

**TITLE: A STUDY OF AREA MANAGEMENT ACTIVITIES BY THE PUBLIC/PRIVATE  
PARTNERSHIP FOR SUSTAINABLE URBAN REGENERATION  
- CASE STUDY OF CORE AREAS OF LARGE CITIES IN JAPAN -**

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## Summary

The purpose of this study is to aim area management activities in the core areas of large cities in Japan at acquiring the basic knowledge and implications for active deployment from now on as one strategy for performing sustainable urban regeneration. In recent years, mature urban planning can be considered from two important points of view, which are not only seeing from the developmental view based on hardware, but seeing from the management view of the software which utilizes the various regional assets such as talented people and resources, etc. The case study areas are classified into three types according to regional characteristics: mature area type, mixed area type, and large-scale development type. The contents of this study consist of the following: the processing of area management activities, its related organization, and the comparative analysis of the main characteristics and problems of the area management according to type. Through such activities, regions improve in charm and competitiveness, which can be aimed at the regeneration of core areas in large cities. Area management has been carrying not only physical development but various management activities cooperatively in order to heighten the possibility of sustainable urban regeneration of the core areas of large cities in Japan. Especially, this study performs a case study of the core areas of large cities in Japan which are developing area management by means of a public/private partnership.

## 1. Introduction

In recent years, urban planning in Japan has been shifting from urban planning of the growth age to urban planning of the mature age. Urban planning of the mature age can be considered from two important points of view, which are not only seeing from the developmental view based on hardware, but seeing from the management view of the software which utilizes the various regional assets such as talented people and resources, etc. Through such activities, regions improve in charm and competitiveness, which can be aimed at sustainable urban regeneration of the downtown (core area) in mega (large) cities. Sustainable urban regeneration is about meeting the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987).

Moreover, until now conventional urban planning has been considered the guidance and adjustment to the maintenance of public space by the public sector, and individual development focusing on new construction by the private sector. But various activities are important for future urban planning in order to promote consistent management after development by public/private partnership (PPP) or locally-owned entities (private sector), which include maintenance, publicity work, cultural activities, etc. It can be said that it has been shifted to the view of the new public, in which the private sector also has a public view of various levels. A wide range of urban planning activities (this is called "area management" in this paper) has been put into view, from development to management. Area management is defined as activities which are performed consistently from development to management in a specific region above a certain size. Moreover, in area management, development refers to the process of the development project, and management presents the activities which aim at the continuous maintenance of the region concerned after development (Lee and Kobayashi, 2004, p. 745; Asai, T and Morita, K *et al.* 2002, p. 601).

Area management has been carrying not only physical development but also soft management cooperatively in order to heighten the charm and competitiveness of the core areas of large cities in Japan. Especially, this

study performs a case study of the core areas of large cities in Japan which are developing area management through public/private partnership. The regions which promote these activities are increasing in the core areas of large cities in Japan. It can be examined how the actual condition analysis of the area management is realistically applied as one technique for sustainable urban regeneration.

This study is aimed at the area management activities in the core areas of large cities in Japan, in order to acquire the basic knowledge and implications for active deployment from now on as one strategy for performing sustainable urban regeneration.

## 2. Research Methodology and Case Study Areas

### 2.1 Research Methodology

This study is focused on the typical cases which are performing area management activities in the core areas of large cities in Japan. After arranging past studies, the method of research of case study areas is analyzed through interviews with the person in charge of every area about the more concrete aspects of certain activities.

The case study areas are classified into three types according to local characteristics: mature area type, mixed-use type, and large-scale development type. The contents of this study consist of the following: the processing of area management activities and their related organization, public/private partnership, a comparative analysis of the main characteristics and problems of area management according to type. Moreover, the study analyzes the actual conditions of stock management and measure of the environment and energy currently performed as area management activities in overall region for sustainable urban regeneration.

