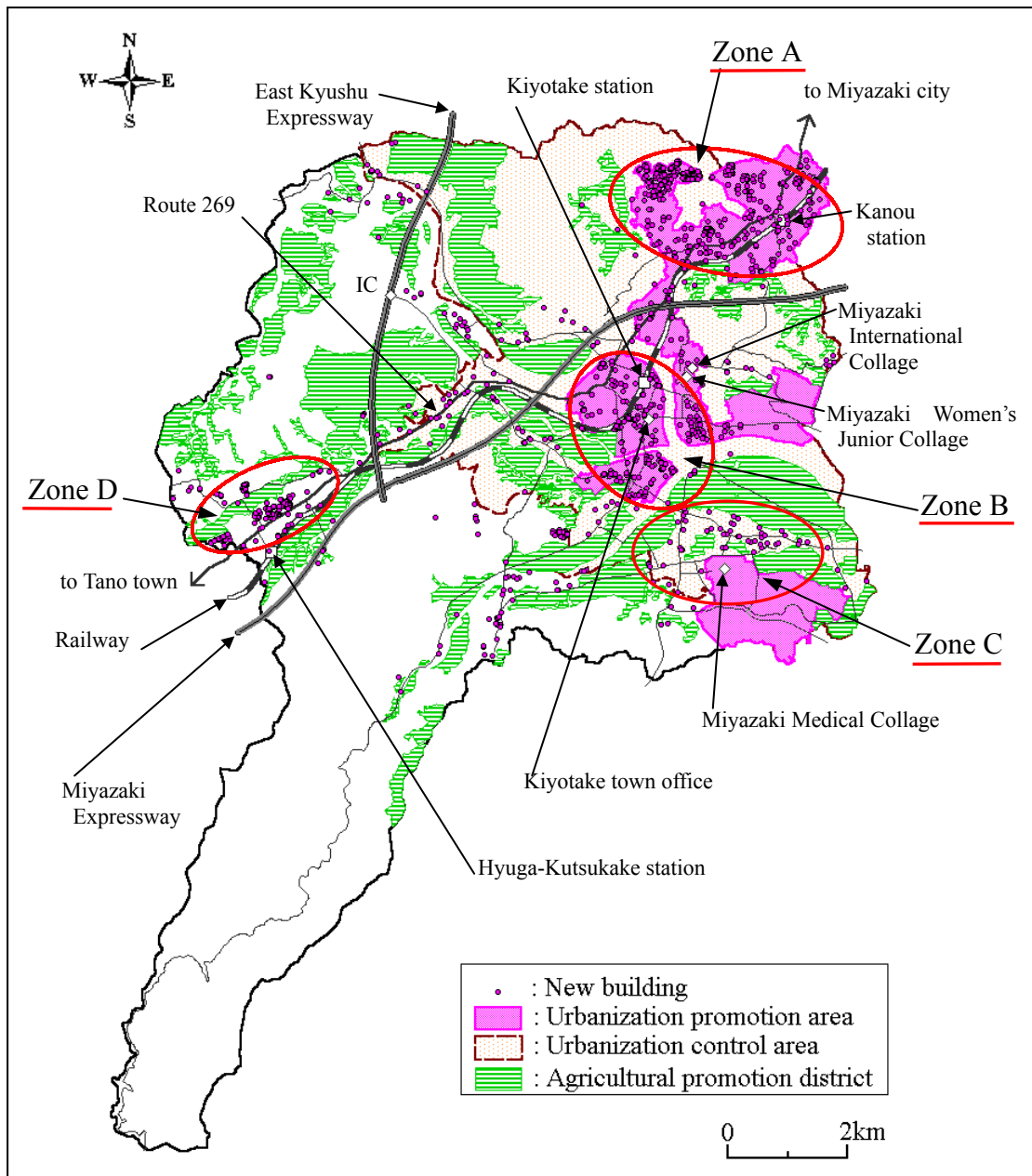


Figure 5. Locations of new buildings

these days, and therefore, these houses are considered to promote suburbanization in the *control area*. Actually, the town authority (the prefecture authority, finally) has allowed many developments and houses in the *urbanization control area* by interpreting the exceptions as widely as possible. For example, the town authority has regarded apartment houses with agricultural workshops or storage as agriculture facilities; or people, who once lived in the *control area*, as original residents.

