

Metropolitan growth management and green belt in Korea

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1. Introduction: A brief history of green belt system

The restrictive zone for urban development in Korea, in other words, the green belt, though being similar in name, has evolved in different phases from Great Britain and Japan in terms of definition of its boundary and management of the systems.

The green belt was designated in major 14 cities around country from 1972 to 77, covering 5,372 km² which is 5.3% of the total land area. It has been still unchanged since then. There have been, however a series of discussions on land release and adjustment issues since 1998. Based upon the green belt alteration policy by central government, local authorities are currently in the process of providing with their metropolitan plan.

At the cabinet meeting of September 1969, urgent need was discussed to take some actions on the urban sprawl that was widely spread out from the '60. At the same time the Korean Planner's Association was reviewing an idea of introducing the green belt system in London and Tokyo. In January of the next year, Seoul city government established the planning policy of green belt system in the city master plan. The Green Belt policy was suddenly adopted at the cabinet meeting of April 1970.

Primary objectives of the green belt were set up with 5 categories for 35 cities and 35 counties; decentralization of urban growth, control of concentration of population and industries, and others. But due to urgent and closed-door decision making process, there were institutional shortcomings which

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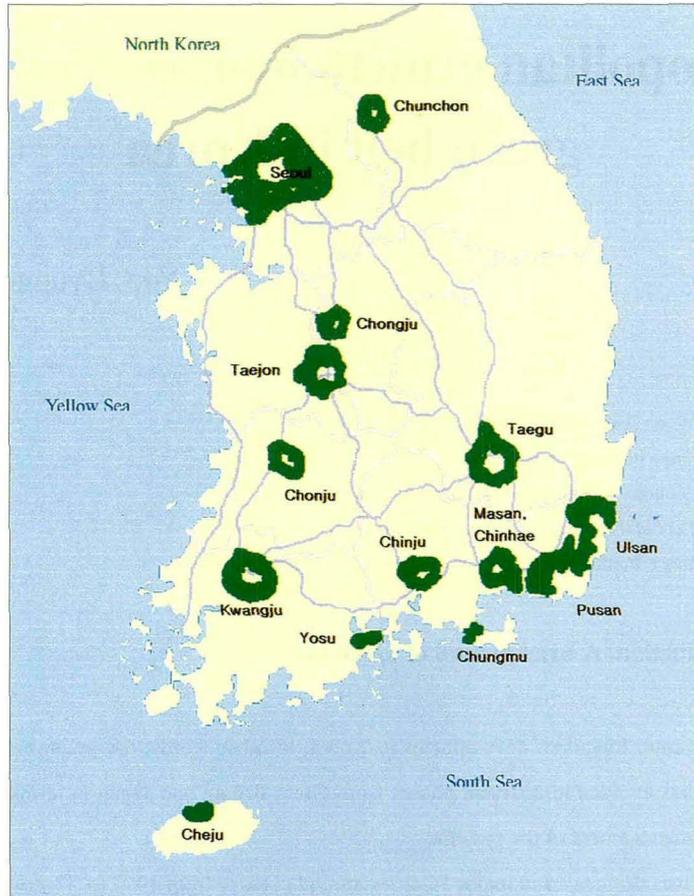


Figure 1.1 The green belt in 1970

could not inevitably take into full considerations of the real situation. Some border line crossed high density residential areas, or it even divided a single house in some cases.

In the early 80's the shortage of developmental land in urban fringe areas and increased group appeals by the residents who felt they had relative disadvantages in property rights application led the issue of easing regulations. This urged central government to survey the conditions of approximately 100 villages around country in 1993. After several review processes land release issue was thus included in public commitments of presidential election campaign in 1997.

In the meantime, the Ministry of Construction and Transportation (MOCT, 建設交通部) asked the Town and Country Planning Association of Great Britain (TCPA, 英國都市農村計劃學會) to review overall green belt policy in Korea. The TCPA concluded in the evaluation report that in spite of tough law enforcements the government's efforts to maintain the green belt system was worthy of notice and it

Table 1.1 The objectives of green belt and relevant cities

Objectives	Cities	Area(km ²)	Percentage(%)
Control of urban sprawl	Seoul	1,567	29.0
	Pusan	597	11.0
Control of urban sprawl	Kwangju	555	10.3
	Taegu	537	10.0
	Taejon	441	8.2
	Chonju	225	4.2
	Chongju	180	3.3
Protection of industrial facilities	Ulsan	284	5.2
	Masan, Chinhae	314	5.8
	Yosu	88	1.6
Preservation of natural environments	Chunchon	294	5.4
	Chinju	202	3.7
	Cheju	83	1.5
	Chungmu	30	0.6
	Total	(35cities & 35counties)	5,397

Source: Ministry of Construction and Transportation, Policy references for improvement of green belt, 1998. 1 p.8

was not simply because of the green belt policy that there had been negative effects of urban sprawl, fast rising land prices and rapid development of satellite cities.