### 2.2 Selection Bases of Case Study Areas

The selection bases of case study areas are as follows. Firstly, the total area is more than a certain size in the core area of large cities (over 0.1 square kilometers). Secondly, the private sector and the landowner are performing mainly area management activities. Thirdly, there is organization in connection with area management. In order to perform the comparative study, the case study areas were selected according to the three types: large-scale development, mixed-use type and mature area type.

Large-scale development type is that in which development is performed in an integrated manner at large-scale sites, such as an old factory or railroad site (Minato Mirai 21 and Shidome Sio-Site). Mixed-use type is that where redevelopment is performed partially or gradually in an urban area where fixed infrastructure improvement is ready and various functions are mixed (Roppongi Hills and Harumi Island Triton Square). Mature area type is where the urban infrastructure was already ready and gradually updated by individual reconstruction in the urban area (Otemachi Marunouchi Yurakucho District) (See the Table 1).

Table 1 Overview of Case Study Areas by Regional Type

Type	Case Areas (Square Kilometers)	Address	Planned Use	Infrastructure Development	Construction
Large-Scale Development	Minato Mirai 21 (1.86)	Nishi-ku, Yokohama	Business, Commerce, Residence	Land Readjustment Project, etc	Gradual
	Shiodome Sio-Site (0.31)	Minato-ku, Tokyo	Business, Commerce, Residence	Land Readjustment Project	Gradual
Mixed-Use	Roppongi Hills (0.11)	Minato-ku, Tokyo	Business, Commerce, Residence	Redevelopment Project	Integrated
	Harumi Island Triton-Square (0.10)	Chuo-ku, Tokyo	Business, Commerce, Residence	Redevelopment Project	Integrated
Mature Area	Otemachi Marunouchi Yurakucho District (1.11)	Chiyoda-ku, Tokyo	Business, Commerce	-	Individual

### 2.3 Overviews of Case Study Areas

#### 2.3.1 Large-Scale Development Type

Minato Mirai 21 (MM21) is the name of a project launched with the intention to transform the metropolitan area of Yokohama. Until two decades ago, large shipbuilding docks and port facilities were located in the central part of Yokohama. The shipbuilding docks and other facilities have been planned to relocate to another part of the city, and the open space and the reclaimed land were joined together for new development, along with the neighboring towns, to revive central Yokohama as a totally new form. The MM21 project will promote urban planning to develop a vibrant city full of activity by attracting corporate headquarters and other functional spaces such as cultural and amusement facilities there. Shiodome Sio-Site (Shiodome) is at the center of Tokyo and is an important traffic junction connecting the urban center and the waterfront. Now the Land Readjustment project is proceeding on the former Japanese National Railways

Shiodome freight depot site and its surrounding area. Shiodome has been creating a new metropolis having a fine view and city functions suitable to a world-class metropolis, to renew urban functions and promote high-grade uses of land in order to form a traffic connection to the center of Tokyo and the waterfront, creating a multi-functional urban space including business, shopping, culture and residences.

### 2.3.2 Mixed-Use Type

Roppongi Hills (Roppongi) is the largest ever private-sector funded urban redevelopment project. The immense project, with a total floor space of approximately 759,000 square meters, on a site encompassing some 11.7 hectares, has been made possible only through the efforts and cooperation of approximately 400 individual landowners over the past 17 years. By integrating office, residential, hotel and cultural functions with parks and plazas that preserve the features of the existing landscape and the majority of the lot's open space, Roppongi succeeds in creating a green and enriching urban cultural complex. Harumi Island Triton Square (Triton Square), which was completed in the Harumi, one of the first man-made land reclamation islands created in Tokyo Bay, is a completely new type of futuristic urban redevelopment project, characterized by a fusion of business, residential and leisure functionality. Within the 10-hectare site of this project are four office towers, including three super high-rise structures, multiple low-rise commercial facilities, and nine residential facilities.