The development situation in Zone C is displayed in Figure 7. As shown in the figure, many developments are found in the *control area*. Most are houses near the local road. Although these developments are outside of the *agriculture promotion districts*, it can be a problem that without proper plans agricultural lands were developed for urban-uses.

For reference, Figure 8 shows the long-term population change in Zone C during 1971-2000 (the population statistics for districts were compiled from 1971). There was an incredible increase between 1975 and 1980, caused by the establishment of Miyazaki Medical College. Though many apartment houses are located in this area, the population has been relatively stable since 1980.

It is very interesting that the population has been stable in spite of the loose interpretation of the regulations. In other words, the villages would have depopulated if the authority had strictly interpreted the regulations.

The actual problems in Zone C as seen by town officials are as follows:

- a) A jumble of apartment houses permitted in the lots developed before the designation of the *control area*.
- b) Lack of communication between new and original residents.

Actually the area was originally a village center, and farmers' houses and small shops have existed for many years. Miyazaki Medical College strengthened the development pressure for student accommodation, shops and restaurants; however it was all very temporary. Now, the villages are not sustainable without applying a loose interpretation.

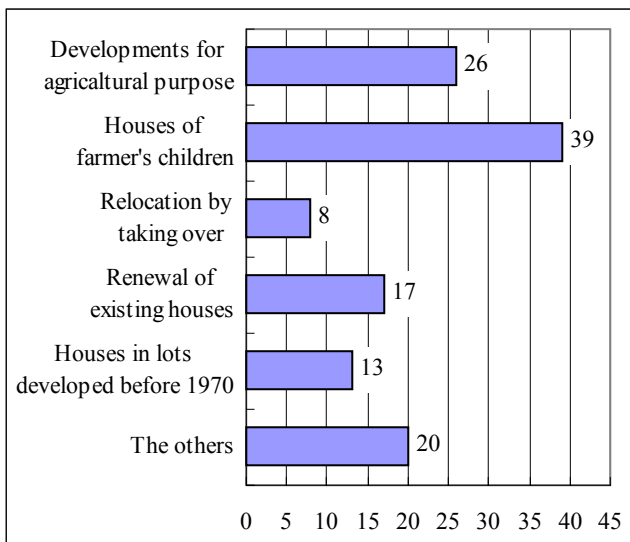


Figure 6. Numbers of permits for exceptions

Considering this circumstance, *district plans* should be provided against undesirable

