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**Report**

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## Park and greenery forms through participation of local residents after Great Hanshin-Awaji Earthquake

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### Abstract

It is important to pursue a variety of park and greenery forms based on the special characteristics and demands of individual districts in which the residents are involved. In this paper, we deal with three typical cases as follows.

1. Minamiashiyama Apartment Complex, which has terraced fields based on concepts of 'community-making', 'caring for an aged society', 'participation and process', and 'post-quake restoration'.

2. 'Fukae Ekimae Kaen', the flower garden located in front of Fukae station, constructed along the themes of 'volunteering', 'urban planning council', 'participation and process', 'post-quake restoration'.

3. The biotope pond in Hiraiso, which was based on 'ecology', 'life on Earth', 'recycling' and 'participation and process'.

In order to create and manage green spaces, it is essential to have certain 'management system' conditions such as an emerging NPO independent of voluntary organizations, community activation with greenery acting as a mediator, networking which is open to partnerships and NPOs, rules and frameworks for creating parks and greenery.

**Key words:** post-quake reconstruction, forming communities, resident participation, an aging and low-birth society, ecology

### Introduction

An International meeting, the "Sanda International Conference on Urban Planning in the 21st Century" was held in July, 1998 in Sanda City, Hyogo Prefecture (Nakase and Akazawa, 1999). The intent of the meeting was to chart the direction of "urban planning in the 21st century" as the next phase forward following the post-quake restorations of the Great Hanshin-Awaji Earthquake. The meeting was organized by related government authorities and related experts from a variety of fields including environment, public welfare, economics, ecology, urban planning, construction and landscape architecture.

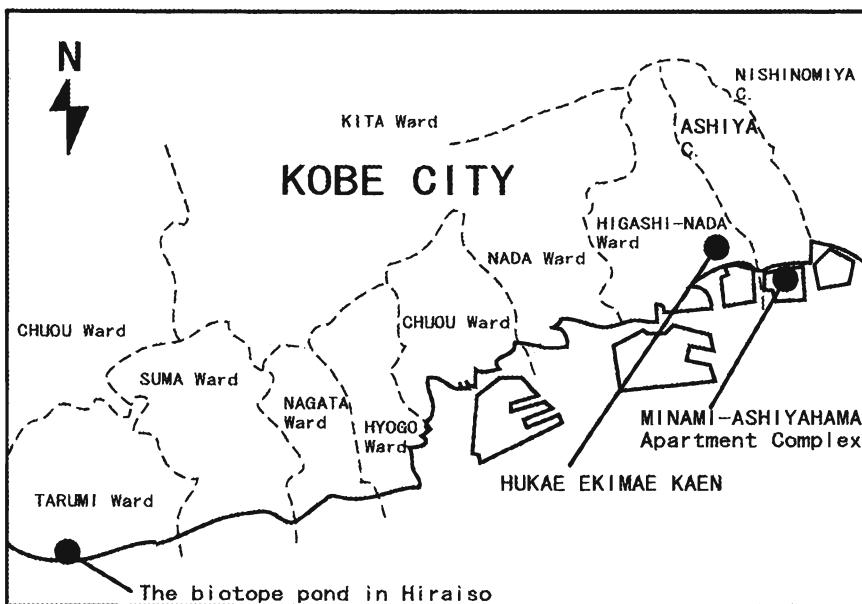
The direction towards mature city styles for the 21st century was discussed under concepts such as 'the fostering of independent citizen organizations',

'community economies or community business', 'sustainability', 'universal designs', 'the joys and benefits of hives cities', 'district alignments', and 'new participation schemes'.

Points for consideration on the construction of parks and greenery included their high sustainability, energy and resource saving efficiencies, biotope friendliness (i.e., the symbiotic relationship between people and other life forms) and 'universal design'. In these respects, the concepts and practices of landscaping are becoming increasingly important.

### Tasks for the Construction of Parks and Greenery

It is said that the 21st century is a move away from the age of mass production and consumption into the



**Fig.1.** Location of the case studies.

age of tailor-made products in limited production. The same vision is equally applicable for the construction of parks and greenery. It is important to pursue a variety of park and greenery forms based on the special characteristics and demands of individual districts in which the residents are involved. For constructing parks and greenery, the forming of communities, the participation of residents and the foregrounding of ecological and aged society needs can all be outlined as follows.

### 1. Forming communities

'Theme' communities involved in the pursuit of art, culture, learning, greenery, etc. are becoming popular as a means to reconstructing the bonds of family and community. Those related to greenery are especially effective as there is a natural progression from the interest activity of one individual, to that of a family or community, and ultimately to the larger (and greener) environment. Here, the local parks and greenery can serve as activity stages for a 'green community' (Okuda, 1973).