### 2.3.3 Mature Area Type

Otemachi Marunouchi Yurakucho District (Marunouchi), located between Tokyo Station and the Imperial Palace and nearby Kasumigaseki with its many government offices, is at the core of Japan's economy, serving as one of the few main business centers in the world. Some 4,100 companies and organizations are concentrated in the Marunouchi, where 240,000 people work, transforming the traditional business center into a city center with multiple functions through the installation of culture, hotel and shopping facilities from the Central Business District (CBD) to the Amenities Business Core (ABC).

## 3. Activities and Organizations of Area Management

### 3.1 Area Management Activities

The activities of area management consist of development and management. The activities of management consist of area service, area maintenance and soft management. Area service presents local limited service which utilizes infrastructure development (i.e. district information service, LAN, recycling, parking lots, District Heating and Cooling [DHC] and co-generation, etc.). Area maintenance presents management of public (semi-public) space and facilities. Soft management presents prosperity production (i.e. regional promotion, community activity, events, city sightseeing and PR, etc.) and think-tank functions.

Activity contents of area management in case areas were arranged as shown in Table 2. The development concept of a whole case area is performing maintenance of public and semi-public facilities focusing on mixed-use development. The general activities of management are soft management, such as promotion campaigns, community activities, events, city sightseeing, PR, etc. In particular, the event as a local promotion is utilized for the maintenance of an event place through maintenance of a public facility in every region (i.e. the Arena in Roppongi, the Queen Mall in MM21, the Underground Plaza in Shiodome, the Terrace in Harumi, and Naka-dori in Marunouchi).

As for the area which performed land readjustment projects and urban redevelopment, the control-of-maintenance activities of a public facility (large-scale development type) and a semi-public facility (mixed-use type) are preponderant as area maintenance activities by basic agreement or maintenance agreement. Landowners (private sector) found a special purpose company to perform required service in the entire region, and area service is performing activities around measures of environment and energy (district heating and cooling, garbage recycling, etc.) and regional network functions (local data utility, optical fiber, etc.). Such area management has been carrying not only physical development (hardware), but the various management activities (software) and various activities are performed by various area management organizations, as shown in Table 2 and Table 3.

### 3.2 Area Management Organizations

Various organizations are founded in order to perform deliberations and cooperation with administration, maintenance of public facilities, and promotion activities, as shown in Table 3. The central organizations of area management activities are Yokohama Minato Mirai 21 (YMM21), Site-Site Town Management (SSTM), Harumi Corporation, the Mori Building, and the OMY Area Management Association (OMYAMA).

The typical organization which performs the deliberations and cooperation between administration (public sector) and landowners (private sector) has the OMY District Development Advisory Committee (OMYDAC).

The control-of-maintenance organization of public facilities also performs local promotion activities together in many cases. But OMYAMA and SDC are performing only promotion activities.

