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Chapter I . Urban Demographic

1. Managing rapid urbanization

For improvement of the quality of human life and sustainable human settlements, we must cope with rapidly increasing populations of specific cities and the aggravating regional inequality due to excessive concentration of population in certain regions. South Korea has undergone urbanization in the process of industrialization more quickly than most other cities in the world. In particular, it has been a major issue for national land and urban policies to cope with the serious concentration of population in the capital area (Seoul, Incheon, and Gyeonggido). There are two parts of policies to restrict the concentration of population in the capital area: one is for managing rapid urbanization and the other is for distribution.

The urban population which accounted for 39.1% of the total population of South Korea in 1960 started to increase rapidly from the 1960s when industrialization began in earnest and reached 88.3% in 2000. The increase of urban population ratio slowed down since 2000 and it became 91.0% as of 2012. Along with general urbanization, the concentration of population in the capital area has been an important policy issue about population change as well. The percentage of population in the capital area in 1995 was 45.3% of the national population, and by 2013, it increased to 49.6%, accounting for a half of total population concentrated in the capital area.

In order to prevent unplanned urban sprawl and natural environment destruction around cities, and secure space in preparation for future urban development, the Korean Government designated development restriction areas in the outskirts of 14 cities for 5.4% of national land eight times starting from Seoul in 1971. Since then, some development restriction areas have been released including seven small- and medium-sized cities that have relatively less pressure of urban sprawl and some clustered settlements which were designated irrationally. In 2000, the ACT ON SPECIAL MEASURES FOR DESIGNATION AND MANAGEMENT OF DEVELOPMENT RESTRICTION ZONES was enacted for rational management of the remaining development restriction areas.

Furthermore, capital area management policies promoted win-win development of every region across the nation with their own competitive edges. To distribute the population and industries from the capital area to other regions, the restriction of manufacturing industry (factories) which was a major source of job creation in the capital area and the restriction of the establishment and extension of higher educational institutions have been used as key policy tools. In addition, over-population charges, regulation on total number of factories and universities, and the restriction of new industrial complexes have been applied as well.

For the balanced development of all regions, the movement of central administrative agencies and public organizations which were concentrated in the capital area to other local areas has been actively carried out. When the three steps of movement to the Multifunctional Administrative City Sejong are completed, over 13,000 people of 37 agencies will work in Sejong Government Buildings. Furthermore, regional development policies such as the movement of public organizations from the capital area and the construction of 10 Innovation Cities in 11 other metropolitan cities and provinces have been carried out. In 2012, the plan for moving 149 public organizations from the capital area to other local areas was confirmed.

With the policies to manage rapid urbanization and distribute concentrated population and functions, the urbanization and the population concentration in the capital area reached a stable stage from 2000, and the basic urban environment became settled as well. As the urbanization level is already high in South Korea, the focus of urban and regional policies is changing from the restriction of urbanization to urban growth management and characteristic regional development.

Based on the awareness of this problem, the Korean Government has been pushing the Local Happiness Living Zone policy for the focus change from the present physical regulations and distribution policies to the development of regions with distinct characteristics. The Local Happiness Living Zone is a concept for connecting villages, farming and fishing village centers, and cities with autonomous agreements among local governments. The goal of this policy is to make everyday living spaces more convenient everywhere across the country that meet the needs for basic infrastructure, jobs, education, culture, and welfare services.

2. Managing rural-urban linkages

Urban and rural areas must have human settlements in line with their regional characteristics and create quality synergies through linkages between them. For this purpose, jobs and educational opportunities must be created in rural settlements, regional centers, and small- and medium-sized cities, eradicate poverty and improve living environment in rural areas. Since 1990s, the Korean Government has implemented policies for the development of underdeveloped areas including rural communities and urban-rural linkage. These policies can largely consist of 'urban-rural consolidated cities' to integrate urban and rural areas, policies to stimulate interchanges between urban and rural areas, and policies to support the endogenous development of underdeveloped areas.

To improve local competitiveness and to harmonize living spheres with administrative districts, the Korean Government carried out major administrative district reorganization in 1994 and 1995. One of the main elements of this reorganization was the establishment of 40 urban-rural consolidated cities including Namyangju-si in Gyeonggi-do. Later in 2005, Jeju-si and Bukjeju-gun, Seogwipo and Namjeju-gun were consolidated. Most recently (2014), Cheongju-si and Cheongwon-gun were consolidated. Thus, the number of urban-rural consolidated cities has steadily increased.

Furthermore, the Korean Government has promoted the interchanges of human, material, and cultural resources between urban and rural areas for the revitalization of rural areas and the balanced development of urban and rural areas. Urban-rural interchange programs include rural community summer vacation festivals, farming village experience tours, one company one rural community movement, and green rural tourist villages. By the PROMOTION OF MUTUAL EXCHANGE BETWEEN CITIES AND AGRICULTURAL OR FISHING VILLAGES ACT of 2007, the policies have been organized and the portal website for rural experience is being operated.

7,333 administrative villages, 20.1% of total 36,498 administrative villages are implementing urban-rural interchange projects as of 2010. They include 4,584 administrative villages (12.6%) in urban-rural partnership project, 1,366 (3.7%) in farming and fishing experience tour project, 2,537 (7.0%) in agricultural and marine products direct dealing projects, and 1,239 (3.4%) in food selling and lodging projects.

To improve the competitiveness of underdeveloped areas including rural communities, the

development of underprivileged areas has been supported at the national land planning level by means of policies such as Development Promotion Areas, and the infrastructure facilities in rural areas such as roads, water services, and information systems have been expanded. Furthermore, they have been promoting rural welfare improvement and income increase projects, housing improvement support projects, and rural composite industrialization support projects. Recently, they are implementing various community development systems combined to form one 'Community Development Area' system.

Since 2000, the central government has carried out various regional development policies for rural area activation including revitalization projects, creating livable communities projects, 163 basic living areas supporting policies, and recently, local happiness living zones. These projects emphasize the volunteerism, creativity, and cooperation of the local. The revitalization projects have pursued establishing regional innovation systems, branding local special goods, and farming and fishing village experience projects. Through the basic living area supporting policies, the expansion of the foundation for specialized developments based on local characteristics, the improvement of the quality of residents' lives, creative local projects, local community activation, financial support for the vulnerable social groups, and job creation projects have been carried out.

Recently the local happiness living zone policy is promoting the improvement of local centers' vitality, the expansion of living infrastructure that residents need, and the implementation of cooperative development system led by local communities. The establishment of a permanent cooperation system in a local living zone is expected to increase policy effects, improve residents' satisfaction and create synergies between the convenience of cities and the comfortableness of rural areas.

Besides the efforts of the central government, the autonomous tries of local governments also made some results. Model cases of local development projects in 2013 include the rural healthy longevity village (Hwaseong-si), the rural life school (Bonghwa-gun), the delivery lecture system that visits residents (Daedeok-gu), and the urban-rural exchange activation through cyber citizen system (Gongju-si).

3. Addressing urban youth needs

Cities have higher ratios of youth than rural areas and the urban youth belong to the disadvantaged in terms of education, job, and housing. However, they can be positive energy to the communities that they belong to while challenging and creating various new opportunities with their passion. Being aware of this possibility, South Korea has made efforts to improve education, jobs, and affordable and stable housing conditions.

South Korea has introduced the compulsory education system quite early that allows everyone to receive basic public education for free. The free compulsory education is stipulated by the Constitution of the Republic of Korea. Six years of elementary education became free and compulsory in 1950. The free compulsory education of middle school started in islands and isolated areas in 1985, which was expanded to eup and myeon areas in 1994. The 9-year free compulsory education of all people has been implemented since 2004. By contrast, occupational education and training programs for the youth have been decreasing. In 2004, 19.5% of the youth had experienced occupational education and training, but the ratio decreased to 14.7% in 2013. This seems to be the

result of the longer public education period.

The government is carrying out various policies for the youth such as the provision of job information, career building support, apprenticeship, overseas employment support and the establishment of ability-based employment culture. The government is operating an employment web site for easy information access of job seekers and employers. In particular, they focus on offering job information for the youth, women, and the elderly. The government is also running a Youth Employment Academies in partnership with corporations and universities to enhance employment abilities of the youth.

Through the youth internship program, the government is providing unemployed young people with internship courses in small and medium-sized businesses (SMB) and opportunities to be upgraded to regular employees, while supporting participating companies with part of labor cost up to one year. To promote overseas employment especially for the youth, the government has been carrying out public overseas employment projects from 1998.

In 2004, the SPECIAL ACT ON MEASURES AGAINST YOUTH UNEMPLOYMENT was enacted to give more job opportunities to unemployed young people and to support vocational skills development training to get domestic and overseas jobs. It was fully revised in 2009 and became the SPECIAL ACT ON THE PROMOTION OF YOUTH EMPLOYMENT. This Act stipulates the establishment of the Special Committee on Promotion of Youth Employment, the obligation of public organizations to employ unemployed young people, the expansion of the employment of unemployed young people in personal services of the public sector, and support for the employment of unemployed young people by SMBs.

Housing assistance policies for the youth was promoted from the middle and late 2000s in earnest, including the expansion of rental housing and dormitories for college students and the support of the national housing fund for the construction of public dormitories. Low-interest lease loans are supported for newlyweds owning no home, and 60% of 'happiness housing', a kind of public housing, is going to be distributed to newlyweds, new career starters, and college students to alleviate housing problems of the youth. However, these policies are still centered on college students, and general job seekers and unemployed youth still need more support.

Among policies for the youth, education policies have achieved clear results and) have become established systematically. However, the policy effects in the other areas are still unclear. In the case of employment, between 2004 and May 2013 the unemployment rate of the youth (15-29) improved a little from 8.1% to 7.4% but the employment rate of the youth decreased from 45.2% to 40.1%. This suggests that the decreased unemployment rate was attributable to the increase of the economically inactive population rather than the promotion of employment.

4. Responding to the needs of the aged

The aged people have the right to live productive lives with a sense of achievement and must have opportunities to participate in the decision making process of the community regarding welfare issues including the elderly housing problem. South Korea is one of the countries that are aging at an unprecedented rate in the world. Based on the population and housing census, the percentage of the aged (65 or older) in the national population almost doubled from 5.93% in 1995 to 11.30% in

2010. It is estimated that South Korea will become an aged society (where the percentage of population aged 65 or older is 14% or higher) and a super-aged society in 2026 (20% or higher). Therefore, the government has been reinforcing policies such as elderly welfare and employment to respond to the aged society since 2000.

To meet the housing needs of the aged, the government made an institutional foundation for the housing stability of the elderly such as the long-term low-interest financing support for housing adaptation cost of the underprivileged people including the aged and has been delivering 5% of new-built long-term public rental housing units (3% for non-capital areas) to the aged.

The WELFARE OF THE AGED ACT (enacted in 1981) stipulates the installation of elderly welfare facilities by the central and local governments. Elderly welfare facilities consist of elderly residential welfare facilities and medical welfare facilities. Elderly residential welfare facilities include nursing homes, communal living homes for the aged, and elderly welfare housing. The number of elderly welfare facilities is 72,860 (capacity of 174,592 persons) as of 2013, increased by 14 % (55.8% based on capacity) compared to 63,919 facilities (capacity of 112,064) in 2008.

The government supports to make senior-friendly residential environment in farming and fishing villages and implements rural healthy longevity projects for the aged in rural communities. Furthermore, the government develops and expands communal residential models in farming and fishing villages for the underprivileged people who have living difficulties.

For the welfare of the aged, the government is carrying out various support policies including employment and business start-ups, housing, pensions, medical and care services, etc. In regard to employment, the government subsidizes business owners who extend the retirement age or re-employment retired employees, and supports vocational training and employment for the aged.

The government is providing physical care and housework services for the low-income aged people in need, doing regular safety checks by visiting and calling, and providing living skill education services to all elderly people who are aged 65 and older, live alone and do not need nursing services.

The employment support policies for the aged are also becoming systematized. There is a job information website for the aged and employment extension support program also support the employment of people aged 60 and older. Furthermore, organizations and programs to support the employment of the aged has been established and operated, such as employment centers, elderly job hope centers, aged talent banks, and social contribution job initiatives.

The Korean government is striving to eliminate the age discrimination with no regard to personal abilities. At present, age discrimination is prohibited in all areas of employment, such as recruitment, hiring, wages and other valuables, welfare, education and training, placement, transference, promotion, retirement, dismissal etc. Due to these efforts, the employment (rate) of the aged is steadily increasing. The percentage of workers aged 55 and older in workplaces with 300 or more employees increased by 3.61%p from 5.48% in 2006 to 9.09% in 2011. The percentage with no retirement age in the same workplaces increased 1.51%p from 4.26% in 2006 to 5.77% in 2011, indicating the improvement of employment conditions of the aged and the increase of job opportunities for the aged.

5. Integrating gender in urban development

The laws, policies, projects, and plans related to human settlements must include the viewpoints of women, and policies to allow the full and equal participation of women in the planning and decision making regarding human settlements must be established and practiced. In South Korea, gender equality and the basic human rights of women have been guaranteed by the Constitution ever since the government formation in 1948. Women have been ensured the equal rights to vote and to be elected as men and have the rights of free compulsory education. However, only recently have the viewpoints and rights of women become included in the policy agenda of human settlements and urban planning.

To support the actual status enhancement of women in every area including socioeconomic areas, the Korean Government has exerted substantial efforts since mid-1990s by establishing an organization in charge. The FRAMEWORK ACT ON WOMEN'S DEVELOPMENT was enacted in 1996 and the Special Committee for Women was established as a presidential body in 1998. In 2001, the Ministry of Gender Equality as a central agency of ministerial level was launched, which was expanded to the Ministry of Gender Equality and Family in 2005.

For the systematic implementation of policies for women, 5-year women policy master plans have been established four times including revisions from 1998 to 2012. The first women policy master plan in 1998 included the reformation of legal systems and practices, the enhancement of women's representations, the promotion and stabilization of women's employment, the expansion of women's education systems and the welfare services for women and family. The current fourth master plan focuses on the reinforcement of women's economic capabilities, support for care services, the establishment of environment for work-family compatibility, protection of women's human rights, and the eradication of violence.

Recent issues like increasing the participation of women and creating livable cities for everyone including women show that the viewpoint of women has been introduced in urban planning. "Women-friendly city" is a representative policy, which has the vision of local policies centered on the) quality of life, happy local communities in which women participate." The core values are "equality," "care," "environment-friendliness," and "communication." By 2012, 39 women-friendly cities across the country were designated, including Iksan-si in Jeollabuk-do and Yeosu-si in Jeollanam-do, the first women friendly cities labeled in 2009.

Policies to promote the employment of women have been steadily carried out as well. An Internet site for providing employment information for women is being operated, and to support work-family compatibility, parental leave for a spouse, childcare leave, and family care service are being implemented. The protection systems for pregnant and child-bearing women are being steadily reinforced. Other policies such as equal employment for men and women and the prevention of sexual harassment in workplaces have been carried out.

Thanks to these policies, the status of women has been improving in many areas. The socio-cultural improvement of women's status can be seen in the change of gender ratio in new babies. The ratio of male babies to female ones was 116.5:100 in 1990, but it improved to 105.3:100 in 2013, maintaining normal gender ratios at birth (103~107 male babies per 100 female babies) since 2007.

The economic activity rate of women also increased steadily from 48.8% in 2000 to 50.2% in 2013.

During the same period, the percentage of female paid workers also increased greatly from 61.5% to 74.7%, which suggests that the percentage of unpaid workers consisting of the self-employed and unpaid family workers has been steadily decreasing. During the same period, the wage ratio of women to men also increased a little from 64.7% to 68.1%, indicating some improvement of women's working conditions.

In South Korea, gender discriminatory factors in the process of establishing and implementing major government policies are analyzed and assessed based on the GENDER IMPACT ANALYSIS AND ASSESSMENT ACT so that government policies would contribute to the actualization of gender equality. The target agencies of assessment are central administrative agencies, local governments, and city and provincial education offices, and the target policies are laws enacted and revised, plans based on laws, and major policies and projects of the government that can have serious impact on gender equality.

6. Challenges experienced and lessons

a. Management of rapid urbanization

In South Korea, policies to respond to urbanization and the population concentration in the capital area have focused mainly on quantitative regulations and distribution. However, it has become obvious that these policies alone are insufficient for the improvement of competitiveness and the quality of life for both the capital area and provincial areas. Even though the forceful distribution policy to move government agencies and public organizations to provinces is anticipated to be effective in the distribution of population, more creative and cooperative efforts are needed to help sustainable, characteristic development of provinces.

Due to the restrictions on the capital area and the balanced regional development policy, the Seoul population has shown decreasing trend after the peak in the mid to late 1990s, and the total population growth rate of the capital area is decreasing. In the meantime, there are opposing opinions regarding the regulations on the capital area. It is claimed that the regulations should be greatly eased on the one hand, and that they should be continued on the other hand. More open discussions are required to find balanced policies for the improvement of the competitiveness and win-win development of both the capital and provincial areas.

b. Urban-rural linkage

During the past policy implementation process, it was found out very difficult for the central government to encourage the volunteerism of residents and local governments while taking the integrative approach for urban and rural areas. The autonomous local government system was implemented in 1995 in South Korea. Even though 20 years have passed, the self-governing system has a long way to go before becoming a sound and energetic system on the basis of residents' participation and decision making.

Some critics say that the physical linkages of urban and rural areas such as urban-rural consolidated cities produces adverse effects of relative declining of rural areas. As the urban services become more accessible to rural residents due to the development of transportation and communication, the economic foundation of rural areas became weaker. To overcome this problem, it is critical that the

rural areas should develop in an endogenous and sustainable way.

c. Response to the demands of urban youth

South Korea has many excellent human resources thanks to high enthusiasm for learning, which greatly contributed to industrial development. However, as the side effects of it, the issues like academic career inflation and too many highly educated people in a society emerged. The burden of educational expenses has been a major social problem for a long time in South Korea. Furthermore, the feeling of deprivation is increasing due to diminishing quality jobs compared to the large number of highly educated people, and the young generation is evading "3D" (dirty, dangerous and difficult) jobs. With regard to the goal of education, some people emphasize special education to reinforce competitiveness, and others opposing to this position emphasize the importance of universal and equal education.

In urban and rural communities, using the insight, creativity, and thinking power of the youth is still an important task along with the participation of general citizens. Not only the provision of good jobs to the youth, but also linking their creativity and challenging spirit to the urban vitality and new job creation is becoming more important.

d. Response to the demands of the elderly

Until 1990s, the population policies of South Korea had focused on the increasing population, urbanization, and disproportionate distribution of regional populations. After 1990s, especially from 2000, the aging of population progressed rapidly and became a serious issue. It should have been predicted and responded to but has not. Even though it is not easy to predict population structure changes, it is inevitable to prepare policies in advance by learning lessons from other experienced countries.