### 2. Resident participation

The forming of green communities cannot be achieved without the participation and initiative of the residents. The importance of a partnership between residents, authorities, businesses and organizations (such as green NPO) in every stage of park and greenery

projects, from planning, design, construction, maintenance and management, needs to be emphasized (Nakase, 1999).

### 3. An aging and low-birth society

It is now necessary to discuss parks which are suited to such communities. 'Barrier-free designs' are now being developed to a universal design and this has to be extended to mean not only physical barriers in space, but to include the social, institutional and psychological barriers which inhabit the minds of people (JILA, 1998).

### 4. Ecology

Many ecology-conscious parks have been completed and opened to the public. Preservation of the environment to include all living entities and the formation of park biotopes have become important tasks. Moreover, good circulation, sustainability, resource and energy-saving must be considered in the design of all parks and park facilities (Bramwell, 1989).

## Parks and Greenery Construction Examples

Some park and greenery case studies are follows (See location in Fig.1).

1. Minamiashiyahama Apartment Complex, which has terraced fields based on concepts of 'community-making', 'caring for an aged society', 'participation and

process', and 'post-quake restoration'.

2. 'Fukae Ekimae Kaen', the flower garden located in front of Fukae station, constructed along the themes of 'volunteering', 'urban planning council', 'participation and process', 'post-quake restoration'.

3. The biotope pond in Hiraiso, which was based on 'ecology', 'life on Earth', 'recycling' and 'participation and process'.

## **1. The terraced fields of the Minamiashiyahama Apartment Complex**

### **The "terraced fields" construction**

In the process of housing restoration after the Great Hanshin-Awaji Earthquake, guidelines for landscape formation were drawn up. This suggested better landscaping by improving buildings and also by using the space between the buildings more effectively to create places for residents to interact and actively form true communities. The so-called 'Minamiashiyahama Community & Art Plan' resulted in better landscape composition and mutual communication among the residents. They created an art space called 'Chumonno Ohi Rakunoten' (otherwise known as Terraced Fields in Ashiya) as a space for residents to nurture their communities (Photo 1).

### **Preparation**

Before seeding and planting of the terraced fields was conducted, a total of 8 workshops called 'Rakuno Lecture' were held from August 1997 to April 1998, which was when the residents actually moved in. The workshops were held mainly to discuss 1. the objectives, 2. the gardening training courses, and 3. further action after the residents had moved in. During these workshops lotus flowers were planted as symbols of the project. Some parts of the fields were opened up to allow people to transplant the plants they had grown around their temporary post-quake shelters, or pre-quake homes, so that they would be able to continue to share memories of the past while living together.

### **Independent resident action**

After residents had moved in, an association named "Rakuno Preparatory Meeting" was organized. This was mostly a group of those people who had joined the workshops and who worked to prepare the seeding and planting project. The association has since organized community activities such as a moon viewing party on the open space at the top of the terraced fields and a

harvest festival for the produce they yielded after just half a year (Photo 2).

Of special note is the fact that the participants were not actually getting involved in order to grow a few plants but to kindle the friendships they had made in their temporary homes, in the workshops with the architect, and the activities after the move-in, through the experience of gardening.

### **Conclusion**

The terraced fields of Minamiashiyahama Apartment Complex are designed not simply to function as a collection of green space 'objects' but as a vital environment for people to pursue activities through which they can realize their communities. A workshop given before the move-in fostered this idea to successfully connect the birth of a new community with post-move activities. Developers will therefore plan parks not just for their convenience but also as stages for residents to independently foster what they want from a park.

### **2.'Fukae Ekimae Kaen'**

#### **Background and origins of the park**

The Fukae District was badly damaged by the Hanshin-Awaji Great Earthquake of 1995. Prior to this, the district had not been part of an official land rezoning project so, for the restoration and reactivation efforts, the Fukae Town Planning Association (founded in 1990) proved vital in enlisting the help of local residents and corporations. A consultant to the Fukae District, for example, requested support from Hanshin Green Net (which is a network of landscape architects for supporting post-earthquake reconstruction.) resulted in a plan for greenery being included in the town planning project from 1997. The Town Planning Association and Hanshin Green Net conducted research and suggested using land allocated to the project in front of the station for a park. Work began in June 1997 with construction costs of 1.5 million yen.

#### **Characteristics of the park planning**

Some aspects of the planning are as follows.