Table 2 Activities of Area Management

Type	Large-Scale Development Type		Mixed-Use Type		Mature Area Type		
Case Area	Minato Mirai 21	Shiodome Sio-Site	Harumi Triton Square	Roppongi Hills	Marunouchi District		
Function and Use*1	Commerce, Culture, Amusement, Sports, Recreation, Education	Culture, Interaction, Vitalization Function	Commerce, Hall, Housing, Public Community Function	Commerce, Culture, Education, Broadcasting	Culture, Interaction, Vitalization Function		
Development	Public Facilities	Moving Walkway, Roads, Station, Park, etc	Roads, Park	Moving Walkway, Roads, etc	Roads, Plaza	Station Plaza	
	Facility	Semi-Public Facilities	Queen Mall	Sunken Garden	Maintenance Agreement District, Commercial Passenger way	Maintenance Agreement District, Commercial Passenger way	Landscape Control
Area Service	Environment and Energy	DHC*2, City Reuse Conveying Pipeline System, Waste Recycling*3	DHC*5, Waste Recycling	DHC*6, BEMS*12	DHC*7, Waste Recycling	DHC*9, Waste Recycling	
	Network Facilities, Etc	Parking Lot Information System, 100 Yen Bus, Eliminating Radio Interference*4	Logistics, Optical Fiber	Optical Fiber	Logistics, Eliminating Radio Interference, Optical Fiber, District Information Service *8	Dark Fiber, Super-Net Service*10, Free Public Bus Service, Cooperative Delivery	
Management	Area Maintenance	Public Facilities	Moving Walkway, Pedestrian Walks	Park, Underground Pedestrian Walks, Pedestrian Deck	Moving Walkway	Pedestrian Walks (Cleaning)	Open Space, Planting*11
	Facilities	Semi-Public Facilities	Facility Management, Queen Mall	Cleaning	Maintenance Agreement District	Maintenance Agreement District, Green Space (Cleaning)	Cleaning
Soft Management	Promotion	Events, Sightseeing, Public Relations, New Business Participants Promotion Campaigns	Events, Public Relations, Promotion Campaigns	Events, Public Relations, Promotion Campaigns	Events, Sightseeing, Public Relations, Promotion Campaigns	Events, Sightseeing, Public Relations, Free Marunouchi Shuttle, Promotion Campaigns	
	Community Activities	Lecture Meeting, Exhibit	-	-	-	Lecture Meeting, Exhibit	
	Think-Tank	Surveys and Studies	-	Crime-Prevention Manual	Traffic Volume Survey	Consultant, Policy Recommendation,	
	Etc	-	<Security, Crime - Prevention>	-	Illegal Parking	<Parking Lot Adjustment>	
Area Management Rule	Basic Agreement on Town Development	Design Guideline	-	Landscape Guideline	Urban Development Guideline		

Notes : \*1:Except business use, \*2:MM21 District Heating & Cooling Co., Ltd. \*3:MM21 Recycling Promotion Council, \*4:Radio Reception Improvement Council, \*5:Shiodome Urban Energy co., Ltd. \*6:Tokyo Toshi Service Co., Ltd. \*7:Roppongi Energy Service Co., Ltd. \*8:eHills Corporation, \*9:Marunouchi District Heating and Cooling Co., Ltd. \*10:Marunouchi Direct Access Co., Ltd. \*11:Beautification Association, \*12:Building Energy and Environment System, < > Under Consideration

In particular, in the large-scale areas (MM21 and Marunouchi), various organizations exist in order to perform various activities (deliberations and cooperation with administration, maintenance of public facilities, local promotion campaigns). In such areas, the OMY District Redevelopment Project Council (OMYRPC) and YMM21 are performing adjustment of cooperation and role assignment within various organizations.

The organizations were founded in order that especially large-scale development type (i.e. land readjustment project) and mixed-use type (urban redevelopment project) might perform maintenance control of the public facility and semi-public facility in a given area. The large-scale development type performed maintenance control of the public facility as the commission business from administration and the maintenance expenses are acquired from administration. Shiodome District conference (SDC) established the SSTM as an organization with a juridical identity (although the BID of a Japanese version was considered, it was judged that, in the system of Japan as it exists now, it was impossible), in order to perform maintenance control of a public facility. In order that a mixed-use type might manage the private joint-use space and facility in the area, the organization as a unification administrator performed control of maintenance, and the maintenance expenses are acquired from the landowner and tenant of an area. Although Harumi Corporation (Harumi) was founded by investment of the landowners of an area, the Mori Building (Roppongi) which is the major real estate company which undertook the leadership of the redevelopment project, founded the department of town management in the company.

The contents of activity which an area management organization performs are generally the same. However, the form of organizations differs for every area, such as limited company (YMM21, Mori Building, Harumi Corporation), limited liability holding company (SSTM), NPO (OMYAMA), and voluntary association (See the Table 3). It generates a difference such as constituent limitation, preferential tax treatment, participating in organization (tenant and citizens), and use of a public facility (juridical personality), and it may become a subject in order to construct the area management system from now on.