As new jobs are not enough, the elderly job programs and retirement age extension policies could contradict the work policies for the youth. No social agreement on the solution of this problem has been reached yet. Furthermore, various spatial plans about urban land use, infrastructure, and housing should pursue a safe and sound environment for the underprivileged people including the aged. The actual participation of the socially underprivileged group in this process still remains as an important task to be solved.

e. Gender equality in urban development

The "women-friendly city" which is a representative example of urban policies from the women's viewpoint is in line with the "barrier-free city" where children, the aged, the disabled, and pregnant women should have no inconvenience in accessibility and mobility. "Women friendly cities" which are similar to barrier-free cities put greater focus on women and are being spread to many municipalities. Women-friendly cities put special emphasis on communication and participation. This is an example of incorporating women's viewpoints in spatial planning and urban development, following the efforts to improve the economic and social status of women.

In regard to the economic activities of women, the female employment rate in 2013 was 53.9%, the highest since 2000, but it was not a high level compared to other countries. In particular, the career discontinuity of women in their 30s for birth and child care still matters. Crimes against women are still serious. Even though the sexual violence victim rate decreased from 2.9% in 2010 to 1.5% in

2013, few victims reported damages and requested support as reflected in the fact that only 1.1% of the sexual violence victims asked for help to the police. The percentage of female victims of violent crimes increased from 71.2% in 2000 to 85.6% in 2012, and the absolute number of female victims increased significantly by about 3.6 times during the same period.

7. Future challenges and issues

a. Management of rapid urbanization

South Korea is has passed the stage of urbanization and is now in the stage of curing or managing the problems caused by urbanization that already has progressed to a substantial degree. Even though a policy to redistribute population to regional small and medium-sized cities and rural areas is promoted, how to manage cities that already have considerably concentrated population has become a critical issue of urban policy. For management of cities, we are carrying out urban regeneration policies that focus on revitalizing existing downtown areas and improving the quality of housing and life. In addition, a strategy to enhance the quality and vitality of underdeveloped rural human settlements should be applied.

The capital area will pursue win-win development together with provinces while attaining high quality urban environment and competitiveness. Furthermore, for balanced and characteristic regional development, local central cities should be strengthened and locally initiated development project system realized. Besides, considering the special conditions of a divided nation, policies to respond to the rapid movement of population between South Korea and North Korea, which would take place during the cooperation and unification process should be prepared and implemented.

b. Urban-rural linkage

It is important to build self-sustaining foundations in rural areas for the successful development of urban-rural linkage. For this purpose, rural central areas should be reinforced to function as service hubs of education, culture, and welfare for the villages at the rear. To carry out this function subjects like service complex centers should be established.

For successful urban-rural exchanges, special training program for urban-rural exchange, special organization for urban-rural exchange support, quality information delivery will be implemented. Furthermore, efforts will be made to strengthen urban-rural cooperation atmosphere and the existing programs like rural village experience tour and one-company-one-rural-village movement will be developed further.

c. Response to the demands of urban youth

More opportunities for new training programs like about social entrepreneurship will be developed and delivered for the youth in partnership with municipalities, local universities, and local companies. Public sector will provide more jobs in education, policing, firefighting, welfare, and employment areas. More support will be provided for youngsters who want to get overseas jobs and who challenge for creative works and business start-ups by quality information and one-stop support service delivery. In the long-term, job sharing policies such as 4-day work per week and shorter working hours should be considered.

As a part of policies of decent housing for all, housing assistance for young generation like college students and newlyweds will be boosted, which will include support for housing purchase and lease financing at a low interest rate with National Housing Fund. Moreover, the housing problem of socially underprivileged young people such as temporary employees will be specially considered.

To address various and complex family problems closely related to youth problems, the existing youth training centers will provide youth and family support services together. Furthermore, youth crisis prevention programs, learning and independence support programs for drop-outs and related infrastructure will be expanded. Communities should have integrated youth support systems. Each type of youth shelters should be accessible. More opportunities for community activities should be provided to young people.

d. Response to the demands of the elderly

To reduce the poverty rate of the aged, the income security system for the aged will be reorganized and job supports for older people will be expanded. The aged will have more job opportunities, better working conditions, more education programs for the elderly life and more opportunities for social contribution. Obligating the extension of retirement age to 60 will be implemented progressively by company size with the reorganization of wage system. To promote the re-employment of jobless old people, more policy measures like customized training should be developed and implemented.

To respond to the increase of chronic diseases in the aging society, the whole medical service systems need to be restructured with the view of the user. For this purpose, preventive healthcare systems should be prepared, including lifecycle health screening system and the health maintenance role of health centers to be enhanced. Furthermore, with aging population, the emergency medical system and medical-care service linkage system should be improved.

e. Gender equality in urban development

To make urban environment more convenient and safe for women, more women-friendly cities will be designated. More participation of women in urban planning will be promoted to reduce discrimination and to reflect women's view in the planning, development, and operation of human settlements.

Customized jobs for career discontinued women will be provided. Furthermore, family-friendly working conditions and prevention against discrimination due to child birth and care should be institutionalized. Women's participation in a good quality labor market should be supported to increase.

A truly equal society for both men and women should be pursued by expanding women's participation in society and economy and reinforcing gender equality policies. Gender impact analysis and assessment, gender-sensitive budget and account system and gender equality education for public servants should be developed to make substantial differences.

Chapter II. Land and Urban Planning

8. Ensuring sustainable urban planning and design

Human settlements must contribute to economic development, expansion of job opportunities, and social development while harmonizing with the environment. For this purpose, the principles and elements of sustainable development such as preventive approach, prevention of pollution, respect for the capacity of the ecosystem, preservation of opportunities for the future generation, and community development must be sufficiently considered.

For the last two decades, South Korea has faced a variety of problems that threatened the sustainability of cities such as the aggravating urban environment caused by the rapid economic development and urban growth, the limitations of government-led growth policies, the resource consuming economic system, the increase of environmental load, and the increasing danger of disasters due to climate change. The government has actively responded to these problems by means of urban planning.

We have set such goals as community development, the reduction of environmental load, coexistence with nature, the preservation and systematic use of water environment, the preservation of green spaces, the development of eco-friendly transportation system, the construction of comfortable urban spaces, the improvement of urban landscapes, and the preservation and expansion of historic and cultural environments. To actualize them, we have strived to build sustainable cities through the reorganization of urban planning system, law revisions for eco-friendly urban planning, and the development of new techniques in planning and design.

In regard to urban planning system, the urban-and-rural integrated land planning system, the concept of "planning before development" and the development permit system were introduced in 2000s, in order not to repeat the experience of unplanned urban sprawl and damages to the environment of the economic development and urban growth age. To prevent unplanned developments and to make the land and cities more sustainable, various guidelines to urban planning and developments were enacted or revised. Furthermore, to improve the quality of urban spaces and to prevent indiscriminate resource consuming plans, environment-friendly urban planning and design methods were used such as compact city, transit-oriented development (TOD), mixed land-use, and urban landscape planning. Recently, SPECIAL ACT ON THE PROMOTION AND SUPPORT OF URBAN REGENERATION was enacted to accelerate the management and improvement of urban environment led by citizens.

Furthermore, addressing climate change and the energy and economic crisis as a national issue, the "Low Carbon Green Growth" strategy was established in 2008 to carry out for harmonious economic growth with the environment. This strategy encompasses the concept of active sustainable development that pursues the expansion of environmental capacity.

The government enacted the FRAMEWORK ACT ON LOW CARBON, GREEN GROWTH and established action plans in sectors including national energy, climate change, green growth industrial development, green technology research and development, green informatization, and green jobs. Furthermore, after declaring the "Green Growth National Strategy and 5-Year Plan," the government carried out the carbon green growth policy as a core national task.

To make "low-carbon green cities," which goes beyond the conventional green city concept, creating new growth engines and new jobs while minimizing environmental pollution and greenhouse gases, planning techniques and technical elements in sectors including land use, energy, transportation, resource recycling, park greens, and water circulation were developed and applied.

In order to facilitate more efforts for green cities, the government first prepared institutional foundations and urban planning techniques, and developed manuals and design guidelines to help the central government, local governments, companies, and citizens better understand green cities. Furthermore, the government has made efforts towards green cities, including green infrastructure such as new and renewable energy facilities, green transportation network, water circulating cities, smart cities, and green industrial complexes.

For sustainable urban planning, the government has improved the systems to facilitate citizen participation and increase citizens' role in the entire process of planning, monitoring and feedback. Furthermore, by 2013, all 16 regional local governments and 202 out of 228 basic local governments completed their own 'Local Agenda 21' plans through the process of consensus building of local governments and citizens.

9. Improving urban land management, including addressing urban sprawl

A lot of efforts are required to improve land management in urban areas including legal protection for land ownership, equal rights to land use, comprehensive and improved land management policies, rational and sustainable land use plans and regulations, appropriate density developments, expansion of infrastructure, comprehensive land information system, development profits redemption system, and policy development and execution for sustainable urban land use.

Land price surges occurred in South Korea due to the rapidly increasing demands for land following rapid economic development and urbanization, and repeated periodically according to economic fluctuations. Rising land prices resulted in land speculations, unbalanced land possessions, excessive profits from land and the widening gap between the rich and the poor, exhaustion of available land, unplanned developments, and inefficient land uses. To address land problems, land policies tried to regulate land possessions and uses and to increase land supply.

When the land market was slow due to economic slump, regulations were eased or abolished to activate land transactions, and land ownership regulations were removed by relieving the conditions on land acquisition of foreigners and the heavy taxes for non-business-purpose land of companies. Furthermore, to stabilize the land market and reinforce the supply and demand management capability, the public land bank and new land finance techniques were introduced. On the contrary, when the land market was overheated, various measures in tax, finance, and development profit recovery were carried out, such as the increase of possession tax rate to restrict speculations and restrictions on lending against property.

For rational, sustainable land uses, land use and management systems were set out based on the "planning before development" principle and the laws and other regulations on land development were integrated and reorganized. Laws for the comprehensive planning and use of the national land, laws on the management of specific land uses such as agricultural land and mountain area, and laws on environmental preservation, green belt, and capital area readjustment have been enacted and

implemented.

Furthermore, to prevent overcrowding in urban areas, developments at appropriate density are encouraged. To secure sufficient infrastructure facilities after land use changes and constructions, the costs are charged to the actors who cause and are benefited.

To distribute the high demands for urban land in the capital area to provinces and improve the unbalanced growth among regions, central administrative agencies and public organizations were moved to provinces and corporate investments in provincial urban developments were encouraged.

To prevent the haphazard spread urban land to greens or farmlands in the outskirts of cities, the "land suitability assessment" system for filing land characteristics to determine the suitability of land for preservation or use has been created. Furthermore, to prevent the excessive development(s) of local governments and land uses over the environmental capacity, various attempts such as guidelines to eco-friendly and sustainable urban planning, strategic environmental assessment and environment impact assessment have been implemented.

Recently, the government policies became more market-friendly. Underlining efficient land uses, land regulation policies became simplified. Irrational regulations were relieved to supply land at the right place at the right time for the competitiveness of companies and the resolution of people's inconvenience.

To rationalize land-related regulations, a "land regulation reform roadmap" was published. The FRAMEWORK ACT ON THE REGULATION OF LAND USE was enacted for the simple, transparent, and computerized land-use zoning and other land use regulations. The land-use zoning regulations that have problems of objectivity, rationality, and efficiency were abolished or improved. Until now, over 400 institutional improvements have been accomplished in 321 zones and districts. Furthermore, it was obligated to register zones and districts accompanying land use restrictions with regulatory information and drawings in the Land Use Regulation Information System (LURIS) so that people can easily understand the regulation status.

Land Management Information System was developed for transparent land transactions. The electronic system collects actual prices in real estate transactions and builds a computerized network on real estate information was constructed to provide a foundation for rational and fair taxation and allow people to easily use information. Furthermore, advanced information infrastructures such as GIS and U-City were equipped to help people conveniently use land information.

10. Enhancing urban and peri-urban food production

In 2010, South Korea achieved 104.6% of food self-sufficiency rate with the increase of the production of rice which is the staple food of Koreans. However, the food self-sufficiency rate greatly drops to 64.6% if wheat and barley are included, to only 26.7% if feed grains are included, and these rates are steadily decreasing. The reason for this is the declining competitiveness of agriculture following the demographic and social changes of the rural areas and opening markets. Therefore, the government made efforts on the stable food supply, the strict quality control over agricultural products, the increase of income and welfare of farmers who are the producers, the

enhancement of the competitiveness of agriculture, and the cultivation of related industries. Furthermore, rural development policies and projects to maintain and strengthen the vitality of rural areas have been developed and implemented, and the improvement of suburban farming with urbanization, the reinforcement of exchanges between urban and rural areas, and the institutional foundation and propagation of urban agriculture were carried out.

While the rural areas are losing vitality due to the rapidly decreasing rural population and aging, in the urban areas, interests in leisure time, health and well-being has increased after the enforcement of the five day work week. Consequently, the government enacted a law in 2007 to vitalize rural communities and provide various benefits to both urban and rural areas through the promotion of exchanges between urban and rural areas and the activation of rural tourism and the attraction of investments. To raise awareness on urban-rural exchanges among city residents and farmers, the government supported promotion and marketing activities such as "vacation in rural areas campaign," "rural culture experience contest," "rural village decoration contest," "urban-rural exchange festival." Furthermore, various support policies for urban-rural exchanges were carried out such as rural village experience project, rural village advertisement project, rural village closed schools utilization project, the establishment of urban-rural exchange centers, support for the operation of rural experience village project, and the education of people for the development of rural areas. Policies to attract the youth from cities to farming and rural villages are being carried out as well, including "rural village new town project" to improve the living environment of rural areas.

As over 90% of population is living in cities with the rapid urbanization, the agricultural activities in the suburbs near cities which are the consumer markets have become activated. Garden products such as vegetables, flowers, and fruits are cultivated in the suburbs and the cultivation areas increased with the development of transportation, the improvement of agriculture techniques, the increase of demands, and the expansion of the metropolitan areas. To stimulate suburban agriculture, local governments have carried out various support policies such as the cultivation of village companies, the encouragement of environment-friendly local food farming, the improvement of agricultural facilities and environment, and the vitalization of urban-rural exchanges.

In recent years, urban agriculture has been stimulated to respond to environmental and energy problems and to enjoy safe foods and healthy leisure activities. More and more citizens enjoy productive leisure activities while cultivating, eating, watching, and enjoying vegetables in gardens, rooftops and verandas.

As a consequence, in 2011 the central government enacted the ACT ON DEVELOPMENT AND SUPPORT OF URBAN AGRICULTURE to set up an institutional foundation for the diffusion and activation of urban agriculture. The central government was required to establish a comprehensive plan for the cultivation and support for urban agriculture, while local governments were required to establish and carry out annual urban agriculture cultivation plans. Furthermore, various supports were institutionalized, including the installation of urban agriculture support center, the support for the establishment of urban agricultural communities, the opening of public urban agriculture farms, and the development and operation of total information system on urban agriculture. To support urban agriculture, 65 local governments enacted the Ordinances on the Support for Urban Agriculture, through which they are carrying out various support policies such as the cultivation and support for urban agriculture, the organization and operation of urban agriculture committees, subsidies, and the formation of urban gardens and related education programs.

11. Addressing urban mobility challenges

In the transportation system, the efficiency and speed of transportation are the key factors on arterial roads or higher rank roads, but accessibility to land use is the core factor inside cities. Transportation management in human settlements must allow everyone to easily go to their workplaces, facilitate social exchanges and leisure life, and promote important economic activities such as purchasing daily necessities. Furthermore, the transportation system must prioritize harmonizing land use plans and transportation plans to promote the forms of human settlements that reduce unnecessary movements.

The increase of traffic flow and the expansion of mobility due to the urban growth and the increasing economic activities brought about various problems such as the aggravating traffic congestion and the increasing social costs. Traffic congestion in downtown areas has reached a serious level. The traffic congestion cost increased by about 10 trillion won for 10 years from 2000 to 2010, and the average car speed in the downtown area of Seoul in 2013 is 22 km/hr.

Policies to address traffic problems largely consisted of facility supply and demand management. In the demand management division, regulations and inducement policies were simultaneously used. To relieve traffic congestion, regulations such as charging public parking lots, reducing road parking lots, and congestion fees were applied, along with public transportation inducing policies such as the expansion of the bus only lane system. Even though it was difficult to feel the improvement of traffic conditions due to the rapidly increasing transportation demands, the supply of transportation infrastructure facilities has been steadily increased. Transportation infrastructure facilities are often constructed in a wide area. When conflicts among local governments occurred after the start of the local autonomy, the central government enacted the SPECIAL ACT ON THE MANAGEMENT OF INTERCITY TRANSPORTATION IN METROPOLITAN AREAS and set up the Office of Metropolitan Transportation Planning to mediate conflicts. Furthermore, a living transportation improvement project, called the Autonomous Gu(basic local government) Transportation Improvement Project, was carried out.

To restrict vehicle traffic and stimulate public transport, Seoul and other many municipalities set public transport only lanes where only public transport could use during the commuting hours. In addition, they introduced traffic cards to easily transit between subways and buses. Advanced technologies were applied; the intelligent transportation system (ITS) to smooth traffic flow and the bus information system (BIS) to promote the use of public transport. Additionally, zones for pedestrian and public transport, one-way street system, more strict control of illegal parking and stopping was carried out to restrict the entry of personal cars into downtown.

With the rising interest in the transit-oriented development (TOD), the improvement of transportation transfer system has been actively reviewed. This is to harmoniously interconnect settlement spaces, the means of public transport, bicycles, and pedestrians. There were many local 'nice streets to walk' projects. For the stimulation of the use of bicycles, local governments across the country have constructed and reorganized bicycle roads and bicycle parking lots.

To prevent socioeconomic or physical exclusion of the low income group and the socially underprivileged group, the priority was placed to the means of collective transportation along with appropriate pricing system, transportation capacity, and operation intervals. Furthermore, guidelines to barrier-free sidewalk design were published in Seoul (2009) and Gyeonggi-do (2011).

The main contents of these guidelines are the proper sidewalk widths, road sections and effective space for the movement of wheelchair users.

12. Improving technical capacity to plan and manage cities

One of the challenges that managers of human settlements face is the enormous scale and complexity of the tasks in the process of developing and managing cities. Metropolitan areas confront deepening global competitiveness, diversified population groups, aggravating gaps between the rich and poor, the spreading social infrastructure network, transportation and communication systems, the rapidly changing industrial and economic conditions, and the possibility of aggravating environment. Urban areas can suffer greatest human, material, and production capacity losses in the event of disasters.