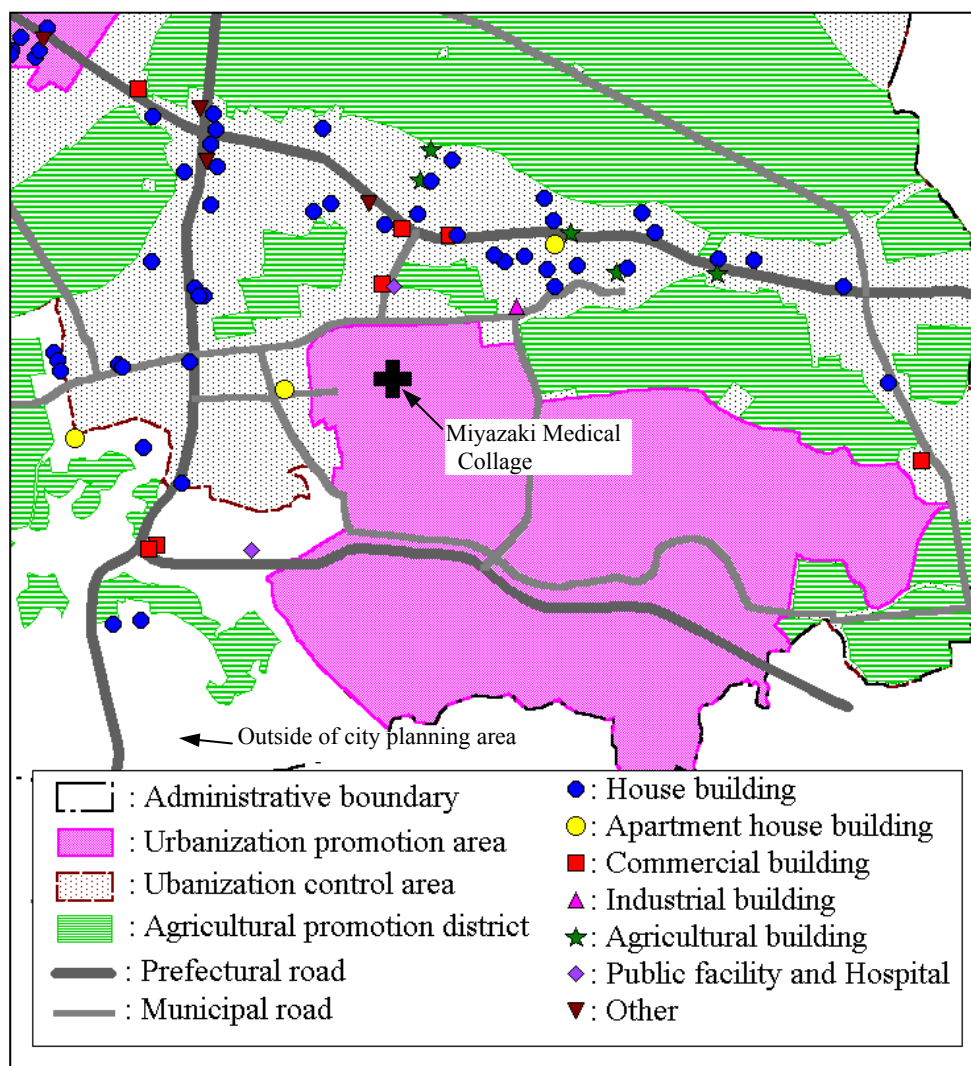


Figure 7. Locations of new buildings in Zone C

developments. This is why the *city master plan* has such provisions. It is clear that, without *district plans*, this area would be deteriorated in both its residential and agricultural environments.

3.3.3 Developments outside of the city planning area

Zone D is the most serious area regarding land-use management. In Figure 9, the developments during 1995-1999 are shown on the map. These developments, most housing, are located outside of the *agriculture promotion district*, because the area is sloped. The regulations applied to this zone are only of the building codes in connection with earthquakes, fires and so on.

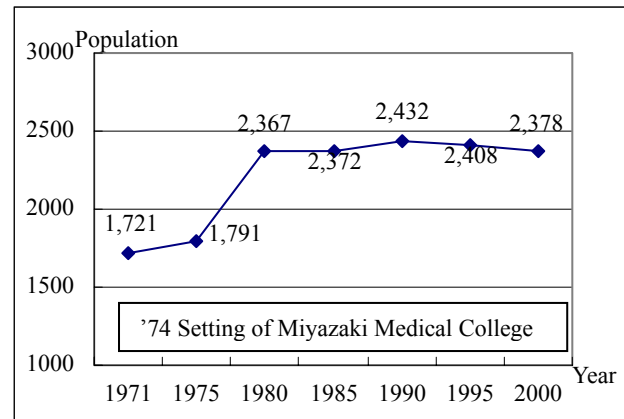


Figure 8. Population change in Zone C

As shown in the figure, the houses are concentrated in several districts. These districts are the ones developed by private development companies. The prices of the houses with lots in these districts are relatively cheap because infrastructures such as sewage systems, district roads, neighborhood parks, which should be provided according to the City Planning Law, are not /will not be so provided. The cheap price has indeed been attractive for middle, lower income purchasers.