The TCPA suggested it was advisable to ease land use control over small villages while large, dense settlements be excluded from the boundary. They also made comments on the idea of environmental evaluation as an ineffective mean and automatically granted land development rights of landlord in the existing city planning system must be abolished, thus should returned to the government. They advised therefore, all boundaries be redrawn through the establishment of the metropolitan area planning.⁽¹⁾

Based upon the recommendation, MOCT provided with a set of policy guidelines for green belt alteration as well as its detailed criteria. During the hearing process MOTC with this policy draft met a storm of objections from the residents who insisted a complete and overall cancellation of the green belt, however. Responding to these local claims, the MOCT therefore, had to urge the local authorities review their green belt boundary and set up a new metropolitan plan. In consequence of a series of nation-wide debate, the green belt kept for nearly 30 years is at turning point of system reshuffle.

In terms of social conflict, general perceptions of green belt at early stage in Korea was to give emphasis on more national interest than private benefit. Until the early 80's it was presumed that the green belt system was primarily managed in response to majority's interest rather than national priority.

But the 90's are experiencing conflicts in values among land ownership and developmental rights, further environmental rights in the green belt alteration. In other words, the characteristics of management style has been changing from the type of the top down control by central government to public intervention by the three parties of government, resident, and citizen participation.⁽²⁾

In this study, the landuse policy of metropolitan growth management in Seoul metropolitan area will be evaluated in terms of planning process. And a concept of new regional open space system is proposed as alternative for the green belt alteration.

2. Metropolitan planning and green belt

Although the original idea of the green belt to control over urban sprawl was basically similar among Britain, Japan and Korea, the definition of the green belt in the Korean cities varied according to its situation and strategic considerations.(see table 1.1)

In terms of area covered it totaled 5.4% of the land around country, 36% of urban, 48% of green area in national average, but in those green belt cities, it constitutes up to 59%, and 74% respectively.⁽³⁾ And because the land uses in green belt are mostly forest(61%), and agriculture(24%), it is obvious that the future landuse policy will have to be dealt in light of protection of farm land and environmental conservation in the green belt.

Due to unrealistic boundary settings and the related resident's complaints there have been several easements of regulation on landuse activities. Among them the permissions to government buildings, crematoriums, and environmental treatment facilities. In the recent revised regulation of May 1998, the allowance in landuse activities expands even to neighborhood facilities as well as residential buildings.

In comparison with the fact that even public building like a hospital is strictly controlled in England if

Table 2.1 Change of Land Use ('71~'96)

Landuse	Area(km ²)	Percentage(%)
Total	179.9	3.3
Public facilities	119.6	66.6
Road	54.5	45
Military facility	20.5	17
Water supply	10.5	9
Railroad	7.1	6
Waste disposal	4.3	4
School, Building, Parking lot	22.7	19

Source: The MOCT, op. cit., p.44.

it causes heavy traffic congestions or landscape damages, the above facilities are here again carelessly allowed in so far as it is considered for general 'public purpose' no matter how it have negative impacts on natural environment and land character. So the original idea of the green belt has been as matter of fact, transformed.

In the recent evaluation report by Ministry officials, it is admitted that after 27 years of the experience, though the green belt has contributed to protect conurbation as well as to preserve threatened natural environment, but it has resulted in several negative effects as well; i) frog-leaping urban developments beyond the boundary that cause increase of communal transportation costs, ii) heavy concentration of population in the inner city, iii) damage of upland forests and reduced farm lands.⁽⁴⁾

The Ministry officials seem to believe the green belt complement can be achieved by partial release of boundary, redrawing, and more strengthened conservation measures. The MOCT requires thus local governments to establish a new metropolitan plan as well as the revision of the exiting city plan. The course of green belt alteration policy therefore, will depend upon the direction and content of the ongoing metropolitan area planning, which will definitely influence on the future megacity growth.

A tentative guideline for metropolitan area planning prepared by the MOCT includes major spatial structures : developmental, transportation, and green corridor and neighborhood unit plan. And it suggests to include regional landuse, recreation & open space, environmental conservation, transportation, public utilities, and disaster prevention in sectoral plan.⁽⁵⁾ Since the purpose of a metropolitan area planning is primarily to manage the growth of more than two big adjacent cities, it is natural to provide with different level of framework and direction of growth management policy for the related cities.