We have adopted legal frameworks and organizational structures to ensure efficient and effective urban planning and management. We have built a hierarchy of urban planning, with vicennial master plans and urban management plans every 5 years to respond to the changes of cities. Furthermore, district plans were introduced and interconnected with architectural plans. Urban planning committees were established to let the planning and reviewing process to be led by experts rather than the government. Efforts were made to minimize the negative effects of “the development after planning” principle on the cities, and developments were pursued while preserving environment through eco-friendly development.

The abilities and responsibilities of local governments have been reinforced appropriately to effectively handle and respond to important issues such as the rights to land and property, land management, energy and water resource management, environmental management, transportation and communication, industries and finance, users' convenience of social services and infrastructure facilities, and social integration.

In the process of the planning and development of social services and infrastructure facilities for urban management and the response to emergency situations, trained women were encouraged to participate. For more integrated urban planning and management people from various cultures were included too. Local governments have discussed policies and shared their experience, expertise, techniques, and skills in various areas including social welfare in order to consider women and underprivileged people.

Considering urban spatial structure for efficient management of cities, the concept of intensive development (compact city) has been emphasized. If urban sprawl due to suburbanization could not be avoided artificially, the moving population was induced to the peripheral centers that have developed with the formation of public transport routes (axial development) and the polycentric development of cities was attempted.

To more manage cities more efficiently and effectively in the trends of complex use and the increase of high-rise buildings and underground facilities, ubiquitous urban planning using information technology has been researched. The ACT ON THE CONSTRUCTION, ETC. OF UBIQUITOUS CITIES was enacted (July 2010) and many cities including Seoul are setting up a ubiquitous city master plans. These plans are for the management and operation of cities with constructing infrastructure facilities and providing services to meet the demands of citizens while

applying the advanced technology which is developing. The upgrading projects of the urban planning information system (UPIS) are being carried out in many municipalities.

While planning and managing decrepit areas, redevelopment or reconstruction after demolition is being replaced by progressive remodeling or regeneration. The SPECIAL ACT ON THE PROMOTION AND SUPPORT OF URBAN REGENERATION was enacted which emphasizes the supporting role of the governments and collaboration on the fields instead of the process of projects.

13. Challenges experienced and lessons

a. Sustainable urban planning and design

The efforts of the government and citizens toward sustainable cities produced visible achievements, but there were many insufficient parts, either. From the aspect of institutions, each kind of project, each kind of subject and each government department has its own related laws. The established plans were also carried out individually with no clear and integrated principles or directions, leading to such problems as lack of interconnectivity and communication, overlapping and inefficiency of projects, lack of implemental power, confusion, and delay.

From the aspect of planning level, various planning techniques and skills have been developed, but they are in their early stage and not applied widely. Furthermore, development-centered urban policies have caused such problems as the damages of natural environment, excessive developments, monotonous city landscapes, and the lack of city identity. Urban planning and design need to be improved to respond to environmental problems and resource crisis.

From the aspect of performing entities, the participation and practice of citizens and companies are critical along with the government policies and promotion efforts for the planning and development of sustainable cities. However, environmental practices such as energy saving at the daily living and production activities are still insufficient. Furthermore, as the policy directions are changed by the changed power, it is difficult to keep consistent policies.

b. Improvement of land management in urban areas

The land market underwent overheating and cooling cycles repeatedly in line with economic fluctuations. During the excessive boom, the government increased land development and supply to address the rising land prices and speculations. Furthermore, measures to suppress speculations, such as the regulations on the land ownership, use, and transaction, the control on property secured loans, the tax on development profits, and the development of real estate information system, have been carried out. On the other hand, during depressions, the government focused on the relief of land regulations to boost the economy. Such active government intervention has contributed to the resolution of urgent problems of the land market and the national economy. However, the policy effects did not continue for a long time because the policies more focused on short-term effects rather than long-term visions, which led to the lack of consistency in land policies and the lack of direction and values of the policies.

Good forests and wetlands have gradually disappeared due to the development of suburban area in the process of the external growth of cities, which caused such urban problems as insufficient self-sufficiency functions, traffic problems, and declining old downtown areas. Furthermore, high-density land uses have become very common due to the expensive land prices and the profit maximizing developments. This harmed the productive use of land and the stability of residence, and caused the increase of unearned income due to speculations and the inequality of ownerships.

c. Increasing food production in urban and suburban areas

With the rapid growth of cities, developments spread to the suburbs, resulting in shrinking farmlands and rising land prices in the suburbs. Furthermore, the agricultural production foundation of the suburbs was weakened due to the increasing imports of foreign farm products and the aging rural population.

The effects of the activation of urban-rural exchange are not yet that great in spite of the government's efforts such as the enactment of laws and support policies. As the urban and rural areas understand and use urban-rural exchanges as a means for profits from their own standpoint, the formation of sympathy and sustained exchanges are lacking.

In spite of the government's efforts for the activation of urban agriculture, it is not easy to secure farmlands due to the high land prices of the urban areas. Leased farmlands are difficult to sustain farming. Information on garden selling, agricultural materials, and cultivation techniques is insufficient. Furthermore, social consensus on urban agriculture is still insufficient as it is in its infancy, and the policies, budgets, and organizations have not been prepared in a systematic manner.

d. Urban transportation

With regard to land use, to minimize traffic generation and moving distance, mixed-use developments for job-housing proximity have been actively reviewed along with the research of compact cities, but it is still in the early stage and has not progressed to a change of spatial structure. The transportation system must be configured for each living zone and often requires wider area discussions and collaborations. Even though some regions attempted integrated transfer systems and traffic card systems among different municipalities, but the nationwide system still remains a task to be completed.

In some regions, there is no on restricting passenger cars from entering downtown areas and many people are complaining about it. The process to form consensus of citizens is urgently needed. The progress of infrastructure development for using bicycles varies widely among local governments and it has been managed inadequately due to unclear roles and responsibilities. The enactment of ordinances must be done in many municipalities and the transportation improvement programs must be carried out based on regional priorities.

e. Reinforcement of technical skills for urban planning and management.

Comprehensive urban regeneration was difficult to be realized due to the legal system centered on individual goals of each kind of projects. The individual projects have been carried out separately by the ACT ON THE MAINTENANCE AND IMPROVEMENT OF URBAN AREAS AND DWELLING CONDITIONS FOR RESIDENTS, the SPECIAL ACT ON THE PROMOTION OF

URBAN RENEWAL, the ACT ON THE DEVELOPMENT AND USE OF STATION INFLUENCE AREAS, and the SPECIAL ACT ON THE NURTURING OF TRADITIONAL MARKETS. With the minimal public roles due to the profit-centered project structure, the original residents were excluded. When the economic downturn arrived, it was difficult to carry out projects in regional cities, and a large percentage of the project areas were designated in the capital area (72.4%). Through the environmental reorganization of redevelopment and reconstruction following total demolition, communities became broken down and the socio-cultural infrastructure became insufficient.

Suburban complexes as a way of urban development with low cost and high efficiency and the movement of major public organizations accelerated the hollowing process of old downtown areas and brought about the distortion of urban spatial structures with urban centers' movement. For the planning and management of a city, communication and interconnection with the surrounding local governments and among the departments in the local government are critical, but they were often inefficient.

14. Future challenges and issues

a. Sustainable urban planning and design

Complex and various laws related to "sustainable urban planning" will be consolidated or the connectivity among them will be improved. Furthermore, we will change to an environment-friendly system that integrates space and environment plans and focuses on the reinforcement of urban governance, the expansion of local government ordinances related to sustainable development, and the reinforcement of the assessment and monitoring of sustainability in the urban development process.

To respond to aggravating climate change and energy problems, we will reinforce the goals for the reduction of environmental load and the propagation of new and renewable energies in urban spaces while preparing and carrying out effective practice strategies. Furthermore, we will develop plans and techniques for adaptation to climate change, develop plans and techniques for converging and combining information technology and environment technology in urban spaces, develop carbon reduction and green city planning model and integrated system in tune with the circumstances of South Korea, and apply the Low Impact Development techniques in urban design and technology development.

To respond to the conversion from a civil participatory society to a civil initiative society, we will develop sustainable foundation technologies and contents using social networks and set conditions to allow citizens to easily use them in daily life. Local governments will establish plans and develop programs to make sustainable cities using theses. Furthermore, planning techniques and programs to resolve the gaps and conflicts among different regions and social classes will be actively developed and utilized.

b. Improvement of land management in urban areas

South Korea is facing a low-growth era, a decrease of population, and an aging society at an unprecedented rate. The total land demand is decreasing and the interest in land is changing from

ownership to use. With the spreading social awareness on the environment and the quality of life, the value of land policy is also changing from 'development first' to 'harmony of development and conservation.' In line with this changing trend, we will also change land policy orientation. While rejecting short-term prescriptions and unscrupulous responses, we will pursue consistent policies with a long-term view, and reinforce the connectivity between land development policies and environment policies.

We will focus our policies on optimizing land uses rather than maximizing them, and reinforce the transparency, soundness, and rationality of the land market. Furthermore, we will convert regulation-centered land policies to market-friendly land policies, rationalize various land use regulations to normalize the functions of the land market, and change to a land supply system to respond to demand. The central government will place more emphasis on the presentation of goals and directions for land use and management through basic guidelines and on the role of mediating conflicts. Furthermore, to prevent unplanned urban sprawl and reuse limited land resources, we will actively encourage the use of land inside the downtown areas so as to promote the regeneration and sound development of old downtowns.

c. Increasing food production in urban and suburban areas

To vitalize suburban agriculture, we will reinforce the foundation for the eco-friendly local food production and distribution in consideration of the demands of urban residents, expand the exchanges and direct deals between consumers and producers, and resolve the restraints to the use of farmlands while preserving good quality farmlands. Furthermore, we will help suburban agriculture move from simple production and cycles to the convergence and combination of production, processing, marketing, and tourism. As the pressure of opening agricultural market rises, we will strive to establish policies to cultivate the competitiveness of agriculture and to minimize the damages to farmers.

To promote continuous urban-rural exchanges, we will develop business models that can combine production and consumption such as cooperatives, discover and spread urban-rural exchanges and cooperation projects, establish a supporting organization for urban-rural exchanges, provide comprehensive urban-rural exchange information.

For the sound development of urban agriculture, we will expand spaces for urban agriculture such as public urban agricultural farms, private urban agricultural farms, and rooftop gardens. We will build an integrated system for providing garden selling information, farming materials information, and cultivation skills, and support citizen education with urban agriculture expert incubating programs) and urban agriculture support centers. Furthermore, we will develop urban agriculture into a new urban culture of everyday life that offers opportunities for experiencing and learning to citizens.

d. Urban transportation

We will actively promote the formation of vehicle-free roads in downtown areas. For this purpose, we will designate exclusive roads for pedestrians and public transport, and prepare public transfer parking lot at major intersections to absorb the entry of vehicles into downtown areas. To acquire parking space, we will purchase empty lands and parking lot sites in housing development districts, promote wall removal initiative, and use public facilities such as school playgrounds as parking lots.

We will secure the safety and convenience of transferring through intensive infrastructure investments such as the construction of transfer centers and operation centers at transportation nodes. In particular, as one of demand-responding transportation systems, we will operate pickup taxis and buses in the regions where the public transport system is poor and the proportion of elderly households is high. Furthermore, we will reinforce the transfer system to conveniently and efficiently interconnect various means of transportation including public transports, pedestrians, and bicycles.

We will enhance the convenience, comfort, and stability of using eco-friendly means of transportation by building an urban transportation convergence system based on advanced IT and stimulating the connection system between the total control system and the smart phones of transportation users. Furthermore, this system will be also applied to bicycle rentals so that citizens can use them conveniently to encourage the use of bicycles.

e. Reinforcement of technical skills for urban planning and management.

In order to meet the needs of cities comprising complex functions and the needs of citizens, we need to respond in an integrated manner and establish strategies for plans, development and management at local and regional levels. Opportunities for experts in various areas to participate in urban planning process must be increased, and the smooth communication among cities, departments of the government, and public and private agents must be promoted. For this purpose, we will encourage the natural information sharing and discussions through online communities such as SNS and blogs as well as through official connection networks.

Policies will focus on the regeneration of original downtown areas while avoiding the development of suburbs. The activation of business districts is needed to revitalize the original downtown areas, before which the activation of pedestrians must be preceded. Along with physical investments to construct pedestrian and public transport zones, education and discussion programs to address the complex interests of residents will be prepared and operated. Furthermore, the government-led method of the development and management of cities will be changed to civil initiative method. In addition, the departments that deal with critical issues such as urban regeneration will be put under the direct responsibility of mayor or deputy mayor and staffs in this department will be deployed to every department so that all departments can cooperate organically and create synergies.

Chapter III. Environment and Urbanization

15. Addressing climate change

Climate change refers to statistically significant differences of climate over a long period of time, and generally means global warming due to the increase of green house gases (GHGs). Due to climate change, the meteorological disasters such as heat waves, floods, and droughts across the world are threatening human settlements.

Although there are natural factors, the increase of GHGs by human-made factors has been found to be the major cause of climate change, and the reduction of GHGs such as carbon dioxide has been presented as a key countermeasure.

The Korean Government has established the National Climate Change Adaptation Policy (2011-2015) as a climate change adaptation strategy. This policy summarizes the joint adaptation measures of 12 government departments including the Department of Environment in seven divisions of health, disaster, agriculture, forestry, fishery, water management, and ecosystem and three adaptation base measures to support them.

The Korean Government is preparing climate adaptation measures in various areas including health, disaster, agriculture, and water resources, which include the education of heat wave response tactics, the development of new breeds to cope with climate change, and water resource acquisition plans. Furthermore, the government is reinforcing education and advertisement to raise awareness on climate change. The government also established Climate Change Monitoring Center and is developing climate change monitoring and prediction technologies.

A representative policy to adapt to climate change is the FRAMEWORK ACT ON LOW CARBON, GREEN GROWTH, which requires the establishment of the Basic Plan for Coping with Climate Change every five years, which must include response measures including climate change monitoring, prediction, impact and vulnerability assessment, and disaster prevention. Furthermore, the CLEAN AIR CONSERVATION ACT requires the establishment of Comprehensive Plans for Improvement of Atmospheric Environment including the impact assessment climate change and its adaptation measures, and the establishment of Korea Adaptation Center for Climate Change which is responsible for the preparation of policies, international cooperation, and research related to climate change.

In the 60th anniversary of national foundation on August 15, 2008, South Korea announced “Low Carbon, Green Growth” as a new national vision and prepared the foundation for response to climate change and environmentally sustainable growth. This elevated climate change to national development agenda rather than just environmental agenda and provided a momentum of setting the win-win relationship of economy and environment as a national development goal.

South Korea set the national GHG reduction goal to 30% of BAU(Business As Usual) by 2020, which corresponds to the highest level in the 15% to 30% of BAU which is the range of reduction goal for developing countries recommended by IPCC(Intergovernmental Panel on Climate Change).

Representative systems for GHGs reduction are the GHGs and energy goal management system for companies that discharge large volumes of GHGs, and the emission trading system which assigns yearly quotas to companies that discharge large volumes of GHGs and allow companies to exchange the emissions in excess or shortage with one another.

From the aspect of technical development, the R&D investments for green technologies were expanded to increase the level of major green technologies from 51.3% in 2009 to 77.7% in 2011.

In 2012, the Secretariat of Green Climate Fund (GCF) was built in Incheon Songdo, and the Global Green Growth Institute (GGGI) was established by the initiative of South Korea.

16. Disaster Risk Reduction

The impact of natural and man-made disasters on human settlements is gradually increasing. In recent years, the losses of lives and the number of refugees due to natural and man-made disasters have been sharply increasing. Therefore, the human settlements are required to be prepared against natural and man-made disasters.

For the last 15 years, South Korea experienced the property damages of 1.4 trillion won and the loss of 80 lives each year. Damages by storms and floods such as typhoons and heavy rains are the major natural disasters which account for over 80% of natural disasters in terms of damages and over 90% in terms of loss of lives.

Man-made disasters resulted in property damages of 500 billion won and a loss of over 10,000 lives each year for the last 15 years. Thus, even though the impact of natural disasters is larger for property damages, the loss of lives is occurring mainly by man-made disasters. The reason for this is that the frequency of man-made disasters was low before 1980s due to the less-developed public buildings, large structures, and public transport, but since mid-1980s, the damages from man-made disasters sharply increased as South Korea turned into an advanced industrial society with the construction of large-scale industrial complexes, high-density urbanization, and the increasing use of transportation.

In South Korea, the framework for rescue activities by the government and Civil Defense Corps in the event of disasters was established with the enactment of the FRAMEWORK ACT ON CIVIL DEFENSE in 1975. With the enactment of the DISASTER CONTROL ACT in 1995, the central government and local governments hurried the installation of exclusive organization for disaster management and the acquisition of human resources. Since 1975 when the FRAMEWORK ACT ON CIVIL DEFENSE was established, we have been carrying out actual evacuation drills three times a year, which are training to prepare for natural disasters such as heavy rains and typhoons and also are devil air defense evacuation drills in preparation for war due to our special situation where the North and South Korea are confronting each other.

After typhoon Rusa in 2002, typhoon Maemi in 2003, and the Daegu subway arson incident that brought about a loss of 192 lives, the National Emergency Management Agency was established as the first disaster management organization of the nation and the disaster prevention was greatly changed. With the establishment of a government department in charge of disasters, the basic concept of disaster prevention policy changed from recovery to prevention and field response system.

The natural disaster reduction measures focused on damages by storms and floods which are major natural disasters, including work against land erosion or collapse dangers, river and drain maintenance works to prevent flooding damages, and the installation of detention ponds to store rainwater. When large-scale development projects such as new towns are carried out, the prior examination system of disaster impact is required, which includes the prediction and analysis of factors causing natural disasters such as floods and landslides and the establishment of countermeasures. Furthermore, a disaster-preventing land use system can be established through the disaster vulnerability analysis through the urban planning process.

To reduce the man-made disasters, safety inspections for facilities with high disaster risk were reinforced and the supervision system for construction works was improved. Furthermore, continuous education and training in preparation for disasters are being carried out.

As an example of the efforts to build a safe city, Suwon-si, Gyeonggi-do accepted a program for effective damage prevention and safety enhancement at the community level from the WHO Collaboration Centre on Community Safety Promotion in 1999 and officially prepared a safe city project plan and carried it out from 2000. As a result, Suwon-si received an official safe city certification in February 2002 as the 63rd city in the world and for the first time in Asia.

17. Reducing traffic congestion

One of the difficulties of people living in cities is traffic congestion which is gradually aggravating with the development of cities. Therefore, for a comfortable human settlement environment, solutions to the traffic congestion of cities and development techniques for reducing traffic demand are required at the development stage.