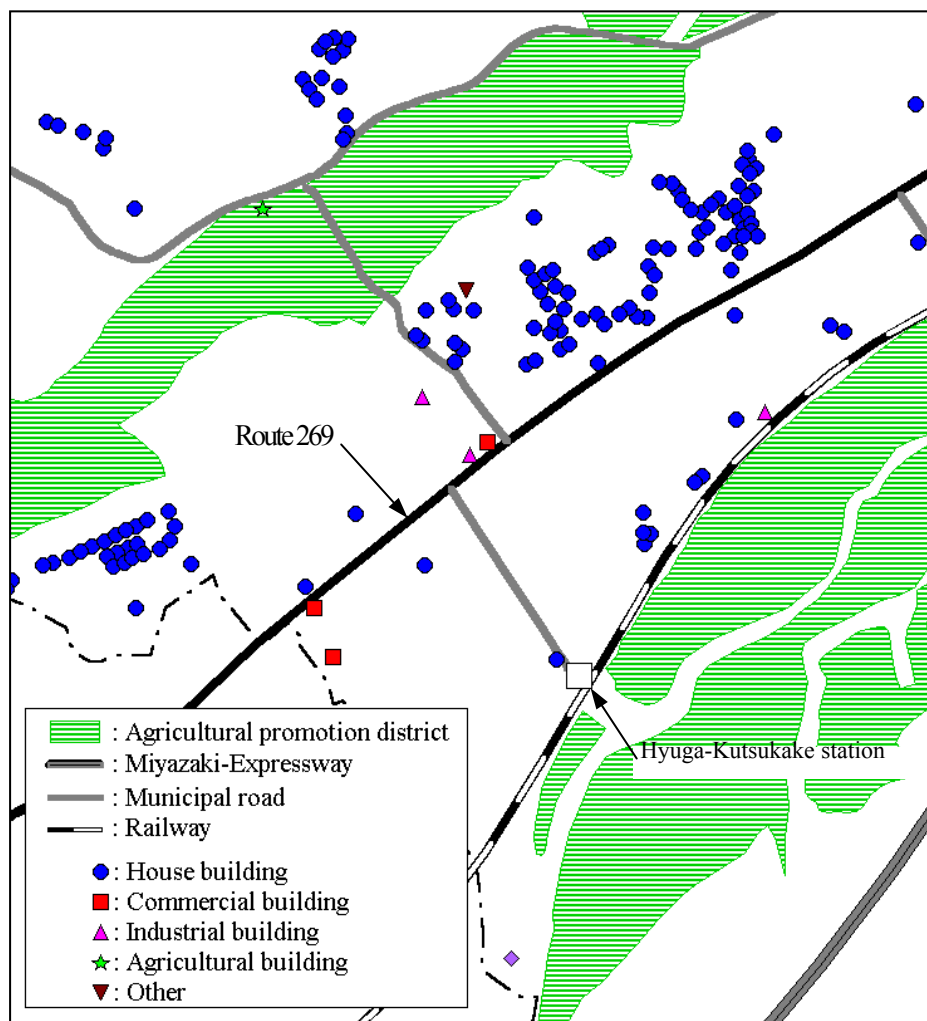


Figure 9. Locations of new buildings in Zone D

An example analysis of the quality of these houses, and the distribution of the housing lot sizes is shown in Figure 10. It is apparent that the lot sizes in Zone D are smaller than those in the other area in the town. Many housing lots in Zone D are within 100-200 sq. meters, while most lots in the other area are within 200-300 sq. meters. From the viewpoint of quality, Zone D does not present a satisfactory residential environment.