Though it began with intention of restructuring the green belt, it must be distinguished from the ordinary city planning in its concept and implementation measures. So far, there are several planning issues to be examined.

The first is about the relationship between the metropolitan area plan and Special Planning act of Seoul metropolitan area(SPSMA, 首都圈整備計画法). Under the existing legal system the latter has overruling power on the city planing and metropolitan area planning acts. As far as the SPSMA is in effective, every urban infrastructure and development plan will be restrain from the act at the stage of implementation. This will eventually lessen the effectiveness of the metropolitan area plan.

In the suggested neighborhood unit concept of metropolitan area planning, each area should have sustainable urban functions such as work, leisure & recreation, college education for job opportunity and training. Because some functions like university facilities are not allowed by the SPSMA, the actual contents of neighborhood plan will be of no difference from the existing city plan. As announced in the

revised edition of SPSMA of 2000, additional public buildings are not allowed in the over concentrated regulation zone, whereas most of neighborhood unit planning is to be applied. This is one of the current legally conflicting issues in the metropolitan planning.

As to the open space planning, a concept of the green corridor is introduced with two levels of green space : the regional green network that connects green belt with urban nature park in the fringe of metropolitan area, up graded community open space in the neighborhood unit area. The guideline again seems to be too general in its scope, which will be no difference from the existing park planning. Landscape management issues are overlapped in both of the environmental conservation and leisure & recreation sector. In summary, it is necessary to set up a new regional open space system as an alternative of green belt. It is also expected the establishment of planning indicators and allocation of its regional shares to local governments is not that easy to get professional agreements during the consultation process.

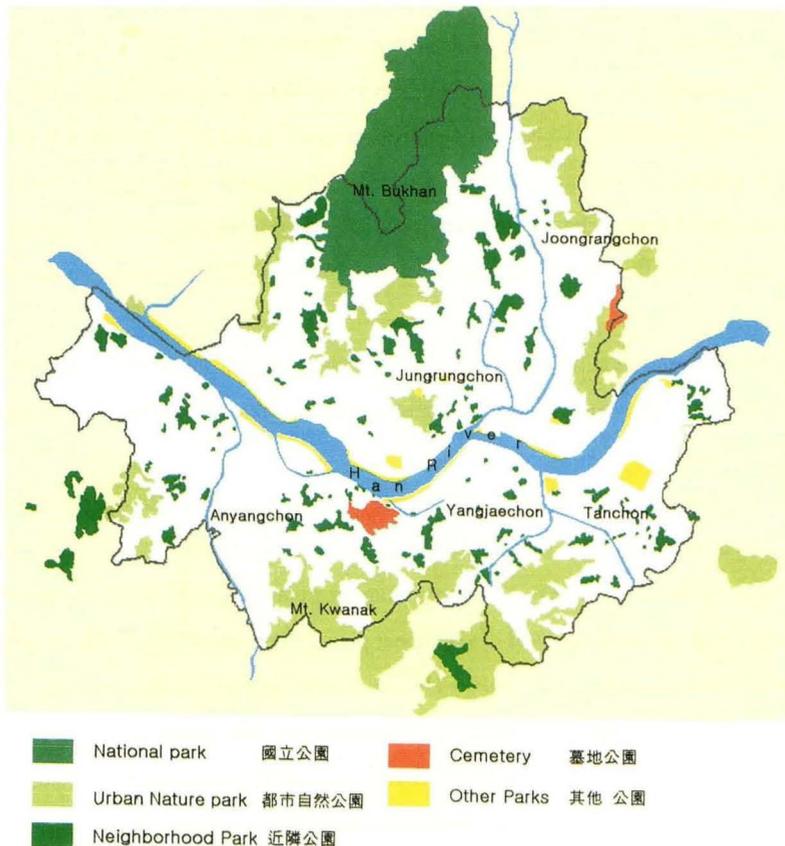


Figure 2.1 The open space in Seoul metropolitan area

3. Town & country planning and urban fringe area

Under the current circumstances, whereas urban fringe area by rapid growth of new towns is transforming into the urban environment and the rural communities lose its identity, the planning of rural area is not simply for the rural community itself.

In the consequence of the traditional agricultural policy of which priority was given to maximum protection of farming land to meet national self-sustainability of food and enlargement of farmer's earnings at any risks, the other important rural developmental issues became relatively concomitant ones. As seen in the situations of rural environments such as, for instance, unlimited use of agricultural chemicals, uncontrolled tree cuttings, forgotten rural landscapes, and conflicts of environmental ethics between tourists and farmers, the current Korean rural society is in urgent need of integrated town & country planning particularly in the urban fringe area.