South Korea's population per vehicle decreased from 2.9 persons in 2009 to 2.6 persons in 2013, indicating that the number of vehicles per population is steadily increasing. The traffic congestion in downtown areas is also serious, as shown by the fact that the average vehicle speed in the downtown area of Seoul is 22 km/hr.

In the past, road expansion was a major solution to traffic congestion in downtown, but in recent years, rather than physical measures such as road expansion, the encouragement of the use of public transport such as the bus-only lanes and the congestion fee are used as the solutions. In South Korea, congestion fee is charged to users of some vehicles to relieve the traffic congestion in the downtown areas of Seoul.

The bus-only lane system to encourage the use of public transport was first enforced in Seoul in 1986 and was expanded to other cities in 1997. However, the roadside bus lane system at that time had no great effects due to the taxis and general vehicles cutting in on the bus-only lanes. With the central bus-only lane system which started in 2004, however, the bus speed improved by 30% from 15 km/hr to 19 km/hr, and the number of bus users increased by 970,000 from 4.78 million in 2004 to 5.75 million in 2014. As of 2014, Seoul is now operating central bus-only lanes in 12 routes for the total length of 115.3 km.

Thanks to such efforts, the share of public transport in Seoul is 64.3% (28.1% for buses and 36.2% for subways), which is 2.5 times the share of passenger cars which is 24.1%. In large cities such as

Seoul that has an advanced public transport system, the share of public transport is twice the share of passenger cars, but in regional cities with insufficient public transport system, the share of passenger cars is twice as high as that of public transport.

The increasing share of public transport in large cities such as Seoul is largely attributed to the enforcement of central bus-only lane system and the expansion of urban railways which made the speed of public transport faster than passenger cars. Another reason is the cheap public transport charges through the financial support of the government.

Based on powerful IT infrastructure and the high smart phone penetration rate that is close to 70%, almost every city in South Korea is running the Bus Information System (BIS). BIS allows bus users to check various information including the expected bus arrival time, current bus location, etc. through various media such as smart phones, which enabled “no waiting for buses” and dramatically increased the usage of public transport.

Major environmental problems resulting from traffic congestion are noise and air pollution. Especially to prevent harms to human settlements due to noise, South Korea regulates the noise standards for residential areas which are 65 dB during the day and 55 dB during the night. If the noise exceeds these standards, countermeasures such as soundproof walls and forest belt must be established.

18. Air Pollution

Clean water and air are more important than anything else for healthy livable human settlement environment. To secure these, the emissions of air pollutants must be reduced, and the reinforcement of vehicle emission standards and the development of air pollution reduction technology are required.

South Korea has prepared the comprehensive air environment improvement plan at the government level with the enactment of the SPECIAL ACT ON THE IMPROVEMENT OF AIR QUALITY IN SEOUL METROPOLITAN AREA at the end of 2003. With the goal of improving the fine dusts and the pollution of NO₂ to the levels of major advanced countries by 2014, the total volume management system that regulates the total permitted emissions of air pollutants was introduced in major cities and provinces in the capital area.

The total air pollution load control system allocates the total permitted emissions by year to each business site and allows them to emit pollutants within the allocated volume. If they exceed the allocated volume, the allocated volume is reduced and charges are imposed.

To finance air environment improvement measures, the polluters pay principle is applied, and the government provides support for the people who don't have money to pay.

To reduce the pollutants emitted from vehicles, the emission permission standards for vehicles have been reinforced, and the attachment of diesel particulate filter (DPF) has been obligated for diesel vehicles. Furthermore, subsidies and tax benefits are given to people who buy electric cars in order to propagate electric cars.

To control air pollutants emitted from business sites such as factories, the chimney remote monitoring system was built in 1986. In the past, government officials visited the sites to supervise air pollutant emissions, but the new system attached an automatic measuring instrument in each site for supervision for 24 hours a day so as to prevent the emissions of air pollutants during the vulnerable hours such as night.

To protect the health of people from air pollution, alerts are issued and step-by-step actions guides are presented when the concentrations of ozone and fine dusts, which have great impact on the life and health of people, exceed certain degrees.

As a result of the air quality satisfaction survey for OECD member countries, South Korea scored 78.3 whereas the total average was 80.9, indicating a low air quality and satisfaction level despite continued investments in air quality management.

The concentrations of air pollutants in Seoul as of 2012 were 0.005ppm for sulfurous acid gas, 0.021ppm for ozone, 0.03ppm for nitrogen dioxide, and 41ppb for PM-10. Compared to the standard values of 0.02ppm for sulfurous acid gas, 0.06ppm for ozone, 0.03ppm for nitrogen dioxide, and 50ppb for PM-10, the values for nitrogen dioxide and PM-10 are approaching the standard values, which require countermeasures.

Although the air quality of South Korea is low among the OECD member countries, but thanks to various efforts to prevent and control air pollutions, the inter-annual variations of the air quality in the capital area are steadily improving. In the case of PM-10, it was 69ppb in 2003, 47ppb in 2010, and 41ppb in 2012.

Meanwhile, for new development projects that cause air pollution such as road and urban constructions, environment impact assessment is required to predict the impact of the project on air pollution and to establish reduction measures.

19. Challenges experienced and lessons

a. Response to climate change

South Korea faced limitations to the conventional growth model with the aggravating global warming and energy crisis and the long-term low growth of the global economy. Moreover, as shift to a new economic growth paradigm and the creation of new long-term growth engines are required, South Korea announced “Low Carbon, Green Growth” as a new national vision and started to carry out green growth strategies in earnest.

In spite of various efforts to adapt to climate change, the actual results were limited compared to the financial investment (108.7 trillion won between 2009 and 2013). During this period, the GHG emissions kept growing (605.4 million tons of CO₂ in 2008→697.7 million tons of CO₂ in 2011).

Furthermore, as the climate change adaptation policies were carried out under the initiative of the central government, and the participation of local governments, industries, and citizens was insufficient. The energy consumption kept increasing due to insufficient demand management due to supply-oriented energy policies.

The four-river projects, which were carried out as part of the climate change adaptation project, is still a hot issue to be evaluated even after the projects have been completed due to the lack of communication between the government and people and social concerns on environmental impact.

b. Reduction of disaster hazards

With the development of flood control measures to prevent flooding damages and the climate forecast system, the damages of natural disasters are continuously decreasing. However, the incidence of man-made disasters is not greatly decreasing due to the large-sized industrial facilities, and the increasing number of public facilities, and the dense living spaces. Therefore, countermeasures to them are urgently needed.

The safety level felt by people is still very low due to frequent man-made disasters, and the percentage of people who felt safe in a survey was less than 30% and in the case of women, it was less than 20%. Nevertheless, it is ironic that safety ignorance is still widespread in the society, which is a cause for more man-made disasters.

Even though people's awareness of safety increased due to the war threats from the North Korea and the frequent disasters, participation of citizens in the war and disaster response drills is still low.

With the increasing tour and leisure population due to the settlement of five-day work week, the occurrences of accidents in particular seasons and particular themes are steadily increasing. The expansion of rescue operators and equipment is urgently needed. Furthermore, the demand for rescue activities is explosively increasing due to the increasing elderly population by the aging society.

c. Reduction of traffic congestion

In order to address the traffic problems in cities, techniques to reduce traffic demands must be applied from the planning stage for new cities besides the traffic policies for existing cities. However, when large new towns are developed in South Korea, the city structures are designed on the basis of the connectivity of arterial roads, measures for public transport are insufficient, and the supply of transportation facilities is centered on roads. Therefore, preferences for passenger cars are high.

Therefore, in order to build a transportation system centered on public transport when new towns are developed in the future, the concept of TOD (Transit Oriented Development) is required. In the concept the central commercial district is placed around stations and the business, and residential and leisure facilities are effectively mixed. To introduce TOD concept, the development guidelines must be presented and regulations such as the limitation of development density must be improved as soon as possible.

In the case of Seoul, the share of public transport is 2.5 times as high as that of passenger cars due to the enforcement of central bus-only lanes and the low charges for public transport as solutions to address traffic congestion in downtown, but the share is steadily decreasing and sustained, diverse alternative solutions are needed to address this problem.

d. Air pollution

Because the influenced area of air pollution is extensive, the inflow of pollutants from neighboring countries can cause problems in the air pollution of our country. For South Korea, the yellow dusts and fine dusts from China are becoming new air pollutants and measures to address them are urgently needed. China is recognizing this problem and increasing investments in the improvement of air quality and environment, but pollution is a kind of growth pain that any country experiences in the development process, and the ultimate solution cannot be found easily in a short time.

The air quality of the capital area has been steadily improving with the introduction of strong systems to improve air quality since 2003, but the improvement of air quality is facing limitations due to the increase of vehicles and the inflow of air pollutants from China due to industrialization.

20. Future challenges and issues

a. Response to climate change

In the past, there were some negative assessments to the green growth policies of South Korea, but the general opinion is that the green growth policies contribute to our response to climate change and overcoming of the energy crisis, so the green growth policies will be carried out continuously. Policies that we should focus on in the future for this purpose are the development of new and renewable energies, the reinforcement of PR for the formation of consensus among people, the strengthening of regulations to reduce GHGs, and the expansion of the research and development of green technologies.

Meanwhile, we are going to prepare an opportunity for companies to recognize green growth as a new growth engine and not to regard the GHG reduction policy as new regulation or economic burden. We will prepare and implement related systems for this purpose, but the formation of international consensus and cooperation system must be preceded because without international cooperation system, the overseas competitiveness of regulated companies can be weakened.

In South Korea, we are preparing the ‘National Climate Change Adaptation Master Plan’ as a long-term plan which is a national master plan on adaptation to climate change. We are going to carry out concrete climate change adaptation work with five strategic goals: the construction of climate change risk assessment system, the development of application programs, the preparation of institutional foundation to reinforce adaptive behaviors, domestic and international partnerships to strengthen adaptation abilities, and contribution to international cooperation.

b. Reduction of disaster hazards

Because the percentage of man-made disasters is increasing due to industrial development and urbanization compared to natural disasters, we will expand experts and equipment with a focus on man-made disaster management in the future. In particular, as we are entering an aged society with the retirement of the baby boom generation, we should prepare safety and rescue measures for the aged.

Because uncertainties for future disaster environment are increasing and the current disaster safety technologies have limitations, more advanced technologies need to be developed. We should convert to a smart disaster management system using ubiquitous computing, and U-safety city

which is being promoted by some local governments will be expanded to the national scale. We should also upgrade the disaster management information system based on mobile devices using the IT infrastructure that we have.

c. Reduction of traffic congestion

Despite the improved public transport conditions of large cities, the share of public transport is decreasing, and diverse and steady measures to encourage the use of public transports must be prepared. For this purpose, we will expand new systems such as car sharing that allows cars to be shared by many people instead of personal ownership in addition to the existing measures. Furthermore, we will also expand the application of intelligent transport system (ITS) that applies information, communication, and automobile technologies to transportation.

Until now, the enforcement of the central bus-only line increased the usage of public transport, but concerns on the traffic congestion and safety of general vehicles which had been raised from the early days still remain. Hence, we will operate flexible lanes and carry out functional improvements. Furthermore, bicycle accidents are increasing rapidly with the rising interest and demand for bicycles as green means of transportation, and safety measures for bicycles will be prepared as soon as possible. The development method of the TOD concept needs to be introduced to reduce traffic demands of newly developed cities. As this requires the development guidelines and institutional improvements such as the limitations of development density for the introduction of TOD, rational solutions will be prepared through discussions with local governments.

d. Air pollution

South Korea needs new policies for the improvement of air quality due to the increasing number of vehicles and the inflow of pollutants from China. We will steadily reinforce the emissions standards to reduce air pollution due to increasing vehicles and also expedite the development of eco-friendly vehicles such as electric cars and hydrogen-powered cars. To prepare alternative solutions to the pollutants flowing from China, we will make an effort to search various solutions through the construction of international cooperation system with neighboring countries including China.

Choice and concentration strategy is required to manage air quality, and we should concentrate on the management of PM-10 and nitrogen dioxide emissions which are approaching the acceptable limits. PM-10 can be reduced by continuous road cleaning with vacuum and sprinkler trucks to control the causes of generation from the road surfaces. For the reduction of nitrogen dioxide, the attachment of smoke reduction devices to freight trucks will be expanded and the low NOx burners will be distributed to homes and small-sized boilers.

We will expand the subsidies and tax benefits for the purchase of electric cars, which had been test-operated in only a few cities, to the whole nation. The total air pollution load control system will be expanded to business sites so as to reduce the causes of air pollutants.

Chapter IV. Urban Governance and Legislation

21. Improving urban legislation

The government must encourage many citizens to participate in the decision making, performance and monitoring of the human settlement strategies, policies, and projects and efforts to prepare the systematic and legal frameworks to accelerate it. The participation of people in the development and management of sustainable human settlements must be institutionalized. An organization for broad participation and consultation in every stage of the policy development process must be created. The effective decentralization and the reinforcement of interconnections among local governments must be promoted. To build and activate such urban governance, the Korean Government has made institutional foundation and policies.

In 1995, the local self-government era started in earnest with the direct election of the local assembly members and the heads of local governments by citizens. Part of the administrative rights and tasks of the central government were delegated to local governments. Furthermore, to relieve the regional inequality problem due to excessive political and economic concentrations in the capital area, the central government transferred(relocated) the political and administrative functions and public organizations to provinces. For this purpose, the government carried out decentralization and distribution policies by enacting the three major special acts on decentralization in December 2003, which are the SPECIAL ACT ON THE CONSTRUCTION OF NEW ADMINISTRATIVE CAPITAL, the SPECIAL ACT ON BALANCED NATIONAL DEVELOPMENT, and the SPECIAL ACT ON DECENTRALIZATION.

In particular, to substantiate local autonomy, the SPECIAL ACT ON DECENTRALIZATION focused on the reinforcement of autonomous rights in education, police, finance, and legislation, and the rearrangement of the administrative agencies of the central government that perform similar or duplicate functions with local governments. For this purpose, the improvement of educational autonomy system, the introduction of local police system, the expansion of local finances and the improvement of financial soundness, the reinforcement of autonomous administrative abilities, the activation of local assemblies, the improvement of local election system, the expansion of residents' participation, and strengthening the responsibility of autonomous administration were laid out.

However, these regulations were declarative and the means of enforcement were unclear. As a result, except local referendum, resident's suit, and recall system, major issues such as tax reforms and the introduction of local police system could not be carried out due to disagreements among interested parties and financial difficulties. Consequently, to comprehensively and collectively transfer the powers and tasks on policies and budgets which had been concentrated in the central government, the SPECIAL ACT ON THE PROMOTION OF DECENTRALIZATION was established with abolishing and integrating existing laws. According to this law, task transfer to local governments, financial autonomy, the reinforcement of local administration abilities, the activation of local assemblies, the improvement of election system, the reinforcement of the responsibility of local government, the activation of civil society, and the establishment of cooperative intergovernmental relations were carried out.

With the expiration of the Special Act in 2013, the new SPECIAL ACT ON

DECENTRALIZATION AND REORGANIZATION OF LOCAL ADMINISTRATIVE SYSTEM was enacted. This law contained progressive contents of the local autonomy including the transfer of finances following the transfer of the tasks from the central government to the local governments, the expansion of local finances such as the conversion of national taxes to local taxes, the improvement of systems to actually strengthen autonomous legislative power, and the expansion of authority for local organizations, which had been institutionally insufficient in the past.

To enable citizens' participation and expression of opinions in the process of urban planning and development, it was institutionalized to undergo public hearing, committee, seminar public inspection, and the submission of opinions. However, these are low level measures of citizen participation. Thus, in recent years, we are turning to innovative urban governance methods that promote the activities of civil society and the cooperation with the government such as the ordinance for administrative information disclosure, participatory budgeting, ordinance for the support of village creation, etc. Furthermore, the establishment and operation of administrative councils to promote cooperative administration among local governments, sustainable council to prevent and resolve conflicts among public agencies, local government cooperatives for collaborative work, and government-civil cooperative bodies were institutionalized.

22. Decentralization and strengthening of local authorities

Localization strategies such as the law and policy systems for decentralization, democratic operation of local finances, the expansion of participation at the local level, cooperation between central and local governments and between local governments, and the reinforcement of the abilities of local governments expand the opportunities and capacities for independent decision making of citizens. The government started decentralization by organizing local assemblies through elections and electing the heads of local governments in 1990s. After that, developments were such as authority transfer, finances, and the institutionalization of the means of participation.

The government revealed basic principles of decentralization and transferred policy rights to provinces in line with them through the ACT ON THE PROMOTION OF CENTRAL ADMINISTRATIVE POWER TO LOCAL GOVERNMENTS, ETC. Of 1999, the SPECIAL ACT ON THE PROMOTION OF DECENTRALIZATION of 2004, and the SPECIAL ACT ON THE DECENTRALIZATION AND REFORMING THE LOCAL ADMINISTRATIVE SYSTEMS of 2013. These basic principles include the distribution of tasks in consideration of the improvement of residents' benefits and the effects of execution, the transfer of tasks that are closely related to local residents' life to local governments that are close to them in principle, the responsibility of the local governments that receive the tasks to handle them in a comprehensive manner, and the respect for the autonomy of the private sector and the expansion of opportunities to participate in administration.

The size and autonomy of local finances have expanded gradually. With the reorganization of government subsidies, their transfer to provinces increased, new local finances were developed and expanded, and the finances of block grants increased. The autonomy of local governments in the establishment and execution of budgets is increasing. The notification of basic guidelines related to budgeting to local governments was abolished and the autonomy of local bonds was expanded. Furthermore, a system for assessing and notifying local finances is developing as an institutional strategy to reinforce the responsibility of local finances.

The participation of citizens in local finances is increasing through local finance notification system, residents participation budget system, etc, which are regarded as methods to improve transparency and responsibility. The budget monitoring activities of civil society groups are spreading and developing. The participatory budget system is being carried out in about 10% of local governments as of 2013.

The laws on local autonomy guarantees the rights of residents' direct participation by defining the procedures for resident referendum, audit request, residents suit, recall system, etc. as well as the election of the local assembly members and the heads of the local governments.

The transfer of urban planning authorities to local governments has been gradually increased, including the transfer of the approval authority of urban master plans of cities and Guns to major local governments in 2005. Along with these changes, the need for sustaining publicity and consistency increased while the positive effects of localized urban planning have expanded. In 2012, the land planning assessment system was introduced in the FRAMEWORK ACT ON THE NATIONAL LAND which increased the room for intervention of the central government in the planning rights of the local governments. In the future assessment systems should be set out as a part of the efforts to identify problems and discover alternative solutions so that the authorities transferred to local governments can be executed rationally.

The interests and efforts of local governments in regard to the improvement of the quality of are found in the creation of jobs, the activation of communities, social services, urban regeneration, and other areas. Through the execution of these policies, many success stories that have achieved innovative methods and remarkable results have been found.