Table 3 Members and Activities Area Management Organizations

Type	District	Organization		Establishment	Establishment Purpose *1			Members *2				Activities *3		
		Name	Type		PD	LD	MM	P	L	T	C	AS	AM	SM
Large-Scale Development	MM21	Yokohama Minato Mirai 21	Company Limited	1984	○	○	○	○	○	-	-	-	○	○
		Minato Mirai 21 Town Development Council	Voluntary Association	1988	-	-	○	-	○	-	-	-	-	○
		Minato Mirai 21 Town Guide Committee	Voluntary Association	1995	-	-	○	-	○	○	-	-	-	○
		Minato Mirai 21 Promotion Council	Voluntary Association	2004	-	-	○	-	○	○	-	-	-	○
	Shiodome	Shiodome District Conference	Voluntary Association	1995	○	○	○	○	○	○	-	-	-	○
		Sio-Site Town Management	Limited Liability Holding Company	2002	-	-	○	-	○	-	-	-	○	○
Mixed-Use	Harumi	Harumi Corporation	Company Limited	1988	-	○	○	-	○	-	-	○	○	
	Roppongi	Mori Building Co., Ltd.	Company Limited	2003	-	-	○	-	○	-	-	○	○	
Mature Area	Marunouchi	OMY District Development Advisory Committee	Voluntary Association	1996	○	-	-	○	○	-	-	-	-	
		OMY District Redevelopment Project Council	Voluntary Association	1988	-	○	-	-	○	-	-	-	○	
		OMY Area Management Association	Non-Profits Organization (NPO)	2002	-	-	○	-	○	○	○	-	-	
		Beautification Association	Voluntary Association	1966	-	-	○	-	○	-	-	-	○	

Notes : \*1 PD (Deliberations with Public sector), LD (Deliberations with Landowners), MM (For Management Activity)  
\*2 P(Public), L(Landowner), T(Tenant), C(Citizen), \*3 AS (Area Service), AM (Area Maintenance), SM (Soft Management)

### 3.3 Revolution of Area Management and Public/Private Partnership (PPP)

If the revolution of area management is analyzed from the viewpoint of development and management, as shown in Table 4, the major features will be seen according to regional type. A mixed use area type (Harumi and Roppongi) is the case area where management starts after development is finished. A redevelopment association leads development and management, after development performs the management activities through the structure of a unification administrator.

A large-scale development type (MM21 and Shiodome) is the case area where management starts before development finishes. These activities begin from area service (heat supply, etc.) required for the region, and an area maintenance (control and maintenance of a public facility and space, etc.), and are developed to soft management activities (promotion, event, etc.) after that in the beginning. A mature area type (Marunouchi) is the case area where mainly management is performed and development performs individual reconstruction or redevelopment. Management activities are favorably developed from area service to area maintenance and soft management according to the demands of region and time.

The typical organizations which perform area management by public/private partnership (PPP) are YMM21 (MM21), SDC (Shiodome) and OMYDAC (Marunouchi). OMYAC was established by the partnership between Tokyo, Chiyoda-ku, East Japan Railway Company and OMYRPC. It is scheduled to conclude a detailed guideline on the future vision, possible building rules and procedures for implementation. YMM21 was established by administration and private joint investment as a third sector and management of the public space and facility in MM21. Moreover, SDC established SSTM because there was no juridical identity, and the commission business of the management of the public space and facility in the Shiodome is carried out like YMM 21, but the organization which established it, in order that the organization not contribute and founded from administration, but the private sector is entrusted to perform area management. Although Harumi and Roppongi are not in the area management organization by PPP, Harumi Corporation and Mori Building Co., Ltd. bear cooperation and adjustment with administration using the role of a unification administrator for the use of public space and facilities.

Table 4 Area Management Process and Public/Private Partnership

Type	Activities	Process	Partnership
Mixed Use	Development		
	Management Area Service Area Maintenance Soft Management		
Large-Scale Development	Development		
	Management Area Service Area Maintenance Soft Management		
Mature Area	Development		
	Management Area Service Area Maintenance Soft Management		

## 4. Measures of Environment and Energy by Area Management

### 4.1 Necessity for Measures of Environment and Energy

In large-scale development (large-scale development and mixed-use type), mixed-use development of the compound function by intensification of institution and efficiency of the system is promoted under environment management suitable for coexistence of development and environmental preservation. The necessity for sustainable development which is helpful also to the job-housing balance and preservation of the natural environment is increasing from viewpoints such as saving land and energy efficiency. In the mature area where infrastructure is fixed, in addition to the existing stock, supply of new infrastructure has a limit. Therefore, it is the necessity for the view of growth management, such as determining the land use and development capacity in consideration of an infrastructure capacity and environmental restrictions.