The phenomena that there have been increase of houses & industrial area and thus sharp decrease in farming lands over recent 30 years may be because of rapid expansion of satellite cities, however it also due to the improper provisions for protection of farming lands in view of rural planning. As a result there have been unexpected urban developments in the adjacent rural areas beyond the green belt, where the intensity of development is much stronger than in the core of the inner city. As to such a chaotic situation of urban fringe developments, the MOCT officials mull over the restructuring of overall land use systems.

According to the proposal by the National Committee for Land Management (NCLM, 國土整備企劃團), a more simplified uniform landuse classification system applicable to urban and rural area as a whole is suggested : urban, management & maintenance, and conservation area. In new system the existing sub-urban and sub-agricultural zone are to be substituted for the management & maintenance area, while the conservation area is to include the farming and nature conservation land.⁽⁶⁾

Under the existing landuse planning system open space is classified with many diversified forms; i) urban parks(children park, neighborhood park, urban nature park, cemetery), ii) green space(buffer green, scenic & beauty area, amusement park), iii) green area, scenic district, and plaza, public cemetery, sports field, river, green belt in the urban area, iv) conservation area of green space, ecological conservation area, protection zone for endangered wild animals, preservation area for forests.

Though the land use classification applies to each separate landuse activities, but it is considered too much subdivided with different, sometimes ambiguous meanings for the similar purpose. In terms of landuse classification a new simplified and thus clear concept of open space system have to be established.

4. The concept and content of regional open space

The most important issue of land policies in the urban fringe area would be how to protect the existing farming land from ceaseless pressure of urban developments. Even if the landuse system proposal by NCLM is to be adopted, a certain type of physical buffer is definitely necessary in order to keep agricultural lands from transforming into built-up area for houses, industrial factories, roads, and public institutions.

In the act of 1999 on water quality improvement in the Han river and supports for the residents in the area(漢江 上水源 水質改善 및 住民支援에 관한 法律), a new waterfront zone(水邊區域) is designated in the Han river basin from Paldang reservoir(八堂湖), Chungju multi-purpose dam(忠州 多目的댐), up to the Kyongann branch(慶安川) with width of 500~1000 meters along the streams.⁽⁷⁾ Though the zone is aimed for water quality management & environmental pollution control, its practicality is yet uncertain. Even so, the waterfront zone concept has meaningful implication for environmental conservation policy, which will have a valuable opportunity to institutionalize the regional open space system.

Since the first national physical development plan of 1972 the need of regional open space has always



Fig. 4.1 The waterfront zone in Seoul metropolitan area

been identified in the series of disaster control measures; establishment of parks as open space to control fire & earthquake, encouragement of afforestation, emergency park, buffer green area, and improved flood control. But most of the disaster control depended mainly upon large civil engineering projects such as dam constructions, river bank projects, open ditch improvements in rural area. Recently a new concept emerges toward the establishment of overall, all-weather landuse & facility program throughout country to minimize the damages by control of high density urban development or low land uses.⁽⁸⁾ It is well known fact that it is much more ecologically sound and economic to improve river basin by its natural way than by traditional civil engineering projects in long term perspective.⁽⁹⁾

Regional open space is not simply a tree belt, nor can it be just preservation area for ecological resources. It is one of social spaces that link urban with rural community through cultural and spatial interactions. It is the space with multifunctions such as : habitat for wildlife, urban & rural recreational site, natural river restoration area, and buffer zone for preserving rural community identities. It may be therefore, one of best landuse alternatives to substitute with green belt, which was thought to be unsuccessful in managing the inner structure of metropolitan area.

In terms of objects the regional open space may preferably includes those areas as ; national & country park, outstanding area of national beauty, scenic coast, regional trail, designated forest, streams, waterway, wetland, and wildlife preservation area. Table 4.1 lists up the contents of regional open space.