23. Improving participation and human rights in urban development

To improve residential environment, effective investments in urban development are required. This process must be carried out in the continuous communication among all the interested parties. Moreover, efforts should be made to improve abilities to create better human settlement environment, as well as to create and spread model cases. South Korean society has carried out rapid urban development to respond to the fast urbanization and economic growth. Some groups were excluded in this process due to lack of conversation and participation. On the basis of self-reflection on such urban development, new methods such as urban regeneration are being attempted.

Compared to other areas, the opinions of experts are considered more importantly in urban planning or development projects, but the opinions of residents and civil society groups were not regarded with that importance. Resident participation methods mentioned in the laws are just public inspection and public hearing. It is difficult to say that they can actually enable conversation and reflect residents' opinions in the decision of plans and projects. It is also difficult to say that projects are carried out to protect the interests of minor groups. The systems and policies need to develop further in order to substantiate resident's participation and listen to diverse opinions to carry out plans and projects in a way that does not alienate people.

Special efforts have been made to encourage the participation of residents in the process of establishing the Cheongju City Master Plan, Seoul City Master Plan, Suwon City Master Plan, and Gyeonggido General Plan. Based on the assessment of the meanings and results of such attempts,

more diverse attempts should be encouraged to promote participation.

South Korea has experienced the fast implementation of urban development projects to respond to the rapid urbanization around large cities. These projects were directly carried out by the government or on the basis of landlords' opinions. In this process there were excluded interests and neglected conflicts, which brought out the tragedy of extreme violence and deaths like the Yongsan accident.

Public projects are required to make resettlement plans or pay resettlement compensation to people who must move due to development projects in accordance with the ACT ON ACQUISITION OF AND COMPENSATION FOR LAND, ETC. FOR PUBLIC WORKS. However, the resettlement plans on the act does not include tenants. For projects carried out in deprived areas where many households live, in accordance with the ACT ON THE MAINTENANCE AND IMPROVEMENT OF URBAN AREAS AND DWELLING CONDITIONS FOR RESIDENTS, resident resettlement plans must be prepared and included in the project plan. In redevelopment projects specifically the public rental housing and moving expenses are defined as the content of the compensation for tenants. There is no common principle that should be applied to all people who must move their residences due to development projects.

Attempts to enhance the participatory abilities of residents in urban planning or urban development are being made. In the past, the main role of the civil society in relation to development projects was to represent the alienated interested groups who in the project implementation process. Recently, however, social groups have been involved in proposing stage, workshops, and education programs of projects at various levels and stimulated community activities through the process.

24. Enhancing urban safety and security

To make cities better places for economic, social, and cultural activities, crime prevention and public safety must be enhanced. For this purpose, the government must prevent public spaces from becoming crime scenes, and make efforts on education for crime and violence reduction, women's safety in communities, public security, institutional and legal systems for crime prevention.

After the rapid urbanization, over 90% of the total population in South Korea is living in cities. With economic growth and income increase, the quality of life and human rights have become more important. However, in the overpopulated cities, the frequency and risk of man-made disasters such as traffic accidents, crimes, and suicides are increasing, which cause the losses of lives and property.

Traffic accidents brought about 5,392 deaths and 344,565 injuries in 2012, and becoming a serious social problem due to their large human damages. Even though the number of deaths from traffic accidents is decreasing with steady preventive activities and the improvement of people's compliance with laws, it is still serious. There were 1,793,400 crimes in 2012 and 3.5 out of 100 people suffered from crimes. The total number of sexual violence crimes against women was 21,346, which is 58 per day on average. There were 43,249 fire incidents in 2012. 26,657 fire incidents happened in buildings and architectural structures, which was the greatest part of total fires and led to enormous human and material losses.

Accordingly, the central government has persevered with safety programs and safety facilities in order to respond to man-made disasters in line with the local conditions. Local governments also have strived to prevent disasters and reduce damages from accidents and disasters by building safety facilities and safety programs, and eventually to improve the quality of life by creating safe cities.

In 1989, the World Health Organization (WHO) developed a safe city program in which the members of communities and all public agencies participate. South Korea government also started to make systematic and multi-faceted preparations and safety measures for each risk factor. Suwon-si, Jeju-si, Songpa-gu, Gangbuk-gu, Wonju-si, Cheonan-si, Gwacheon-si, Busan-si, Samcheok-si, and Changwon-si acquired the international safe city certifications from WHO, and other municipalities are also preparing for the certification.

In 2004, the government enacted the FRAMEWORK ACT ON THE MANAGEMENT OF DISASTERS AND SAFETY and reorganized the systems and organizations for disasters and safety management at the national level. The roles related to disasters were collected to the National Emergency Management Agency. The disaster management functions of local governments and the public and private cooperation system were strengthened. Emergency systems for rescue, first aid, and field control activities were established, and prevention activities such as safety awareness campaigns have been carried out.

As disasters and accidents become more diverse and serious, the government planned and supported the ‘safe city pilot projects’ and ‘disaster prevention village projects’ to help local residents discover and address disaster risks on their own. The goal of the safe city pilot projects is to change the disaster safety management to prevention-oriented management, and the goal of disaster prevention village projects is to improve the areas with high disaster risks together with residents.

As a part of the efforts to prevent accidents and crimes in cities, the comprehensive plans for cities are required to include safety and disaster prevention sections. When developing cities and residential complexes, it is required to give priorities to the safe road and pedestrian designs, the improvement of road safety facilities and traffic signal systems, the design and arrangement of facilities for children and the old and weak, the reduction of crime worry areas and the installation of security equipments. Recently, safe cities have had better the foundation with pilot projects of the ubiquitous city (U-City) using advanced information technology.

25. Improving social inclusion and equity

Social policies and human settlement systems to improve the social inclusion and equity of various classes and groups must be prepared and implemented. The government is making efforts for social inclusion through income guarantee employment, health, and education policies. Furthermore, the government is trying to secure adequate housing and make inclusive neighborhoods.

With the increasing number of people who experience relative poverty and crisis, the need of social safety net became bigger. The government is making an effort to guarantee basic levels for all citizens and improve the levels in social policies including education, health, and welfare. However, there are more policies to be developed in order to guarantee employment opportunities and

alleviate the dual structure of the labor market.

Policies to support proper residencies such as the supply of public rental housing, loans for lease funds, and housing allowances have been carried out. Furthermore, systems to support the residence of the disabled and the aged, and residence support measures in consideration of the housing-underprivileged class have appeared. The housing pension to guarantee stable life of the aged using the value of houses as assets has been introduced. However, it is difficult to say that the means to support the group who have lost residence or are in such a risk.

The residential complexes constructed by public agencies have implemented social mix for social inclusion whereby owners' homes and rental homes are mixed. Such attempts to build inclusive neighborhood environment where various classes live together need to be more actively considered in various types of housing developments. Conflicts due to differences in interests are also appearing, and efforts to adjust them are needed.

North Korean refugees, multicultural families, foreigner workers and their families, and their next generations are increasing, and the need for supporting them so that they can live without being discriminated is rising. Systems to support social inclusion such as the ACT ON THE PROTECTION AND SETTLEMENT SUPPORT OF RESIDENTS ESCAPING FROM NORTH (2007) and the MULTICULTURAL FAMILIES SUPPORT ACT (2008) have been prepared, and support policies to identify the problems that they experience and to promote social inclusion are being developed. However, they experience social prejudices every day, and we are faced with the task of developing social awareness about racism and human rights abuse beyond just providing support.

To prevent the disabled and others from being excluded from their living environment, the ACT ON ACCOMMODATION PROMOTION OF THE DISABLED, THE ELDERLY, AND PREGNANT WOMEN (1997) was established, and national general plans for the improvement of accommodations have been established and carried out based on this law. The certification for barrier-free living environment is being implemented which evaluates public buildings, public use facilities, and apartment units for the installation and management of fixed or mobility facilities. As a result of these efforts, the percentage of the installation of amenities is steadily increasing.

Many minorities including sexual minorities, homeless-experienced persons, the disabled, and mental patients are experiencing various types of social prejudices and branding. These problems are often caused by ignorance and misunderstanding about minorities. Efforts to see this reality, publicly discuss this problem, and search for and practice solutions can be a starting point to resolve discriminations against minorities and pursue social inclusion.

26. Challenges experienced and lessons

a. Improvement of urban legislations

Through many trials and errors for 20 years since the beginning of the local self-government system, the related systems and policies have developed greatly, and the level of awareness and practice abilities of the local governments and citizens have improved. However, the low percentage of local taxes and lack of tax revenues, the dependence of local governments on national

finances is rising, and the local governments still fall short in their self-effort, the participation and monitoring by residents, and the checks and balances of the local assemblies.

Even though local governments has made efforts for independent urban development and the revitalization of local economy, they are still dependent on the central government due to low financial independence, and there frequent inefficient project investment cases due to lack of connectivity among local governments. As a result, local governments cannot help but be conscious of the central government or major municipalities and concentrate on securing stable finances, and often find the participation and demands of citizens and civil society groups burdensome.

The level of citizen participation which is the backbone of local self-government is still insufficient. Citizens have low trust on the government policies, social justice, institutions, and norms, which lead to indifference to politics and policies, thereby lowering the participation of residents. Even though the procedures for the participation of citizens and the expression of opinions in the process of urban planning and development, it is not easy to reflect the actual opinions of residents due to the passive methods of public hearings and residents' opinion gathering process. Sometimes the irrational demands and uses of forces by some citizens have caused problems.

b. Decentralization and the reinforcement of local governments

Decentralization increased the number of problems felt by citizens in daily life that have become the objects of political discussion. Innovative policies appeared in many areas, and local governments are learning from one another. The abilities of provisions to improve the quality of life of citizens are improving.

Local gaps can appear because local governments differ in their financial conditions and administrative abilities and the autonomy of finances and policies are increasing. Therefore, the efforts for regional balance should be enhanced along with decentralization. Due to the immature regional governance, policies with low publicity sometimes appear and investments are made in projects with uncertain effects. If they fail to properly respond to these problems, opinions about the adjustment of decentralization will increase and the expectations for decentralization will diminish.

c. Participation in urban planning and improvement of human rights

The systems to accelerate urban development projects, the active roles of public agencies in the supply of new housing sites, and the continuous reduction of the floor area ratio have been the critical background on which fast urban developments have been carried out. In this process, the opportunities for participation of residents were not sufficiently guaranteed and the project details were not determined by reflecting the opinions of the people who were affected by the urban development projects. The interests of minorities were not considered properly and the principles for responding to the cases where residence or livelihood was disrupted were not clear.

One of the causes that the urban development processes failed to give sufficient consideration to the interests of residents and neglected the alienated people was the lack of efforts to improve systems and policies. There were no devices to support the people who could not express their opinions and no means to consider and respond to the situations of individuals and groups who were affected by urban development projects. Other important values were not given due

consideration because of the need to quickly carry out urban development projects.

d. Safety and public order of cities

The government has persevered to reduce traffic accidents through road maintenance, expansion of traffic safety facilities, and traffic safety campaigns. As a result, the number of deaths from traffic accidents dropped in half over the last 20 years, but it is still high, and the percentage of children and the elderly who are socially underprivileged is high, which needs to be addressed.

Even though the government has strived to create a safe society by responding to traffic accidents, safety accidents, and crimes, but the degree of citizens' satisfaction is still low. As a result of a government survey on the degree of people's felt safety in 2013, the percentage of women who felt that the society was unsafe in general was 33.3% and a majority of women (51.6%) felt anxiety about sexual violence. Many people are feeling anxiety about safety, and the number of traffic accidents and safety accidents of children is still high.

The safe city project must be carried out continuously for the long term. Especially because preventive activities can effectively reduce post restoration and treatment costs, government policy support should focus on preventive activities.

e. Improving social inclusion and equity

The situation is continuing where it is difficult to cope with the gaps and variations in the market with social policies alone. More active attempts for social inclusion are required. Especially, the need for restoring equity and justice through intervention and control of the market structure itself is increasing.

As the voice of minorities is becoming louder, their infringed rights and the social prejudices at the background are being revealed. Various institutional and practical attempts to resolve the social exclusion that they experienced are appearing. However, weaker social influence the groups have, the more insufficient are the interests in and efforts to the problems they suffer.

The inclusive neighborhood environment in which various classes and groups live together are more likely to be healthy, safe, and sustainable than other communities where the classes are segmented or minorities are excluded. Commercial housing development mechanisms tend to create changes in the opposite directions, which must be complemented appropriately through policies to create inclusive spaces.

27. Future challenges and issues

a. Improvement of urban legislations

As the foundation for the development of local self-government has been built through legal reforms such as the transfer of finances to local areas, the reinforcement of autonomous legislation rights, and the expansion of autonomous organization rights, we will make an effort for the settlement of substantial and effective decentralization. As the demands for local finances are expected to increase continuously, we will also prepare actual means to increase local finances and

search for effective methods to improve equity to resolve the regional unbalance problem in local finances.

We will build the foundation for innovative urban governance to ensure more systematic, effective, and broad citizen participation in the decision making and execution process of urban policies, and increase the level of participation in the policy goal setting, urban planning, the installation of infrastructure facilities, the supply of public services, investment priorities, and urban planning suggestions. Furthermore, we will promote the participation and cooperation of local governments, public agencies, companies, and citizens in the urban development process, and improve the institutional and policy conditions for them. We will simplify the citizen participation procedure, enhance the legal effect of the results of residents' participation, and reinforce the connection between citizens and administration through the activation of civil society groups.

b. Decentralization and the reinforcement of local governments

On the one hand, there are criticisms about insufficient transfer of rights and finances to local areas; on the other, there are concerns about the deepening regional gaps and the prevalence of policies based on short-term perspectives due to decentralization. While taking note of these two opposing claims, we will search for concrete solutions to cope with the problems caused by decentralization in the process of implementing decentralization.

While continuously carry out the transfer of rights from the central government to local governments according to plans, we will develop and apply measures to improve the abilities of local governments and citizen participation and to help the systematic cooperation between the central government and local governments.

c. Participation in urban planning and improvement of human rights

We will search for ways to achieve the actual participation beyond the formal procedures of participation. Instead of one-time public inspections and public hearings, we will use a variety of information offering methods and several briefing sessions where the opinions of various groups of residents can be heard. In particular, we will ensure that the basic principle of urban planning projects would be the consideration of the groups excluded from the participation and content of projects due to various vulnerabilities and not causing negative effects on their lives. We will also prepare valid principle to be applied to all people who must move their residences due to development projects.

Although the interests of people who are seriously affected by urban development projects, if their interests and claims are against the values of the total society, we need a civil discussion process to control them. Irrational interests and claims of specific groups or the infringement of human rights of minority groups must not be tolerated. Urban development projects must give positive effects to the entire city as well as to the corresponding area or surrounding areas and the social burdens must be shared by all the interested parties. For this purpose, various parties must participate in the initial planning stage of major plans and projects to share values and discuss expected problems in advance.

d. Safety and public order of cities

To continuously and effectively carry out the safe city project, the government will reorganize the systems and reinforce administrative and financial supports. Furthermore, we will obligate the reviews on safety and crime prevention in terms of urban planning and revise the insufficient regulations and guidelines. To prevent various accidents and crimes, we will encourage the voluntary participation of citizens, share concepts about safety enhancement with citizens, and strive to put them into practice.

To prevent crimes, we will actively utilize intentional and preventive means such as crime prevention through environmental design (CPTED) while expanding the laws, facilities, and organizations. To maximize the effects of CPTED, we have to find vulnerable districts based on spatiotemporal simulation analysis results and establish customized crime prevention strategies in line with the characteristics of crimes. Therefore, we will apply various safety facilities and design concepts to prevent crimes from the planning stage for urban living spaces such as residential areas, schools, and parks, and raise the safety level by combining with geographic information system (GIS) and advanced IT equipment. For areas with high crime rate, we will make an effort to arouse the community awareness by reinforcing communities. Furthermore, we will further develop the safe city pilot project and disaster prevention city project which are being carried out some cities and increase institutional and policy supports to them.

e. Improving social inclusion and equity

We will reinforce the general social policy functions through taxes and improve the equity of after-tax incomes and the quality of life. Furthermore, we will make an effort to create socially inclusive market structure through such measures as the protection of the rights of the economical weak, and the prevention of and response to the problems of people who experience crisis or exclusion in financial and housing markets.

While striving to raise awareness about the prejudices and discriminations about minorities, we will review the enactment of laws to prevent discriminations. Furthermore, for the social inclusion of minorities, we will also make an effort to carry out policies and practices to resolve discriminations with an interest on the basic rights related to various aspects of life.

The effort to create a community where various classes live together to respond to the class segmentation trend of the settlement environment is part of the social inclusion efforts. Therefore, beyond tenure mix, all the communities should be developed with inclusive nature so that various classes can live harmoniously without excluding any minorities. First of all, we will prepare strategic approaches to mediate conflicting interests of different housing tenures and classes and to respond to the low capacity of residents for the housing supply to low-income or underprivileged groups.

Chapter V. Urban Economy

28. Improving municipal/local finance

From the aspect of responding to the needs for sustainable human settlements, we must make policy efforts to acquire and utilize finances so as to accomplish healthy government finances, reinforce the foundation for local economy and finances, and improve the urban and settlement environments. We must improve capital investment capacity for housing, infrastructure, and basic services by enhancing the abilities of local governments to attract investments and developing efficient, fair, and equal sources of local finances.

In the tax system of local governments, the adjustment of ratio between the local tax revenues which are independent financial sources and the national tax revenues is a critical issue. Local finances have increased the percentage of expenditures directly associated with the welfare and well-being of local residents such as the education, roads, residences, and medicine of the community. Furthermore, they have strived to save costs and increase revenues by increasing their abilities to control expenditures and collect taxes such as local taxes, user charges, customs, tariffs, and VATs.

We have established independent credit rating and credit system to give the perception that local governments have the ability to repay debts in accordance with relevant domestic laws and regulations so that local governments can more easily use the local, national, and international capital markets and professional lenders when necessary.

Local governments are playing a key role in the civil, volunteer services, communities, and cooperative areas and in the cooperation between agencies for the development of local companies. The central government institutionalized the budget system and accounting so that local governments can have mid- to long-term investment plans. Furthermore, the transparent support system between the central and local governments was institutionalized and investments of the devil sector and local communities in urban development have been attracted.

To correct regional gaps, the grant system was prepared for adjustment of local finances. This system accounts for a large part of local finances due to the aggravating regional gaps resulting from the changed urban structures, overpopulation, and depopulation following the concentration of population in cities.