Recently, maintenance of urban infrastructure of large-scale development and mature areas has introduced the technique of having enough considered mitigation of an environmental impact from development to management. From such a viewpoint, growth management (stock management) and mixed-use development (the measures of environment and energy) are analyzed, focusing on area management activities and mixed-use development for sustainable urban regeneration by an overall region.

### 4.2 Measure of Environment and Energy

The measure of environment and energy currently generally performed as area management in an overall region are District Heating and Cooling (DHC), garbage recycling and a cooperative delivery system (CDS).

DHC is a new company founded by the landowners and energy supply company (Tokyo Gas and Tokyo Electric Power Company) and supplies energy to an overall region as shown in Table 2 and Table 5. In Harumi, DHC have endorsed a specific company (Tokyo Toshi Service Co. Ltd). The DHC system uses energy effectively and safely, minimizing pollution and the possibility of accidents by centralizing the production, supply, and monitoring of conditioned air to heat and cool buildings. It is exploitation of efficient energy, reservation of energy security by diversification of an energy source, effective use of unused energy; an environmental nature being a high advantage of such a DHC system, and being able to aim at an efficiency rise by cogeneration system introduction. When considering a city energy problem at the same time the usefulness of the district heat and cooling in an area was shown, energy supply is performed comprehensively.

Table 5 Measure of Environment and Energy by Area Management

Type	District	DHC	Garbage Recycling	CDS
Large-Scale Development	MM21	MM21 District Heating and Cooling Co., Ltd.	MM21 Recycling Promotion Council	-
	Shiodome	Shiodome Urban Energy Co., Ltd.	-	-
Mixed-Use	Roppongi	Roppongi Energy Service Co., Ltd.	Roppongi Hills Recycling Center	Mori Building Co., Ltd.
	Harumi	Tokyo Toshi Service Co., Ltd.	Harumi Corporation	-
Mature Area	Marunouchi	Marunouchi District Heating and Cooling Co., Ltd.	Mitsubishi Estate Co., Ltd.	OMYRPC

Especially, the entire Roppongi is powered by large-scale cogeneration as the specified electricity supply for all of the buildings. In addition, the exhaust heat from this facility is effectively used to drive supplementary heating and air-conditioning. In cooperation with Tokyo Gas, a power plant was constructed to generate a consistent supply of electricity. Furthermore, in line with global standards, emitted heat is utilized to provide air conditioning throughout Roppongi Hills. This radically new concept saves 20 percents of energy when compared with standard systems (Roppongi Energy Service Co., Ltd., 2003).

Moreover, garbage recycling is performed in all case areas, and it is carried out as measures of environmental and energy conservation such as rooftop gardening, airways, and the planting of roadside trees. (However, introduction of a cogeneration system achieves the opposite effect in a heat island.) Especially Marunouchi is determined to prevent "deployment of global warming and measures against heat islands which led to the Urban Renaissance Project" by the Urban Renaissance Headquarters. The Urban Renaissance Project on December 10, 2004 advanced its rationalization of the thorough energy consumption of a block and a local unit, and control of exhaust heat, and showed a plan which reduced the environmental impact.

CDS was performed in the Marunouchi and Roppongi. Especially for CDS of Marunouchi, the total mileage of physical distribution vehicles decreased 7 percents as an improvement effect of traffic; the environmental impact, the working hours, and the traffic and environment in the area have been improved (Takahashi and Hyodo, 2003).