Unlike the local park plan, the concept of regional open space is a spatial planning for the amenity area where sensitive regional ecological resources need to be conserved and managed. Among them the nation-wide greenway system based on the river basin will be the top priority. There are many examples to be cited from the the developed countries; the green corridor of Sydney in Australia, greenway system & waterway corridor at Ottawa in Canada, and wind corridor of Stuttgart in Germany.⁽¹⁰⁾

Once the concept of regional open space is set up, the next step would be the assessment of detailed

Table 4.1 The objects of regional open space

Landuse	Urban	Rural
Park	urban park & garden	country & national park
Forest	tree belt, arboretum, green buffer	scenic forest, protected forest
Wetland	urban reservoir, biotops, outdoor education camp	habitats, birds watching area marsh, high mountain swamp
grass & upland	farm land buffer, habitat	wildlife corridor
Waterways	canal, open channel, river bank, waterfront	irrigation ditch, beach river basin
Greenway	bikeway, access road, wild animal path	drainage, overflow, regional trail
recreation ground	picnic area, theme park outdoor sports field	camping area, regional recreation area
Landscape	scenic route, nightscape, plaza, historic area	area of outstanding beauty, rural community landscape

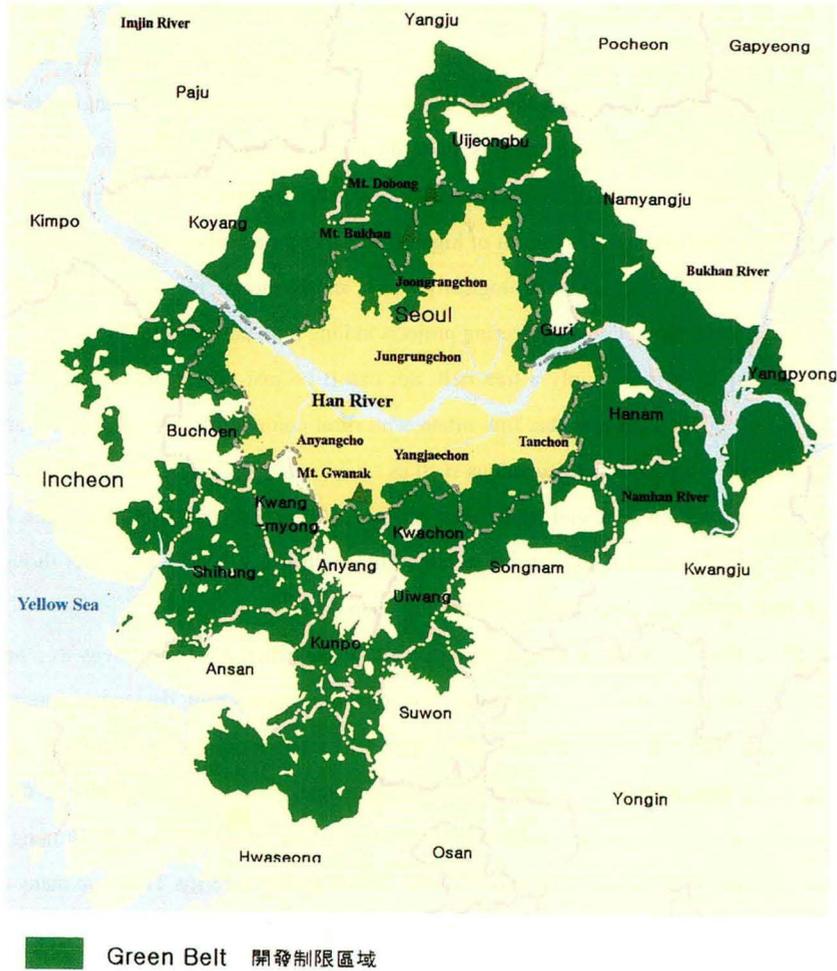


Fig. 4.2 The Potential regional open space in Seoul metropolitan area

land uses by its size and location criteria. There are still many waterways available for regional green networks in the Han river basin. Figure 4.2 shows the potential areas, which are mostly unnoticed streams and hills as well as designated forests within the the green belt.

5. Concluding remarks

It is generally accepted that the green belt was to control urban sprawl, however its effects are, on the contrary negative ones as seen in the situation; high social cost of external economies caused by flog-leaping satellite cities, increase of land price, too much concentration of build up area, and thus physical expansion of megacity.⁽¹¹⁾

The ongoing discussions on the restructuring green belt is focused on partial release and conservation of the rest of green area. But this attempts are likely to end up with hasty solutions of the current local interests rather than long term planning issues like integrated metropolitan growth management and rural development.

One of landuse alternatives for green belt would be the regional open space system as a green network that connects urban fringe area with rural community. The conventional perception of open space considered merely as another low density residential area or just 'green' forests have to be questioned. A more simplified and uniform land use system for green area thus should be produced in the context of town and country planning.

Korea is at the turning point of transforming the land use planning systems. As far as regional open space planning is concerned, it is worthy of listening to the recommendation by the TCPA, where a complete separation of land development right from land ownership is strongly suggested, in other words, the developmental right held by government is preferred to the developmental 'permission' system for land use practices in Korea.

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