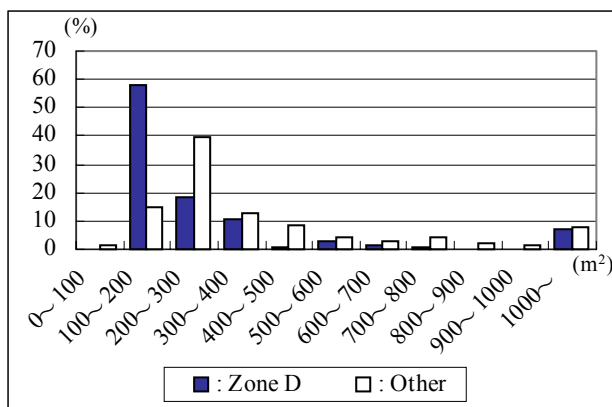


Figure 10. Distribution of housing lots area

For reference, Figure 11 shows the population changes in Zone D, during 1971-2000. Since 1980, the increase has been quite significant. The population in 2000 was 1,774, which is almost four times that in 1980. A significant increase of population and the development apparently causes many problems, involving residential, agricultural, environmental, and security issues.

Town officials recognize the problems in this zone as being:

- a) Landslides and collapses of retaining walls caused by the low quality developments. Since this area is outside of the *city planning area*, certain regulations for developments are not applied.
- b) The deterioration of the districts roads. The residents cannot afford to maintain the roads. Since the roads are the properties of the residents, the authorities (town or prefecture) have nothing to do with them.
- c) The lack of a sewage system. This causes deterioration of the quality of water for agricultural use, and un-drained rainwater in the developed districts goes into the conventional villages.
- d) Difficulties for fighting fires because of the insufficiencies of the road networks.

These problems are very serious, and therefore, urgent countermeasures need to be adopted. However, the essential cause of these problems is that this area is outside *the city planning area*. Governments do not have any legal basis to provide infrastructure, to regulate and control developments, or to manage land-use. This is why the *city master plan* (described in 3.1.2) focused on this area.

3.4 Discussion and Implications

3.4.1 Fundamental problems of the land-use management system

Recently, development pressure in Japan has generally not been as extensive as it use to be because of the economic recession. Since the population has reached a ceiling, housing demand is also declining compared to that in times of rapid economic growth. In this sense, undesirable developments might decrease, especially in provincial areas suffering depopulation. However, even in a relatively small town such as Kiyotake, undesirable developments in suburban areas are a real problem.

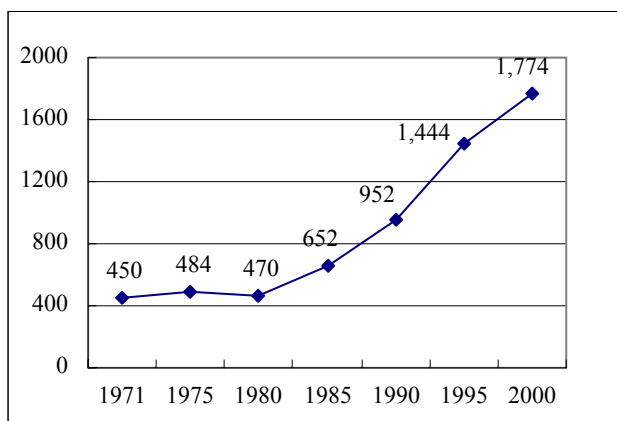


Figure 11. Population change in Zone D

Table 4. The large-scale residential areas

Residential area	Year	Number of lots
Ikeda-dai 1st	1975	156
Ikeda-dai 2nd	1980	245
New town Asuka	1981	283
Nomura-Kanou-dai	1983	255
Hirano-dai	1986	158
Ikeda-dai 3rd	1988	578
New Ikeda-dai	1993	266
Clean Ikeda-dai	1998	435

In Kiyotake town, large-scale residential areas have for many years been developed by private companies. These areas are mainly in/near Zone A in Figure 4. Table 4 summarizes such residential areas of more than one hundred lots. In such areas, developed about twenty years ago, problems connected with aging are becoming serious. The numbers of the uninhabited houses are increasing. Furthermore, in the recently developed areas, there are many lots left unsold. That is, there is more than enough room for accommodating new residents in the *urbanization promotion area*.

However, the population tends to seek housing outside of the *city planning area*. It is a serious problem for efficient investment in infrastructure, especially in difficult economic times. Further, considering that the aging problem in the older developed areas is becoming more serious, essential countermeasures should be adopted.