On the other hand, the time of maintenance and preservation arises from the time of scrap and build, and stock management is used effectively in order that the building (stock) built as a good stock may experience a long lifespan and maintain cost-cutting. It is strategically utilized as advanced technology which carries out total support of facility management aimed at synthetic management in consideration of the ripple effect to influence the area of the environment. The unification administrator who is performing local management of an overall community for stock management is bearing Roppongi and Harumi of about 0.1 square kilometers. Harumi carries out positive environmental information management, such as disclosure or environmental performance information by means of the Building Energy and Environment System (BEMS). It is managing the region's energy and environmental impact by function, such as planning of improvement measures and making efforts with customers to reduce the environmental impact within the area (This system is constituted from each system, such as a building automation system [BAS], a building management system [BMS], disaster prevention, crime prevention and parking, and each system is organically in cooperation between an integrated building safety control center, each building sub-safety control center, and the management office.).

However, although Marunouchi, MM21, and Shiodome are performing environment and energy activity by means of various subjects other than area management organization, OMYRPC (Marunouchi), SDC (Shiodome), and YMM21 (MM21) connect between each subject and they are performing deliberations and adjustment.

#### **4.3 Problems and Possibilities**

Recently, in order to aim at sustainable urban regeneration centering on the core area of large cities, the area which is performing the measure of environment and energy, and stock management as the part of area management activities is increasing.

In case areas, effective use copes with the environmental problem through the reuse and efficiency of local energy by mixed-use development. Moreover, total energy efficiency of an overall region is planned as measures such as global warming, resources problems, and heat islands. And stock management is used effectively in order that the building (stock) built as a good stock may experience a long lifespan and maintain cost-cutting. It is strategically utilized as advanced technology which carries out total support of facility management aimed at synthetic management in consideration of the ripple effect to influence the area of the environment. DHC system and stock management serve as a core of the system supporting urban functions, such as energy, environment, and amenities, from such a viewpoint as a measure of the environment and energy, and development as a role of promotion of sustainable urban regeneration is expected.

The energy for creation of a rich city environment and a solution for an environmental problem have the necessity of developing as area management activities of an overall region from stock management of an individual building. Furthermore, there is the necessity of spreading from a specific area to the surrounding area, and raising the sustainability of the whole city.

## **5. Conclusions**

This study demonstrates the actual condition of area management and its related measure of environment and energy for sustainable urban regeneration in the core areas of large cities in Japan. According to case analysis, area management activities have some of the following characteristics and problems.

Firstly, existence of area management organizations: Now begins the task of sustainable development, which will be accomplished through actually living, working, and engaging in culture activities by area management activities and its related organizations. Secondly, establishment of public/private partnership: Case study areas demonstrate that partnership among the public sector, the private sector (landowners), and local residents can create a mutually beneficial framework, and provide a model for the solution of large

city problems based on public/private partnership in urban renewal, and promotion for sustainable urban regeneration. Thirdly, various area management activities according to regional type: Although activity of overall area management is generally the same, the deployment process of activity, the establishment purpose of an organization, the contents of activity, and the constituency of an organization change with types of case area. Finally, the locally-owned entities are aiming at sustainable urban regeneration as part of area management of stock management and the measure of environment and energy (DHC, recycling, etc.).

Since the situation surrounding every region is different, it is difficult to generalize activities of area management in the core areas of large cities in Japan. But it is possible to attain local activation by area management organizations for various locally-owned entities to solve the various problems which have taken place in the area according to the situation of an area. It is also considered that the activity copes with the formation of a regional community and the problem of environment and energy, not only through an improvement of the physical environment, but through an improvement in the software environment. For that purpose, although the organization which performs area management is important, the reservation of talented people and financial resources supporting the organization and its activity is the problem. Another challenge to area management is the difficulty in calculating or estimating the effectiveness of its activities.

Moreover, there is the necessity of clarifying the subject of the area itself, the correspondence of municipality level, and the correspondence of country level (system and support) for performing the area management activities of various forms according to the local features for every area. In order to develop area management activities from now on, how a suitable area management system is built is important for the local features.

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