Local finances are becoming poor due to the increasing expenditures according to the expansion of social capitals, the unbalance of regional economic development, and economic slump. However, the demands of residents for the improvement of resident life from the qualitative and quantitative aspects and the formation of advanced living environment are increasing. To cope with them, continuous efforts are being made to secure healthy local finances through the expansion of independent finances. The participation of private companies such as BTLs (Build-Transfer-Lease) in the projects was encouraged to improve quality while securing capital and saving project costs.

29. Strengthening and improving access to housing finance

In the housing finance area, there are various problems such as lack of housing supply, the aggravating housing conditions of the low-income group due to the increasing housing costs, and lack of adequate housing stock. The contribution of housing finance is required for the improvement of housing conditions of poorly housed people such, owner occupations support, housing stability, and low income rental housing.

To improve the effectiveness of the existing housing finance system, policies to supply more funds to housing finances and increase loans to the poor while maintaining the repayment abilities for loans have been promoted. Furthermore, effective legal and institutional frameworks have been prepared for transparent financial transactions. The participation of the private sector was promoted by establishing comprehensive and detailed property-related laws and a system of property rights, and enacting the ACT ON THE LITIGATION WITH FORECLOSURE OF MORTGAGE. The lending functions of the private sector were encouraged to adequately distribute the lending function of the mortgage market and facilitate loans, in particular loans in rural areas.

The participation of the private sector has been encouraged to satisfy the demands for various types of housing including rental housing and to mobilize resources required for the management and improvement of housing stock.

The associations for local community development, especially associations for the construction of cheap housing were promoted for new budget distribution. Furthermore, the savings and loans associations, credit unions, banks of the union type, insurance companies, and non-bank financial organizations were expanded by removing legal and institutional barriers, and an unofficial saving system for women was created. To mobilize local resources, cooperative organizations, bodies and others were encouraged to cooperate with financial institutions.

The government has supported the efforts of various organizations of different classes such as labor unions, farmers, women, consumers, and disabled organizations to create local financial organizations or systems. While supporting non-government organizations, the government is cultivating the autonomous development abilities of small-scale savings associations and exchanging information for the innovation of housing finances.

For the housing stability of the working class, long-term rental housing was supplied to the low-income group owning no houses, and housing costs were supported for people who are difficult to live in long-term rental housing or in areas where the construction and supply of rental housing is difficult.

30. Supporting local economic developments

The local economy of South Korea must address such problems as the concentration of population and economic power in the capital area, the underdevelopment of local areas, and the increasing regional gaps between large and small cities, while continuously carrying out policies to active local economy and regional development.

Local economy has an important meaning in the balanced development basis of a nation, which

entails the support for local economic development. To activate local economy outside the capital area, innovative cities and enterprise cities were distributed across the country, which are expected to serve as the economic pivots of the respective regions. Furthermore, local specialization zones have been designated, and a support system for the transfer of companies in the capital area to local areas has been prepared and is being carried out.

The attraction and operation of industrial complex that trigger production power is one of the keys of local economy, and methods to recreate old neglected complexes into new complexes that guarantee the quality of work life where the young people want to work have been searched. For this purpose, the government is carrying out the “QWL Valley (Quality of Working Life) fund project” for the environmental improvement of industrial complexes and has strived to create industrial complexes where production, work, housing, education, health, and culture are converged and combined beyond the conventional image of industrial complexes as workplaces centered on production and technology.

To effectively cope with the needs of regional companies, we are supplying lands with basic infrastructure to companies at reasonable prices and considering the needs of SMBs in this process as well. Furthermore, we have simplified the legal and administrative procedures to help SMBs in new and growing industries easily get credit and finances, thereby providing opportunities for urban economic activities.

We have increased support for the activation of traditional markets by providing proper regulations, cooperation, and a series of financial inducements. Furthermore, we have supported various marketing activities and advertisements for attracting customers and increasing sales, promoted a project to improve the abilities of merchant organization, provided customized merchant education, and improved the facilities and environment of traditional markets.

31. Creating decent jobs and livelihoods

The increase of temporary employees is leading to qualitative decline of labor and the labor population is decreasing due to aging. The unemployment rate of the youth is not improving and leading to social unrest. Furthermore, the poverty and unemployment in urban and rural areas are seriously restricting the development of human settlements.

The government has cooperated with all the related groups including labor organizations and business owners. We have encouraged productive employment opportunities to help all citizens enjoy sufficient income to maintain a certain level of living. We made an effort to ensure equal employment opportunities and wages for women, and provide poor women and the disabled with opportunities to work in their homes or nearby workplaces.

We have activating social companies that pursue social goals such as the improvement of quality of life for local residents by providing social services to the underprivileged people including the support for the independence of the disabled and the creation of jobs, while conducting the production and sales of goods and services.

To protect the basic rights and profits of workers, we have respected the related conventions of the International Labor Organization (ILO) regarding the prohibition of forced labor and child labor,

the principles of the freedom of association, the right for group negotiation, and the prohibition of description.

We have persevered to activate small-sized cooperatives and productive companies including local private businesses. We are also expanding employment and training opportunities for women and youth as well as the disabled. Furthermore, we have provided information on job opportunities through various public media in the public and private sectors.

We have fostered community businesses to stimulate local communities and help create jobs for local residents. We have activated the experience of farming villages, the operation of weekend farms, and the sale of well-being foods in connection of specialized resources (folk, culture, natural resources, etc.) through consulting and education about cooperatives.

32. Integration of the urban economy into national development policy

Efforts should be made to organically connect and integrate the national development policies with the economic revitalization policies of cities and local areas. The local governments must improve creative, autonomous economic abilities by actively using local resources, and the central government must prepare institutional framework and support measures.

In the early days of industrialization, South Korea supported and fostered local bases through choice and concentration under the centralized national development policy and spread the development effects to surrounding areas in order to quickly achieve the economic development goals. Due to the approach to concentrate resources on a small number of regions from the perspective of national industrialization and economic development, the economic development of local areas and cities depended on the national development policies. As the local self-government system was implemented in earnest along with the successful industrialization and economic development after 1990, the relationships between local/city economy and the national development policy has emerged as a critical policy issue.

In regard to national development policies, South Korea has established national land plans since 1960s, to construct infrastructure and improve the settlement conditions of national land. The 1st national land development plan (1972-1981) focused on the development of bases in the capital area and the southeast industrial belt with the goal of constructing infrastructure for rapid economic development. The 2nd national land development plan (1982-1991) focused on the restriction of the concentration in the capital area and the development of zones, and the 3rd national land development plan (1992-2001) focused on the cultivation of west coast new industrial zone and distributed land development with the goal of the harmony of development and conservation and welfare improvement.

The 4th national land development plan (2000-2020) presented a new land development master plan for the advancement of Korea to the world while addressing such problems of unbalanced land and environmental damages with the basic philosophy of “the realization of integrated land in the 21st century) through the plan implementation method and the convergence of economic and social spaces. At present, we are implementing the 4th revised national land development plan (2011-2020) which was revised from the old 4th national land development plan. With the vision of “the realization of global green land,” the revised plan has set the top four basic goals of “integrated

land with competitiveness,” “sustainable eco-friendly land,” “elegant, attractive land,” and “open land toward the world.”

During the early days of industrialization, the economic development of local areas and cities had been set as a subordinate concept of the central government’s land plans, and independent local policy concept first appeared during the 1990s. Through the BALANCED REGIONAL DEVELOPMENT AND SUPPORT FOR LOCAL SMALL AND MEDIUM ENTERPRISES ACT in 1994, ten multi-district development areas were designated starting with the Busan-Gyeongnam Area and the “Asan Bay Area until the designation of “Central Inland Area” in 2005. Furthermore, for the development of underdeveloped areas, the development promotion districts and new development areas, the development of agricultural, mountain and fishing areas, the development of special situation areas, and the development of urban revitalization areas were carried out. Furthermore, the special region system was re-introduced in 2002 to promote the inter-regional developments and regional developments to respond to the demands for cultural and tourism development.

Past regional developments had limitations in that the local and city economies had not much escaped the dependence on the top-down policies of the central government. Therefore, the ACT ON REGIONAL DEVELOPMENT AND SUPPORT was enacted in June 2014 to prevent excessive or unplanned developments by consolidating the existing similar or duplicate regional development systems and to promote regional development projects under the initiative of the local government.

According to this law, the existing five regional and district systems were unified into regional development project zones, and the mayors and governors were allowed to establish regional development plans. Furthermore, investment leading districts were introduced for total support for strategic projects, and the zone designation right was transferred from the Minister of Land and Transportation to mayors and governors so as to convert the projects to a project implementation system led by local government and the private sector for more efficient projects.

33. Challenges experienced and lessons

a. Improvement of the finances of local governments

The restrictions and supervision of local finances by national laws are still strong. The average financial independence of local governments decreased from 57.4% in 2004 to 51.1% in 2013, indicating the increasing dependence on the central government. The shortage of local tax revenues is filled by local grant subsidy taxes, national treasury disbursements or subsidies, local bonds, etc. Furthermore, the gaps in financial conditions among local governments are very large.

Even though efforts have been made to improve the transparency and soundness in the management and operation of local finances, but more actual improvements are needed. The post assessment system for post management of local government projects is still unsatisfactory. With the beginning of local self-government system, many projects associated with the pledges to win votes by the elected heads of municipalities are causing excessive local debts, and various BTL projects and guaranty debts are aggravating local finances.

b. Expansion of housing finances

Excessive household debts that were generated in the process of increasing housing loans to promote home ownership combined with the real estate slump produced many house poor people. Furthermore, the housing finance system is not appropriately responding to the needs of the underprivileged, the socially weak, the poor and the low-income groups. In order to provide loans to more households by securing domestic and international financial sources for housing finances, new means must be developed and integrate housing finances into a greater financial system while more effectively using the existing means.

Due to the unbalance of demand and supply in the housing market, the housing costs, especially the lease prices rose sharply, and the government promoted policies for lease loans. However, this has the limitation of unclear beneficiary of the lease loans.

c. Support for local economic development

In order to give opportunities to small companies and unions, cooperation with locally based organizations, financial institutions and job training organizations is critical, but this is still weak. In particular, we should provide and reinforce credit, finances, job training, and skill transfer courses to support companies developed and used by women. Furthermore, we need to promote training for small businesses of the union type and support their efforts to improve their products, services, skills, and distribution networks, and to develop new markets.

We should simplify and expedite the license and permission procedures for the approval of factories in the local areas to support business activities. The licensing and permission process is often delayed by the long deliberation time and excessive conditions of the urban planning committee. The converged and combined development of industrial complexes is also difficult due to the regulations against mixed uses in the existing laws and ordinances related to urban planning and industrial complexes.

d. Job creation

The revitalization of community businesses varies greatly by region, and civil complaints and litigations are occurring due to the conflicts of interest regarding the income distribution among the members. Therefore, education programs to guide them in the direction of discussion and cooperation are needed.

Job opportunities through job training and rehabilitation, as well as through the financial support project for the jobs of the vulnerable people including the aged, unemployed, and disabled, are not sufficient. Venture companies in the IT and other areas have sharply increased by the active cultivation by the government, but many of them turned out as credit delinquents due to lack of experience and inadequate social conditions. Social conditions and the provision of opportunities to allow people to challenge again without fearing failure are required.

e. Inclusion of city economy into national development policies

Due to the development plans and project ordering led by the central government, local governments are busy attracting projects while lacking self-determination and responsibility. Thus,

the results of development projects are not leading to the vitalization of local economy. Due to the lack of local specialization strategies, it is difficult for local governments to enhance their abilities, and this is aggravating their dependence on the central government.

Some local projects that are led by the central government and are dependent on the government development projects even destroy the unique cultural assets of the local areas, which must be avoided. Furthermore, duplicate investments and delays of projects are often caused by the lack of cooperation between the central and local governments as well as the lack of network among local governments. In the future, the powers and responsibilities of local governments and civil sector need to be reinforced and their abilities should be enhanced, and the formation of effective, demographic governance for local development projects is required.

34. Future challenges and issues

a. Improvement of the finances of local governments

The acquisition of independent finances is indispensable to reinforce decentralization. For this purpose, local governments have reinforced their city marketing strategies as self-effort to absorb tour demands and actively attracted production facilities to secure tax revenues, while the central government has not saved active support measures such as incentives to companies moving to provisions. Through the introduction of special accounting of national budget, we will make an effort to properly distribute budgets, guarantee the budget planning rights of local governments and increase the percentage of local government budgets to those of the central government. We will strive to continuously increase the percentage of local taxes by increasing local consumption taxes, reduce moving financial sources, reduce non-taxations and increase the collection of overdue taxes while reorienting tax revenues from acquisition tax toward local consumption and income taxes.

We will manage local finances in more transparent and sound manners. To control ostentatious projects that increase financial burdens, thorough feasibility analysis and sufficient financing plans will be established before carrying out any projects. Furthermore, local finance notifications will be increased, the cost information of projects will be revealed, the opening of the entire process of bidding and contracting will be obligated, integrated financial statistics including local government, local education, and local public organizations will be calculated.

b. Expansion of housing finances

To provide loans to more households by securing domestic and international financial sources for housing finances, we will develop new means and integrate housing finances into a greater financial system while more effectively using the existing means. The loan limits will be set by housing unit size, and the loans for lease and monthly rent as well as purchasing will be activated.

We will set detailed sliding scale by income, apply various conditions to different subjects, and prepare lower interest loans for the low-income group. Furthermore, we can give support to the improvement of structures (wallpaper, linoleum) and facilities (insulation enhancement, etc.) for housing remodeling of the low-income and underprivileged groups. We will also prepare a connection system with voluntary service groups and professional businesses, and search for ways to efficiently provide housing funds when needed.

c. Support for local economic development

We will activate business activities by identifying and improving unnecessary regulations that are barrier to business activities. For complaints of companies, we will present solutions through consultation with experts in various areas (tax, accounting, labor, HR, trading, etc.) and quickly resolve them through the operation of a task force. While expanding the business stabilization funds for SMBs and promote public purchases, we will increase joint projects of universities, research institutes and industries to build the foundation for industrial technologies and technical infrastructure. Local allocation system that allows some local companies to participate when national projects are carried out in local areas is desirable, and we will provide more efficient and comprehensive administrative support for small business owners including the provision of management support, loans, and information.

We need to prepare a win-win cooperation method for companies and local residents through a win-win industrial complex that is arranged in connection with a nearby city that has settlement, culture, and education infrastructures if such facilities cannot be installed within the industrial complex, and build a virtuous cycle of local development in which the workers of companies located in the region live near the companies so that production and consumption are linked. For this purpose, we will obligate the employment of local residents, encourage local procurement of raw materials, and induce “locally produced, locally consumed” partnerships with the resident companies to maximize ripple effects to local economy.

d. Job creation

We need to discover and foster new jobs and new industries through the cultivation of future new growth engines. For this purpose we will promote green jobs such as the trader of emission trading rights, climate change experts, and ecological restoration engineers, as well as the creation of customized jobs in line with the local characteristics. We will stimulate the youth employment allocation system, actively discover women-friendly companies and connect them with the employment demands. While making an effort to convert the temporary employees to permanent employees, we will also strive to minimize irrational discriminations related to wages for temporary employees.

We will actively encourage the creation of creative jobs (creation of businesses/jobs) through convergence of different fields, and cultivate business centers for one-person creative companies to support businesses based on the creativity and expertise of individuals. We will also build a financing system that enables easy start-up and gives start-up capital again even if they fail. We will actively review business start-up support based on graduate laboratories along with step-by-step customized support for businesses through a full-cycle business support system. Furthermore, we will prepare and carry out strategies to combine related functions including national policy institutes, techno parks (TPs) and the industry-university cooperation groups and business incubation centers of universities.

e. Inclusion of city economy into national development policies

The central government will focus on the preparation of the foundation for independent local development and cultivate industries related to folk materials, technology, and services by linking with the resources in the local areas. The local governments will make an effort to build a

circulation system in their regions to interconnect industries with different effects of industrial productions. For this purpose, we will reorganize local industries based on job creation and improve conditions for promoting local investments. Furthermore, we will expand the autonomy of local governments, and expand the connectivity with local growth bases.

Through the local cooperation plan system, local governments will be able to jointly carry out all the steps from planning, investment, and execution, such as the joint construction of infrastructure. The central governments will share investments and jointly execute them while the central government will support joint projects among regions so as to promote strategic partnerships between different regions. Furthermore, land and local development projects will be carried out efficiently through joint land management and adjustment between the central and local governments.

Chapter VI. Housing and Basic Services

35. Slum upgrading and prevention

Poor forms of residential areas are generated unless proper infrastructure and adequate housing are supplied in the urbanization process. It is a critical task to create an environment where residents can keep living there by improving the environment of such residential areas. Furthermore, conditions to prevent poor dwellings and residential areas must be provided. South Korea has experienced and responded to these problems in the rapid urbanization process.

Unauthorized residential areas that were formed by illegal occupation of land in the rapid urbanization process were abolished and redeveloped after eviction or legalized by granting land ownerships. Also, monitoring to prevent more unauthorized occupations was reinforced. Most people who experienced demolition were scattered to other low-income residential areas or resettled as a group. The residential areas formed through resettlement still had no infrastructure facilities, and housing conditions were poor. Thus, these areas often became demolition and redevelopment or improvement project districts.

Even after the monitoring of unauthorized occupation was reinforced, some unauthorized residential areas were formed by evading the monitoring network. These residential areas were formed by remodeling vinyl greenhouses for farming which were called vinyl house villages. To maintain the consistency of policy, the government had not carried out redevelopment project or legalization policy for these residential areas. Since 2007, basic level of housing was provided vinyl-house residents through the supply of public rental housing and the government has applied the principle of using land in line with its purpose.

Representative policy means that have been used to improve poor residential areas are residential environment improvement project, redevelopment project, and reconstruction project. Redevelopment and reconstruction were chosen according to the situation of the residential area, and the main motive for these projects is the interest of the land owner to monopolize development profits. Therefore, it is difficult to apply them to areas with low business value and poor environment. For areas that had very low business value and poorer residential environment, the government directly improved them through residential environment improvement projects.

The SPECIAL ACT ON THE PROMOTION AND SUPPORT OF URBAN REGENERATION was enacted in 2013 and urban regeneration projects were introduced as participatory projects that could be carried out for areas where projects for profit were difficult to implement.

Over the last ten plus years, small poor dwellings for one person households such as Gosiwons have greatly increased. The number of poor old people and foreign workers who live in underground rented rooms and containers is also increasing. Policy means to respond to the increase of these poor dwellings are insufficient.

36. Improving access to adequate housing

Providing everyone with an opportunity to use adequate housing is the core item on the Habitat Agenda Representative policy means related to adequate housing are the improvement of dwellings lower than the basic level, the provision of affordable housing, and support for reducing housing cost. Besides, policies for the timing or population group for whom accessibility to residences need to be specially considered are also being carried out.

