

Research Trends and Results

Greenbelt planning technologies to respond to population decline and degeneration etc. of cities

SONE Naoyuki, Researcher
KIMURA Yusuke, Researcher (Dr. Eng.)
UENO Yusuke, Researcher (Dr. Fisheries Science)
KURIHARA, Masao, Head
Landscape and Ecology Division, Road Department

(Key words) Population decline, degeneration of cities, compact city, greenbelt planning, basic plan for greenery

1. Outline of the research

Greenery in cities serves as an infrastructure with functions indispensable for safe and pleasant city life, by providing nearby places for rest and recreation, mitigating the heat island phenomenon through evapotranspiration of vegetation, and preventing the spread of urban fires. Past administration of parks and greenbelts has, with top priority on “finding ways to conserve and create greenery as cities continued to expand”, promoted the systematic provision of parks, conservation of greenbelts and greening of cities with a basic plan for greenery (Article 4 of the Urban Green Space Conservation Act) as the master plan. But, against the background of population decline and degeneration of cities, the future will see a demand for a switchover to the concepts of park and green space administration from a broad perspective and to the enactment of greenery plans with this as its guideline, in order to “realize happy lives for people by urban development through greenery, even in a society not premised on growth”.

The Landscape and Ecology Division is, based on such problem consciousness, researching basic planning technologies for greenery in response to population decline and degeneration of cities” (research period: 2013 to 2015). In FY2013, the division organized existing knowledge from the perspective of responding to new social needs predicted to intensify in the future and to the functions of greenery, and at the same time, collected advanced cases of greenery plans in foreign countries.

2. Organizing the functions of greenery in response to new social needs

The Urban Reconstruction Strategy Study Committee¹⁾ has, concerning the future of regional cities, pointed out the appearance of scattered unused land, more elderly people living alone, and as results, decline of urban functions, weakening of regional economic vigor, susceptibility to disasters, etc. In response to such prospects, based on past research (149 documents), it organized functions of greenery to respond to hypothetical problems such as, “creating conditions making life worth living by exploiting unused land for agriculture” and “promoting longer healthy lives through the use of parks”. A future challenge is to organize points in planning and design to display various functions.

3. Clarifying green planning initiatives outside Japan

We collected administrative documents from foreign cities which have already faced serious population decline and degeneration of cities and have taken initiatives to resolve these problems, and organized the contents of plans for the use and treatment of greenery and open spaces (see the table). To obtain hints for cities in Japan, it will be necessary to perform analysis based on background conditions such as laws and social conditions etc. in each country.

Table. Outline of Cases of Greenbelt Plans in Foreign Countries

City (country)	Plan/Countermeasure	Outline
Cleveland (U.S.)	Re-imagining a more Sustainable Cleveland(2008)	New plan for strategic unused land to improve sustainability of cities
Philadelphia (U.S.)	Green Stormwater Infrastructure (2011)	Greenery conservation/creation plan aiming to control rainwater runoff as a climate change adaptation measure
Detroit (U.S.)	Detroit future City (2012)	Plan for the use of unused land to create greenbelts as an urban infrastructure
Liverpool (U.K.)	Green Infrastructure Strategy (2009)	Greenery conservation and creation plan focused on economic values and health and welfare
Berlin etc. (Germany)	Studtumbau Redevelopment) (2002)	Reflecting concentration of cities by reducing building floor space in greenery planning

4. Future schedule

It is impossible to consider the functions of greenery in isolation from desirable cities and society. In the future, we wish to conduct research focused on the future images of cities, linked with research institutes in a wide range of research fields and with local governments close to the scene.

[Sources]

Interim Report of the Urban Reconstruction Strategy Study Committee

http://www.mlit.go.jp/report/press/toshi01_hh_000013.html