People buy housing outside of the *city planning area* because the houses are relatively cheap, while the houses are more expensive in the *urbanization promotion area*. Of course, the quality of the houses and the residential environment are better secured in the *promotion area*. However, they are not affordable for middle-lower income purchasers. The quality of houses and the residential environment outside of the *city planning area* are not good; but are affordable for many people.

To prevent such problems, affordable houses need to be provided in the *urbanization promotion area*, and stricter regulations for developments and houses should be enforced outside of the present *city planning area*. However, it is difficult for local governments to control housing prices, and to extend the *city planning area* without a consensus of the residents with interests in the areas.

On the other hand, communities in the *urbanization control area* seem to suffer from general problems associated with depopulation. Since, the agricultural communities are quite conservative, communities in the *control areas* do not seem to be attractive for incoming residents. In Zone C, the population is relatively stable. This is because that the local governments (town and prefecture authorities) have interpreted the exceptions of the Law much more widely.

Although this interpretation could maintain the population in the *urbanization control area*, the quality of the developments and the buildings are problematic. Additionally, local governments cannot provide sufficient infrastructure because the *urbanization control area* should be left for agricultural use according to the City Planning Law, even if the area is not demarcated as *agriculture promotion districts*.

Taking the above points into consideration, a clear division of the residential and farming areas should be made as an initial step; then housing developments should be allowed with the application of certain regulations. A critical point, however, is that farmers prefer their properties to be included of in the developable areas.

3.4.2 Alternatives based on the present laws

The Law 2000 abolished exceptional developments for existing plots in the *urbanization control area*. Therefore, alternatives for managing proper developments are necessary for Zone C. The alternatives adoptable according to the present laws are as follows.

- a) Area designation for exceptional developments according to Article 34-8-3 of the City Planning Law: The area designation should be based on the local ordinances of the prefectural authority. In the designated area, regulations for developments and buildings are relatively loose compared to those in alternative b). In this sense, it is not necessary that a residential environment is secured, although it can prevent farmlands from being developed.
- b) Introducing *district plans* into limited areas (Article 34-8-2): If *district plans* require stricter regulations for developments and buildings than other areas, the developments and the buildings would merely 'avoid' these districts. In this sense, the *district plans* should be accompanied by stricter regulations for the other areas. The *districts plans* should be utilized to loosen strict regulations. The alternative b) is better than a) because the *district plans* can realize a proper vision for the community and enforce binding regulations.

For Zone D, the alternatives are as follows:

- c) Introducing a *quasi city planning area*: The *quasi city planning area*, if anything, is a passive tool against undesirable urbanization/suburbanization. That is, although similar regulations to a *city planning area* are applied, infrastructure such as roads, sewage systems and parks are not actively provided in the *quasi city planning area*. Since the residential and environmental circumstances are already seriously deteriorated in Zone D, the designation of a *quasi city planning area* is not effective enough to resolve the problems. Such a designation would have been effective in the early stages of suburbanization.
- d) Expanding the *city planning area*: According to the directives of the City Planning Law, an area newly included into the *city planning area* should be categorized as a *urbanization control area*. This is why residents in Zone D had opposed their inclusion. As stated above, there are two alternatives for land-use management in an *urbanization control area*. Similar to the relation between a) and b), introducing *district plans* could be effective.

3.4.3 Attitude of property owners toward alternatives

The problem is how a consensus and agreement among residents and property owners can be achieved. While it is natural that they do not prefer stricter regulations than before, they could agree to regulations the advantages encouraged by the regulations are understood.

In this sense, an agreement in Zone C seems reachable. Since exceptional developments on existing lots were abolished by the Law 2000, regulations for such developments have basically become stricter than before. A package of stricter regulations in the *urbanization control area* and *district plans* to loosen regulations in the limited area could be attractive for property owners. That is, a 'push and pull' strategy.