- i) Association as Core Planning Unit: With the Association as the central organizing body, members of the Hanshin Green Net and the consultants together conducted on-site research, discussion meetings and decision-making.
- ii) Local Government Support: Consultants were

brought in by Kobe City. Further backup also came from Hyogo Prefectural Government which, for example, chose Fukae District as a model district for the urban greenery action program.

iii) Specialist Support: The consultants involved prior to the earthquake gave their support immediately after the disaster. Having specialists highly familiar with the district, and able to communicate with the local people was highly significant.

### **Result of park making**

In terms of size, the park is small. However, results achieved by the cooperation of Association and (several) organizations have been substantial and the park has since received the Kobe townscape award as well as great acclaim (Photo 3,4). It will continue to function as a symbol of the Association's activities.

### **3.Hiraiso Biotope Pond**

#### **History**

A park called 'Lovers' Cape' overlooking the Akashi Kaikyo Bridge was opened last March within the land of Kobe City Tarumi Sewage Works. Within one corner of the park is a biotope created with local resident participation. The corner, approximately 0.7 hectares, is large for a biotope and was created as an extra-curricular program of Kobe Environment College (is the lecture sponsored by Kobe City and aim to train readers and volunteers of environmental safeguard act) with the participation of about 60 residents.

#### **Environmentally friendly - using recycled resources**

A key characteristics of the biotope is the use of recycled materials, eg.

- i) Treated sewage water. Normally piped into rivers and the sea this is now used for a biotope pond.
- ii) Cement blocks and land improvement substances such as an ash residue from burning sludge. This is used around the biotope.
- iii) Special boards used to gather mud from sewage. Normally discarded, here they were used to make the deck and bridge of the pond.
- iv) Unwanted trees. Trees leftover as a result of projects at Ikuta-gawa Park and Shin-minato-gawa Park were planted around the biotope.

#### **A biotope hand-created by citizens and Kobe City office staff**

About 60 people helped out on each day of the

construction schedule to complete the biotope.

i) On March 1st, soil improvement work was done on the banks of the biotope pond, waterfall, bridges. Additionally, water plants were added and a living environment created for water creatures.

ii) On March 8th, resting places for dragon flies were created as floating islands. Water plants and seedlings were planted.

iii) On March 15th, seedlings around the pond were planted, lawns turfed, flowering plant seeds sown and scrap wood chips distributed. In addition living environments for pond creatures were prepared, tree name plates posted and decks put in place.

#### **Lifeforms of the biotope**

The biotope was created with the cooperation of Kobe Eco Up Research Group (NPO, act in Kobe area with the aim of ecological up) and Waterfront Network (is NPO who makes survey on the life forms at waterfront and acts to preserve them) who ensured that regional features, such as seafront characteristics, were considered in the planning. One concern was to avoid 'generic disturbance' which resulted in the conscious intention to primarily use only local plant types. Now, around the biotope pond, there are about 140 tall trees in approximately 20 varieties such as camphor trees and hackberries. If all the smaller trees are included then almost 6000 were planted in total, and in the case of water plants over 20 varieties, including *Nymphoides indica* and *Nymphoides peltata*, have been planted (Photo 5). After the pond was completed residents released a number of pond creatures into the water including killifish, larvae, loaches, frogs and crayfishes. By May 20th, just two months later, 7 kinds dragonflies were inhabiting the biotope.

#### **Conclusion**

In a rapidly changing society, there are several issues (Nakase et al., 1999) to consider for the creation of parks and greenery. These include ensuring 'a safe and secure living environment', 'usage on both a daily basis and in emergencies', 'participatory management with the residents', 'universal design', and 'ecological soundness'. In order to create and manage green spaces, it is essential to have certain 'management system' conditions such as an emerging NPO independent of voluntary organizations, community activation with greenery acting as a mediator, networking which is open to partnerships and NPOs, rules and frameworks for

creating parks and greenery.

Descriptions used for the 21st century refer to a society of fewer children, an aging society, an information society, a society sensitive to the environment, and a society governed by its citizens. For the planning of mature towns, the value of new concept landscaping is an issue being debated now.

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**Photo 1.** Terraced field in Minamiashiyahama Apartment Complex.



**Photo 2.** Harvest festival in Minamiashiyahama Apartment Complex for the produce they yielded after just half a year.



**Photo 3.** Fukae Ekimae Kaen.



**Photo 5.** Hiraiso Biotope Pond, hand-created by citizens and Kobe City office staff.



**Photo 4.** The members of Hanshin Green Net who create Fukae Ekimae Kaen.