The minimum dwelling standards were legalized in 2004. Since then, the households that do not meet the minimum dwelling standards including overcrowding and basic housing facilities were identified, and the reduction of these households has become one of the indicators to show the achievement of housing policies. In 2011, the minimum dwelling standards were upgraded by considering the changed conditions. However, there are no policy means to directly intervene when the minimum dwelling standards are not met.

The provision of public rental housing has been promoted as core housing policies since late 1980s. How many new public rental housing are supplied is presented as an important goal. As a means to reduce the burden of housing costs, low-interest loans for lease and housing allowances have been carried out. The housing allowance system will be revised and the target classes will be expanded from 2015.

Institutional foundation to make policies for the housing-underprivileged is being prepared. The ACT ON SUPPORT FOR UNDERPRIVILEGED GROUP, DISABLES PERSONS AND AGE, ETC. was enacted in 2012. This law provided the basis for carrying out policies such as the survey and plan for the housing-underprivileged, rental housing and housing remodeling expenses for the housing-underprivileged. Furthermore, the ACT ON SUPPORT FOR WELFARE AND SELF-RELIANCE OF THE HOMELESS, ETC. was enacted in 2011 to provide the foundation for carrying out the survey and policy plans and housing support policies for the homeless. However, the policies for the housing-underprivileged have not systematized yet.

Policy means to support households who need to prepare dwelling in spite of insufficient assets such as newlyweds appeared as well. Means to support the independent living of the disabled and the aged are also gradually expanding.

37. Ensuring sustainable access to safe drinking water

One of the basic requirements for human settlements is to secure safe drinking water. This requires proper management of water resources and accessibility to safe drinking water. The government has made an effort to plant trees in forests, secure infrastructure related to water resources, manage water quality, and supply cheap good quality drinking water.

The long-term forest tree-planting and the construction of dams have contributed to the acquisition of water resources, and we are supplying good quality tap water at low prices to most citizens through the regulation of actions in the water source management areas, water treatment systems, and waterworks. As of the end of 2012, the national water supply ratio is 98.1 which are very high.

To improve water pollution, we have prepared laws and policies to promote people's health and prevent environmental hazards due to water pollution. We have prepared institutional foundation with the WATER QUALITY AND AQUATIC ECOSYSTEM CONSERVATION ACT (1990) and

we are striving to reduce water pollution through such policies as water quality environment standards, emissions permission standards, and the total pollution load control.

The DRINKING WATER MANAGEMENT ACT (1995) was enacted to secure safe drinking water, and policies to provide good quality drinking water and get trust from people were carried out through the drinking water quality inspection, etc.

The water supply rate in the farming and fishing areas is still low at 87.8%. We are carrying out policies to help the alienated groups who do not receive good quality drinking water such as the expansion of waterworks in islands where water is not supplied and the improvement of indoor water supply pipes for national basic livelihood act recipients.

The water usage per person is 278ℓ which is high. There are rooms for improvement such as the reduction of losses through pipe improvement, the change of water using habits, and the increase of recycling level.

In spite of good quality tap water supply, the percentage of using tap water as drinking water is very low at 56%. To address the low tap water drinking rate, we are making an effort to improve trust through our home tap water safety confirmation system, etc.

38. Ensuring sustainable access to basic sanitation and drainage

We should improve unsanitary residential environment without sanitation and drainage facilities. In particular, we must strive to prevent the underprivileged people including the low-income group from being put in inappropriate dwelling conditions without these basic conditions. Furthermore, the proper management of drainage is also a way to reduce environmental burdens and improve the health level of the society in general. The government has worked hard to regulate pollutions, expand infrastructures, and improve drainage management level.

As a result of government-led propagation of drainage facilities, the national drainage supply rate is 91.6% as of the end of 2012. The supply rate of the urban areas is 94.6% and that of the farming and fishing areas is 62.1%, showing regional gaps. We are carrying out policy to install drainage facilities in farming and fishing areas, and plans to increase the drainage supply rate of the farming and fishing areas to 75% by 2015.

The provision of an exclusive flush toilet for a household within a housing unit is included in the minimum dwelling standards. The percentage of households using an exclusive flush toilet has steadily improved and reached 95.8% as of 2010. The installation rates of flush toilets in the farming and fishing areas are lower. As of 2010, the flush toilet installation rate in dong areas which are mostly in urban areas is 97.3%, and those of the eup and myeon areas are 94.4% and 85.9%, respectively.

The hot water installation rates are similar to the of flush toilet installation rates. The percentage of households that do not use bathroom with hot water facilities is 2.9% nationwide, but that of the myeon areas is higher at 7.4. The need for investment in sanitary facilities is higher in the farming and fishing areas compared to urban areas.

The installation of sanitary facilities and the improvement of water pollution have contributed to the improvement of health level. The incidences of waterborne epidemics such as cholera, dysentery, typhoid are lower than before.

39. Improving access to clean domestic energy

Increasing the energy efficiency of housing units and expanding the use of environment-friendly energies can contribute to the reduction of carbon emissions and global environmental burdens as well as to the improvement of the health of the underprivileged group. The government is supporting projects to improve energy efficiencies of housing units, investments in energy infrastructures, and the use of new and renewable energies.

Natural gases are more economical and cleaner than fossil fuels. The government, Korea Gas Corporation, and private city gas suppliers are planning for and investing in the improvement of natural gas supply rate. From 2008 to 2013, they invested in 4,648.2 billion won in the spread of natural gases and additionally supplied natural gases to 2.93 million houses. As a result, the national natural gas supply rate as of 2013 reached 77.9%. It is estimated that about 9 trillion won of fuel expenses will be saved by 2017. However, natural gases are mainly supplied to urban areas and the supply rate to farming and fishing areas is low. There is a limitation in increasing the supply rate to the farming and fishing areas due to lower profitability compared to the investment in pipes and the prices of the supplied gas are very different.

The housing energy efficiency improvement project improves the energy efficiency of housing units through the insulation and replacement of windows of decrepit houses. Similar projects are being carried by the central and local governments and the private sector, and considerable energy saving effects have been demonstrated. The housing energy efficiency improvement also relieves the burden of the low-income group because it decreases housing energy cost which account for 5-6% of the household income.

The government is carrying out policies to increase the percentage of eco-friendly new and renewable energies. Government investment plans and regulations for new and renewable energies have considerable effects on the related industries. As of 2012, the ratio of new and renewable energies in the primary energies is 3.2%. By the sources of new and renewable energies, the use of wastes is the highest at 68.8%, followed by bio-energy 15.1%, water energy 9.2%, solar heat 9.2%, sunlight 2.7%, wind power 2.2%, and fuel cells 0.9%. To stimulate the use of new and renewable energies, the government will make strategic investments and plans to foster the energy industry around the power generation by sunlight and wind power. Regarding the energy plans of the government, the high dependence on atomic power is a controversial issue.

Various attempts to improve the energy self-sufficiency are appearing in the provisions. The energy problem which had been regarded as national policy or the technical development of the industries is beginning to be perceived as local problem, and various practices to increase the power self-sufficiency rate of local areas are being made. The “one nuclear power plant reducing policy” of Seoul City is a representative example, which is increasing the use of new and renewable energies and reducing the energy usage. Despite the efforts to reduce energy uses, the primary energy consumption in the total energy usage between 2004 and 2012 is increasing 3.0% each year on average, and there is no sign of decreasing yet.

40. Improving access to sustainable means of transport

The possession of a sustainable and socially inclusive transportation system is one of the critical elements of urban policy. The transportation demands in large cities of South Korea have increased with the urban sprawl, land developments such as the construction of new towns in the surrounding areas, and the increasing use of motor vehicles, and they innovated the means of public transport in response to them. Furthermore, demands for environment-friendly means and systems of transportation considering the mobility disadvantaged persons are increasing, and the national government is making deliberate efforts to meet them.

We have made continuous attempts to improve the public transport system including railways and buses to make them faster, cheaper, and more comfortable. As a result, the share of public transport is increasing in general. The share of public transport (railways + buses) between 2003 and 2011 increased from 36.9% to 43.7%.

The share of urban railways has continuously increased, but enormous costs are required for their construction. Therefore, some cities can have financing difficulty and experience the accumulation of operation deficits. To prevent such problems, financing and operation plans must be established based on realistic feasibility assessment. Furthermore, such alternative solutions as light rails or BRT (bus rapid transit) need to be considered in light of the population, topography, and the transportation characteristics of the city.

To build environment-friendly transportation system, such qualitative improvement of bus services as bus-only lane system, integrated rate system, traffic card system, and BRT have contributed to the improvement of bus use rate. To respond to such problems and the financial difficulty of bus companies, the semipublic bus system has been carried out in large cities since 2004. The average speed of city buses in large cities have gradually improved and the satisfaction of public transport users is also improving.

Investments in environment-friendly vehicles are also being carried out. According to the ACT ON THE PROMOTION OF DEVELOPMENT AND DISTRIBUTION OF ENVIRONMENT-FRIENDLY AUTOMOBILES (2004), a plan for the propagation of environment-friendly vehicles was established and is being carried out. To increase the propagation of electric cars, subsidies and support for infrastructure are being provided. Furthermore, we are also carrying out policies to increase the distribution of natural gas vehicles, hybrid cars, and hydrogen fuel cell vehicles.

Reflecting the increasing interests in the construction of safe pedestrian environment and the convenient use of bicycles, the PROMOTION OF THE USE OF BICYCLES ACT (1995) and the PEDESTRIAN SAFETY AND CONVENIENCE ENHANCEMENT ACT (2012) have been enacted. The government will continue to carry out policies to improve pedestrian environment, expand bicycle roads, and reinforce the connectivity between bicycles and other means of transportation.

To improve the accessibility of the mobility disadvantaged persons, we have enacted the ACT ON PROMOTION OF THE TRANSPORTATION CONVENIENCE OF MOBILITY DISADVANTAGED PERSONS, and have established and are carrying out plans to improve the transportation convenience of the mobility disadvantaged people based on this act. Based on this law, we are conducting research on the actual conditions to improve the transportation convenience and checking the degree of improvement every year. We can see that the accessibility of public

transports such as regular buses and urban railways is improving.

To improve the transportation convenience of the disabled, we are carrying out policies to reduce their burdens by fully exempting the special consumption tax, acquisition tax, registration tax, and automobile tax for vehicles for the disabled and to improve convenience when they are using vehicles such as parking areas for the handicapped.

41. Challenges experienced and lessons

a. Slum upgrading and prevention

Poor residential areas have changed to ones where mostly the middle class live after commercial real estate development or demolition and redevelopment. The general level of residence greatly improved in this process, but the relationship network and identity of the old communities have disappeared.

With regard to the residential improvement projects, rapid implementation was considered as an important factor, but efforts to provide information to existing residents and consider their situation and interests have not been considered important in the development and execution of policy means. In order to consider the latter, the rapidity of project implementation needs to be sacrificed.

b. Improving access to adequate housing

The residence problem has been an important political issue and an important background for the introduction of public rental housing or housing cost support policy. The continuous implementation of such housing assistance policies has become the basis for relieving the housing problems of the underprivileged while the burden of housing cost has kept increasing.

The problem of the people who experience the most serious residential crisis such as sleeping in the open and the problem of the people who have to choose institutions because communities do not provide support for sustaining independent life are issues that need to be considered from the human right aspect. We should check the priorities of tasks that we should respond first through housing policies.

c. Ensuring sustainable access to safe drinking water

The systematic water resource management and the construction of infrastructure under the initiative of the government have achieved meaningful results – the provision of safe drinking water to most citizens.

To relieve the water shortages in areas prone to drought such as islands, coasts, and mountains where it is difficult to supply tap water, we need to reinforce the development of alternate water resources such as seawater desalination, rainwater management, and deep sea water.

d. Ensuring sustainable access to basic sanitation and drainage

The government has prepared and carried out systems and policies to install drainage facilities and

manage pollution sources. As a result of such efforts, the general living environment improved and the social health level was enhanced.

Through the efforts to improve residential environment such as the supply of good quality housing and the installation of infrastructure facilities, the level of sanitation and living convenience in homes have greatly improved.

e. Improving access to clean domestic energy

The sharp increase of energy consumptions at homes and industries greatly increased the use of fossil fuels. In the midst of this trend, social interest about the need for reducing carbon emissions and the safety problems of nuclear power plants is growing, and the pressure on changing the energy policies, supply systems, and consumption patterns is increasing.

While interest and investments in the use of new and renewable energies are increasing, it is being limited by the interests around the existing energy supply. Efforts to reduce energy consumption are developing to new dimensions due to the various recent attempts of local governments, and efforts to reinforce the policies for this purpose are required.

f. Improving access to sustainable means of transport

The sustained interest and investments of the public sector in public transport have played key role in the creation and maintenance of convenient, equal, and sustainable urban transportation systems. In particular, the achievements made by the participation of the public sector in the operation of buses which had been run by the civil sector clearly showed that the role of the public sector is the key in public transport.

Transportation facilities require the investment of large amounts of resources and the financial consideration is critical in the operation process as well. The participation of private capital in projects with large financial burdens is often solicited, but even basic profits are guaranteed to private companies, the burden of users can increase or the public sector may have to provide enormous support for operations.

42. Future challenges and issues

a. Slum upgrading and prevention

The types of poor dwellings change and policy means to respond to them are required. We will develop measures to intervene in the increasing new types of poor dwellings such as goshiwon.

The improvement projects for poor residential areas must provide sufficient information to the people who are affected by them and rationally consider their interests when deciding and carrying out such projects. We will improve systems and procedures for this purpose.

b. Improving access to adequate housing

We must prepare health and safety standards to apply to all housing. Every human dwelling must

be required to satisfy these standards, and we will develop policy means to actualize them. This policy defines the minimum level of the dwellings to be provided to all citizens, and becomes the basis for ensuring access to adequate housing for everyone.

We will re-examine the distribution principle for providing affordable dwellings and ensure that the groups with large housing demands will not be excluded. We will make an effort to enhance the validity of policies by removing the institutional restrictions to accessibility.

It is important to allow people to live without difficulties at the places where they want to live at every point of their life cycle. In particular, we will improve the quality of life while reducing social costs by allowing the aged and the disabled to lead independent life for as long as possible while minimizing difficulties that they can experience in living spaces due to old age or physical handicaps.

c. Ensuring sustainable access to safe drinking water

We need to limit actions to secure water sources and maintain water quality such as water source protection areas, and effectively respond to continuous pressure on development for surrounding areas.

We must decrease burdens on water production and environment by reducing water usages by improving our water consumption habits and expand reuses. We will build the infrastructure for reducing water demand such as the replacement of decrepit pipes to decrease water leakage while distributing devices for reusing wastewater and saving water.

d. Ensuring sustainable access to basic sanitation and drainage

The government is carrying out a project to separating combined sewers into rainwater and wastewater sewers. This new system is designed to appropriately treat wastewater when heavy rains fall rather than immediately draining it to rivers, which is appropriate for conditions where seasonal differences in precipitation are large. As of 2011, the combined sewers account for 40.1% and the separated sewers 59.9%, and we will further increase the percentage of wastewater treatment by continuously expanding this project.

We will reinforce economic enticement means and regulation devices to encourage the recycling and reuse of wastewater. Furthermore, we will set water reuse goals and encourage people to actively achieve them.

e. Improving access to clean domestic energy

In the disputes regarding the use of nuclear power, the logics of economy and safety are opposing each other, and the perceptions of the industries and civil society are entangled in a complex manner. We will openly conduct this discussion to make it an opportunity for developing social awareness related to energy.

We will actively respond to environmental changes according to the development of new energy sources such as shale gas, and increase investments in the development of technologies to reduce energy uses such as smart grid. Furthermore, we will search for various practical methods to

increase energy self-sufficiency rate while reducing energy consumption in daily life and replacing conventional energies with eco-friendly energies.

f. Improving access to sustainable means of transport

We need institutional devices to promote the means of public transport in line with urban conditions and monitor large-scale investments that do not have realistic financial plans. Through them, we will find realistic alternative solutions that are financially sustainable to effectively cope with impending problems and encourage active investments in them.

While making attempts to advance public transports including buses, we will work together with municipalities to promote walking and the use of bicycles. Furthermore, we will carry out the establishment of a department in charge of bicycles, bicycle registration system, and bicycle insurance, while strengthening connections between bicycle and other means of public transport.

The number of mobility disadvantaged persons is expected to continuously increase due to the increasing aged population. We will actively carry out activities to remove barriers felt by mobility disadvantaged persons in relation to the use of public transport. Furthermore, we will dramatically reduce barriers to mobility by increasing the introduction of low-floor buses and special means of transportation for the mobility disadvantaged people.

Chapter VII. Indicators

A. Percentage of people living in slums

Percentage of people living in vinyl house villages (%)

1996		2004		2011	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
n.a	n.a	0.031	0.035	0.017	0.019

* Slums have been replaced with vinyl house villages (where five or more households have formed a group residential area).

* The data for 2004 and 2011 were about vinyl house villages in the capital area. Outside the capital area, no vinyl house villages have been found (4,931 households in 2004, 2,964 households in 2011).

* The percentages of people living in vinyl house villages were calculated based on the total households and household counts in urban areas (dong areas + eup areas) of the population and housing censuses in 2005 and 2010.

* Sources: Korea Housing Corporation (2005), *A study on the housing status of residents in vinyl house villages and residence stability measures*; Ministry of Health and Welfare (2011), *National status survey for the house underprivileged group*.

B. Percentage of urban population with access to adequate housing

Percentage of households above the minimum dwelling standards (%)

1995		2006		2012	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
53.7	n.a	83.4	n.a	92.8	n.a

* Based on the Minimum Dwelling Standards revised in 2011.

* The data for 1995 were estimated from the population and housing census, and the data for 2006 and 2012 were estimated from the sample housing survey results.

* Sources: Statistics Korea (1995), *Population and Housing Consensus*; Ministry of Land, Transport and Maritime Affairs (2012), *Housing Survey 2012*

C. Percentage of people residing in urban areas with access to safe drinking water

Water supply rate (%)

1996		2006		2012	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
83.6	94.6	91.3	98.3	98.1	99.5

* The urban areas were limited to city-level based on the administrative districts.

* Sources: Ministry of Environment, water supply statistics for each year

D. Percentage of people residing in urban areas with access to adequate sanitation

Drainage supply rate (%)

1996		2006		2012	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
52.6	60.3	85.5	90.1	91.6	94.4

* The urban areas were limited to city-level based on the administrative districts.

* Sources: Ministry of Environment, drainage supply statistics for each year

E. Percentage of people residing in urban areas with access to regular waste collection

National waste generation and treatment (%)

1996		2006		2012	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
97.6	98.9	99.6	99.8	99.9	99.9

* Sources: Ministry of Environment, National waste generation and treatment data for each year

F. Percentage of people residing in urban areas with access to clean domestic energy

City gas supply rate (%)

1996		2006		2012	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
40.1	n.a	67.0	n.a	76.5	n.a

* Supply rate = Receiving households/Total households in the supplied district; For the receiving households, the home data were used.