Contrarily, it seems to be difficult in Zone D. The key issue concerns two kinds of property owners: the original residents (mainly farmers) and the new residents (residents in the newly developed residential districts). The former have larger undeveloped lands and tight communities, while the latter have smaller lots and weak communities. The interests of the two groups of residents do not coincide. Further, the former has more power based on their more established private interests.

In spite of the serious problems stated in 3.3.3 and the urgent demand for infrastructure needed by the latter, the former residents feel no pressure to solve the problems at the cost of their freedom to dispose of their properties. Thus, the preferable order of the alternatives for the original residents is:

- 1) Keeping Zone D outside of the *city planning area*. Many original residents with large-scale properties have already understood the possibilities of profiting from the development business. They naturally consider that being outside of the *city planning area* would be better for them so long as the existing problems become no more serious.
- 2) Including Zone D into the *city planning area* with the abolishment of the division of the *urbanization promotion/control areas*. Although certain regulations are applied in the *un-zoned area*, these are less strict than those in the *urbanization control area*. The infrastructure would be provided according to the City Planning Law. This alternative seems to be preferable as a combination of the interests of the new and original residents.
- 3) Including Zone D into the *urbanization control area* with certain *district plans*. This is the preferable way for the town authority to manage land-use by maintaining farms and the natural environment. This is acceptable only when stricter regulations are enforced in the overall *urbanization control area* and *district plans* are employed to loosen regulations.

The Law 2000 has empowered the role of the public to be involved. Needless to say, any policies without agreement of the public are not performable. A critical point is the role of residents/landowners; if they support only their private interests, proper land-use management cannot be achieved. In this sense, a consensus regarding the importance of land-use management should be built among residents/landowners, as recommended by the OECD (OECD, 2000).

3.4.4 Comparisons with other regions and countries

As described in chapter 1, there are several empirical/theoretical reports about land-use in Japan as well as in other countries. Let us consider what can be gained from a comparison of this research and other reports.

Conventional research regarding development trends in *urbanization control areas* in Japan (e.g. Morioka and Kawakami, 1995, Kidani, *et al.* 1996, Seguchi and Kawai, 1998, Kidani and Kawakami, 1998, Wada, 1999, Li *et al.*, 2000, Kitaoka and Omura, 2000, Wada, 1998) has shown similar phenomena and problems found in this research. Those investigations mainly focused on middle- or large-size cities. On the other hand, this study is important because it revealed similar phenomena and problems could also be found in a relatively small suburban town in a provincial area. A more serious problem is that the sustainability of the communities in *urbanization control areas* such as in Kiyotake could be in crisis if regulations are strictly applied. Discussions set out in 3.4.2, 3.4.3 can be applied to those regions reported in the conventional research studies.

Regarding the findings in the areas outside of the *city planning area*, this study should provide significant information of actual developments and problems of land-use management because there were few conventional studies using detailed data. The points detailed in 3.4.2, 3.4.3 can also be applied to such regions.

Studies in other countries, such as in Europe and the United States, have shown different phenomena and problems. Differences between this paper and those derive from the differences of the legal systems regarding land-use and permit application systems. Although other countries have problems, nature and agriculture areas seem more maintainable than in Japan. For example, development is basically prohibited in the whole country in Denmark (European Commission, 1999). There are also many cases of 'growth management' or 'smart growth' in the United States (Koizumi H. and Nishiura S. *ed.*, 2003). Under such a system, undesirable developments are avoidable. In this sense, the case study in Kiyotake shows the undesirable result of loose regulations and a loose permit application system. If a country has similar land-use regulations to Japan, similar phenomena and problems would occur. Thus it appears obvious that the Japanese land-use system needs to be improved into a much stricter one, as the OECD has recommended (OECD, 2000).

4. CONCLUDING REMARKS

This paper investigated development trends in Kiyotake town, a suburban area of the prefecture capital, Miyazaki City, and discussed the alternatives for proper land-use management. This case study has provided important information that should be useful for other cities under pressure for suburbanization, especially those in provincial areas of Japan. The concluding remarks are as follows:

- a) Although urbanization/suburbanization is settling down in Japan, developmental pressure in Kiyotake town is still large. Many developments are found outside of the *city planning area*.
- b) In the *urbanization control area*, the local authority has interpreted the exceptional development broadly. Although the number of developments is not large, gradual suburbanization is proceeding. However, it can be said that population numbers have been maintained because of the loose interpretation. This phenomena and the resulting problems have also been pointed out in the conventional research reports. However, it is important that, in a small suburban town in a provincial area where the problems are serious, a loose interpretation has a certain role to maintain the community.
- c) There are many developments outside of the *city planning area*. Such houses are affordable for middle-lower income purchasers. However, these developments without any plans cause many residential, agricultural and environmental problems. These, empirically pointed out before, are actually highlighted by using the detailed data.
- d) Countermeasures against the above problems were considered in the *city master plan* of 1999. They could still be effective if put into practice. However, the City Planning Law 2000 may become an obstacle because the division of the *urbanization promotion/control areas* became optional. The alternatives for residents were much expanded.
- e) The City Planning Law 2000 empowered public involvement. Instant public involvement could be dangerous for desirable land-use management. A consensus of the importance of land-use management needs to be built among residents/landowners.
- f) The issues raised in d) and e) are thought to be held in common with other regions in Japan where there are similar phenomena and problems. It also indicates the importance of a land-use system in which developments are basically restricted across the whole country but then are permitted in limited areas with certain restrictions. In this sense,

advanced land-use systems in many other countries have concepts that could improve the Japanese legal system and its application to land use management.

REFERENCES

- European Commission (1999) **The EU compendium of spatial planning systems and policies Denmark**, Office for official publications of the European Communities, Luxembourg.
- Kidani, H., and Kawakami, M. (1996) Actual Condition and Planning Theme of Building Activity in Urbanization Control Area – Case of Kanazawa City –, **Papers on City Planning, Vol. 31**, pp.583-588.
- Kidani, H., and Kawakami, M. (1998) A Study on Policies of Land Use Control in Urbanization Control Area – Case of Local Main Cities –, **Papers on City Planning, Vol. 33**, pp.511-516.
- Kitaoka, N. and Omura, K. (2000) The mechanism of development on the Urbanization Control Area and problems of Land-use – A case of Tsukuba City (Ibaraki Prefecture) –, **Papers on City Planning, Vol. 35**, pp.193-198.
- Koizumi H. and Nishiura S. *ed.* (2003) **Smart Growth**, Gakugei Shuppan, Tokyo.
- Li, W., *et al.* (2000) A Study on Urban Development Tendency and its Effect Factors in the Urbanization Control Area of Local City, **Papers on City Planning, Vol. 35**, pp.325-330.
- Miyake, T. and Nakade, B. (1993) Study on the Development Condition and Its Subject in the Loose Regulation Area as the Outskirt of the Local City, **Papers on City Planning, Vol. 28**, pp.841-846.
- Morioka, K., *et al.* (1995) Evaluation of Development Regulation in an Urbanization Control Area According to a Research on Actual Sprawl Conditions – A Case Study in Saitama Prefecture –, **Papers on City Planning, Vol. 30**, pp.127-132.
- OECD (2000) Japan Urban Policy, Gyousei.
- Seguchi, T. and Kawai, M. (1998) A Study on Development and Problems on the Existing Building Site in the Urbanization Control Area – Case Study of Ichinomiya and Toyota, Aichi –, **Papers on City Planning, Vol. 33**, pp.529-534.
- Takamizawa, M. (1998) **Planning system in urbanized society**, Gakugei Shuppan, Tokyo.
- Wada, O. (1998) Development Control in the Loose Regulation Area – The Amendment to Urban Planning Law in 1992 –, **Papers on City Planning, Vol. 33**, pp.517-522.
- Wada, O. (1999) Land Use Planning of Rural Settlement in Urbanization Control Area – A case Study in Kobe City –, **Papers on City Planning, Vol. 34**, pp.277-282.