* There are no statistics published for urban areas. Because the population rate of urban areas is 91.6%, the nationwide statistics were used for the urban areas.

* Sources: Ministry of Industry, Trade, and Resources & Korea Energy Economics Institute, Annual Report on Local Energy Statistics 2013, p.174-176

* Ministry of Industry, Trade, and Resources & Korea Energy Economics Institute, Annual Report on Local Energy Statistics 2013, p.114-115

G. Percentage of people residing in urban areas with access to public transport

Percentage of people with access to public transport (%)

1996		2006		2013	
Nationwide	Urban areas	Nationwide	Urban areas	Nationwide	Urban areas
n.a	n.a	n.a	n.a	n.a	n.a

* In South Korea, there are almost no urban areas that have limited use of public transport because they have well-established infrastructure of public transport including roads, railways, buses, and subways.

H. Level of effective decentralization for sustainable urban development measured by:

- a. Percentage of policies and legislation on urban issues in whose formulation local and regional governments participated from 1996 to the present

Percentage of policies and legislation on urban issues in whose formulation local and regional governments participated (%)

1996	2006	2013
n.a	n.a	n.a

* It is difficult to prepare these statistics.

* Every local government is participating through many means such as suggestions, discussions, and submission of opinions in the formulation of policies and legislation on urban issues.

- b. Percentage share of both income and expenditure allocated to local and regional governments from the national budget

Percentage of finances transferred to local governments from the central government (%)

1996	2006	2013
53.4	59.6	62.0

* Percentage of available finances of local governments = Local available finances ÷ Total taxes (national tax + regional tax)

* Sources: e-Narajipyo, Finances transferred to local governments from the central government

c. Percentage share of local authorities' expenditure financed from local revenue

Financial independence of local governments (%)

1997	2006	2013
63.0	54.4	51.1

* Sources: e-Narajipyo, Financial independence of local governments

I. Percentage of city, regional and national authorities that have implemented urban policies supportive of local economic development and creation of decent jobs and livelihoods

Percentage of cities that implemented local economic development policies

1996	2006	2012
100.0	100.0	100.0

* Mayors of cities and guns are carrying out local development and job creation as core policies through city master plans and local economic activation plans.

J. Percentage of city and regional authorities that have adopted or implemented urban safety and security policies or strategies

Percentage of cities that have established city master plan (%)

1996	2006	2012
94.9	100.0	100.0

* Percentage of cities that have established a city master plan that contains information related to city disaster prevention and safety

* Sources: Ministry of Land, Infrastructure and Transport, *Urban Planning Statistics*

K. Percentage of city and regional authorities that have implemented plans and designs for sustainable and resilient cities that are inclusive and respond to urban population growth adequately

Percentage of local governments that have implemented Local Agenda 21 (%)

1996	2006	2013
4.1	83.3	88.2

* "Local Agenda 21" is a plan for the sustainability of a municipality that is established jointly by the local government, citizens, and resident groups. This was used as statistical index because it will enable the establishment and implementation of sustainable, resilient urban planning.

* As of 2013, 217 of all local governments established Local Agenda 21, and only 29 have not established it.

L. Share of national gross domestic product (GDP) that is produced in urban areas

Share of GDP that is produced in urban areas (%)

1996	2005	2010
n.a	87.4	86.8

* These statistics were calculated using the GDP data of cities.

* For Jeollanmdo for which the statistics for the specified years could not be obtained, the GRDPs for 2007 and 2010 were used as the data for 2005 and 2010, respectively. For Gyeongsangnamdo, the GRDPs for 2005 and 2009 were used as the data for 2005 and 2010, respectively.

* Sources: National Statistics Portal (KOSIS), GRDPs of Cities and Provinces & GRDPs of Cities, Guns, and Gus

2014

National Report for Habitat III

Case Study



Republic of Korea

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Case I . Iksan City : Making a women friendly creative culture city

1. City status and introduction

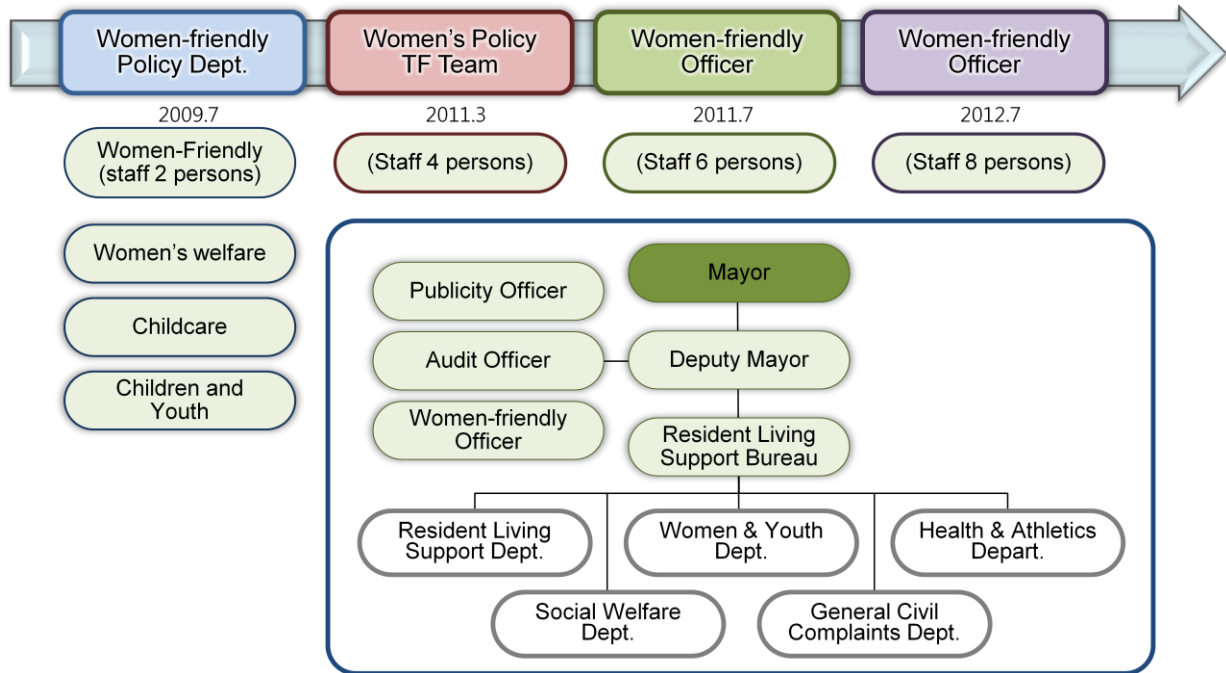
- Location: Iksan City, Jeollabuk-do
- Area: 506.6km²
- Population: 310,206

2. Background

- Setting the construction of a women-friendly city as a main goal of city administration
 - In 2007, the Construction of Women-Friendly Creative Culture City Project was proposed to the central government.
 - In 2008, the Women Policy Mid- to Long-term Development Plan was established.
 - In 2009, the Ministry of Gender chose Iksan City as no.1 women-friendly city
 - In 2010, Iksan City established the Women-friendly City Plan.
- Meaning of women-friendly city
 - A city in which the growth and safety of women are realized through the equal participation of both men and women in the regional policies and development while the benefits are evenly distributed to all residents
 - Integration of the gender perspective in urban space: urban space right of women (right to use and participate)
 - Comprehensive women policies including space

3. Implementation method and content

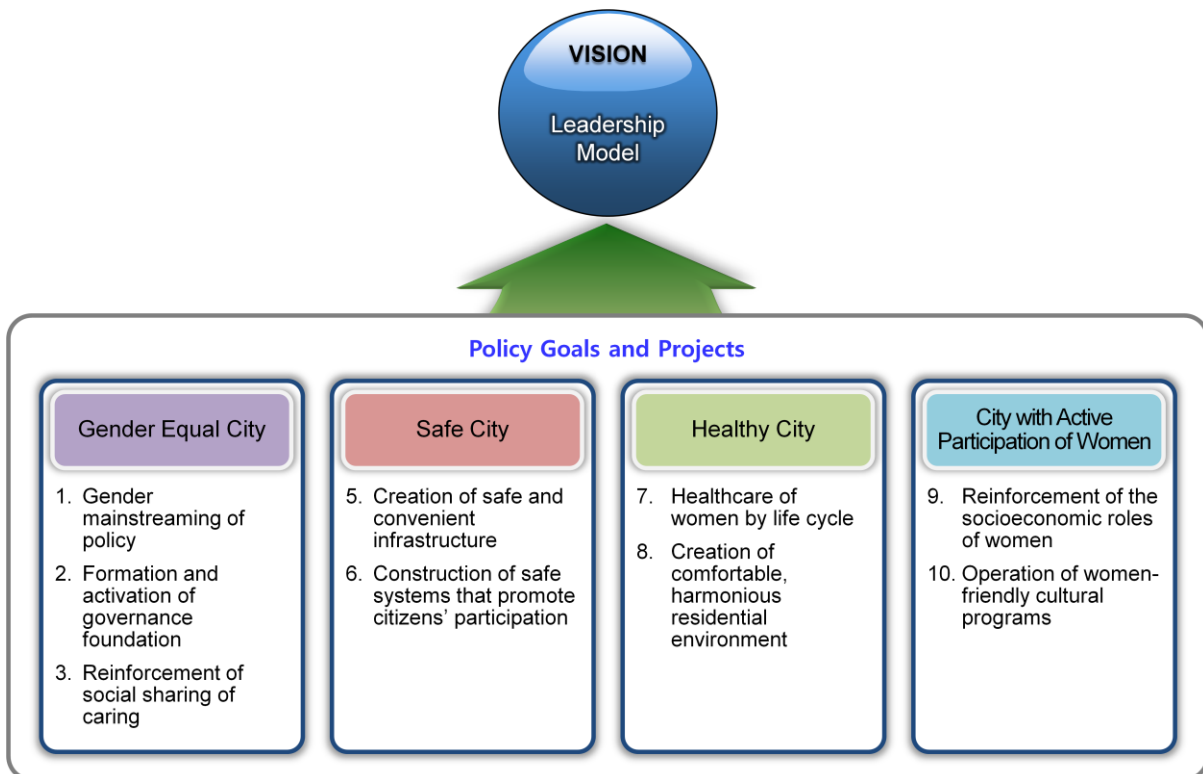
- Implementation System
 - Set up Women Friendly Officer as a dedicated organization under the direct control of Deputy Mayor.
 - Establish ordinances and reorganize autonomy laws for the construction of a women-friendly city.
 - Carry out consulting for major projects from the women-friendly perspective.
 - Manage the construction of a women-friendly city project as an implementation task of the BSC (Balanced Score Card) results management.



<Dedicated Organization>

○ Vision and Goals

- Carry out various projects as women-friendly city with the four policy goals: equal Iksan, safe Iksan, healthy Iksan, and Iksan with a high participation of women.



<Vision and Goals>

- Creation of spaces that are safe from crimes and convenient for the old and weak
 - Construct parks that are safe for women, the old and weak, and children.
 - Operate call taxis for women that can be used safely even at nights.
 - Install women's restrooms customized for mothers with children.
 - Install CCTVs and reinforce monitoring in crime concern areas to prevent crimes against women and children and help take immediate action to such crimes.
 - Install women-first parking lots for female drivers including pregnant women.
- Active support for the social participation of women
 - Support low-interest loans for female entrepreneurs.
 - Extend the operation hours of daycare centers for working women
 - Promote projects to improve the rights and interests of rural area women.
 - Support one-stop employment services for women and the creation of women-friendly corporate culture.
 - Hold women's athletics competition for the health and friendship of women.
 - Hold the Iksan Women's Film Festival and operate a women's film production support program to promote people's interest and participation in culture.
- Efforts to create a happy city for families
 - Build small libraries in neighborhoods and run various programs to make use of them as convenient and useful cultural spaces for families.
 - Support prenatal examination cost for all pregnant women.
 - Conduct Hangul and Korean culture education and support occupational training for multicultural women.
 - Baby carriage free rental service in public places
 - Improve street environment through the creation of 'model women-friendly streets' to make comfortable and safe streets on which people want to walk.
- Efforts to make a gender equality city
 - Operate a consulting group to establish various policies for a women-friendly city.
 - Conduct 'gender sensitive education' for public servants so that every policy can be carried out gender equally for both sexes.
 - Encourage many women to register in the women talent pool and increase opportunities for women to be appointed in various committees to enhance the participation of women in the policy making process
- Women-friendly city created together with citizens
 - Citizens, groups, organizations, experts, businesses, and administrators have endeavored to improve the local communities. Many citizen participation groups and women-friendly city councils are carrying out various activities.

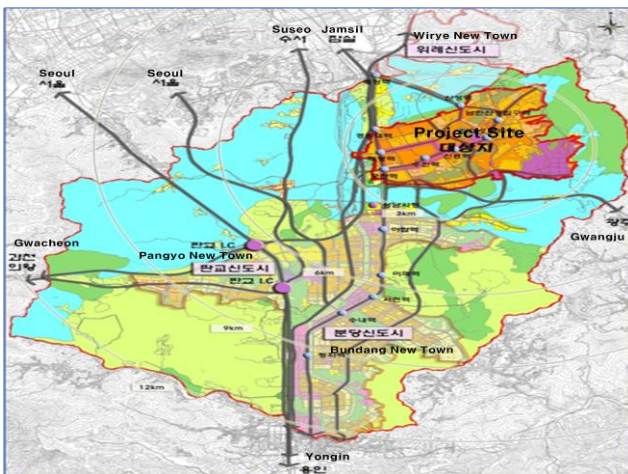
4. Achievements and implications

- A road of 8km throughout the Iksan City was flattened and stair gaps were reduced. Furthermore, baby carriage rental service is provided in public facilities to improve the convenience of the old and weak who use the sidewalks more than the roads.
- Public facilities improvement projects such as restrooms, parking lots, and child-care facilities in libraries have been actively carried out to set the conditions for women's participation in society.
- Women's job creation projects such as rural women startup support, loans for business women, and job creation for career-interrupted women have been created in Iksan City that had not shown particular interest in the employment and business startup of women.
- Services for the health and safety of women have improved such as pink taxis for women and healthcare for menopausal women.

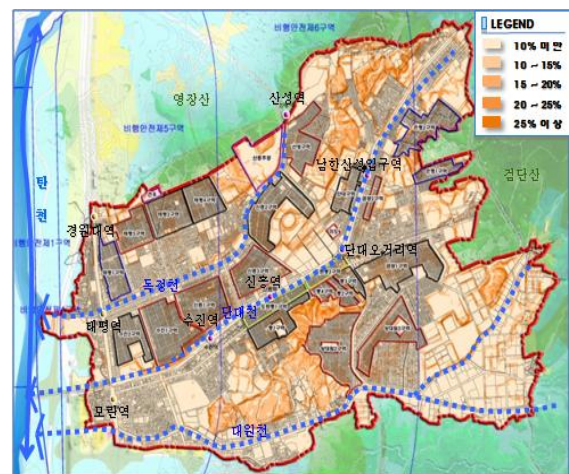
Case II. Seongnam City : Old town's regeneration plan for a sustainable city

1. City status and introduction

- City Outline
 - Area: 816ha(141.82km²)
 - Population: 970,000
- Downtown Areas of Seongnam City
 - Location: Sujeong-gu and Jungwon-gu in Seongnam City
 - Population: 520,000
 - History: Started as a complex for people displaced from Seoul (May 2, 1969)



<Situation Map of Seongnam>



<Old town's map of Seongnam>

2. Urban Regeneration Model Complex Construction Plan

2.1 Need for sustainable urban regeneration project

- Seongnam City is promoting the balanced development of the city by establishing development strategies according to the characteristics of each living sphere around five large living spheres of Sujeong, Jungwon, Bundang, Pangyo, and Wirye.
- Furthermore, the city established a proper population distribution plan for each living sphere with the goal of growing into a city of 1,140,000 residents by 2020. To resolve the adverse effects of high density of the old urban areas and build comfortable residential areas, they planned for sustainable low-density pastoral residential complexes in the newly developed areas.
- The old urban areas are falling behind compared to the new urban areas and the deterioration of

buildings is becoming more serious. Many old urban areas are promoting many housing redevelopment projects but the progress is slow due to the extended stagnation of real estate and the decline of business value. As a result, conflicts between residents and the local government are deepening and the project areas are being cancelled. The residents of the old urban areas are feeling comparative deprivation.

- To overcome the adverse effects and limits of the development of old urban areas and change to sustainable regeneration projects in line with a new urban regeneration paradigm, Seongnam City is now planning and implementing ‘customized regeneration project’ together with citizens (NGOs).

2.2 Model Project Site Outline

- Location: 177, Dandae-dong, Sujeong-gu, Seongnam City (47,036m²)
- Land-use district: Type 2 general residential area
- Population and households: 2,410 people, 933 households
- Background
 - Due to the limits of large development projects resulting from the changes of social conditions such as the stagnation of real estate and the worsening conflicts among residents around the development project, the city changed the redevelopment project into a regeneration project.
 - search for customized housing regeneration methods in line with the regional characteristics and respond to the change of residential regeneration paradigms such as the revisions of related laws.
 - New models of regeneration project are needed in line with the local circumstances as a large project area such as redevelopment project and park construction project.






<Location Map of Project Site>

○ Project Goals

- Search for new housing regeneration methods
- Improve the comfort of residence
- Stimulate local communities and reinforce safety

<A Purpose of the Project>

<p>Search for housing regeneration methods</p>	<ul style="list-style-type: none"> · Obtain local identities and housing regeneration through active participation of residents. · Prepare housing regeneration plans in line with local characteristics such as concerns about turning into a slum due to the development of surrounding areas and the industrial complex 1 project and the limitations of general refurbishment project. 	
<p>Improve residential comfort</p>	<ul style="list-style-type: none"> · Achieve the continuity of spaces through the refurbishment, expansion, and improvement of infrastructure facilities (parks, parking lots, roads, etc.) and the demolition of walls. · Secure open spaces and improve residential comfort through the introduction of green zone and green parking systems. 	
<p>Promote local communities and reinforce safety</p>	<ul style="list-style-type: none"> · Prepare measures to promote local communities that are being disconnected in the city. · Promote local safety by installing facilities to prevent crime generation factors in the area 	



Development of a customized model complex to promote sustainable urban regeneration project

3. Implementation method and content

○ Direction of Regeneration

- Gradual improvement of deteriorating and poor houses
- Expand and improve infrastructure and common use facilities
- Promote and restore local communities
- Prevent crimes and enhance safety



○ Implementation Direction

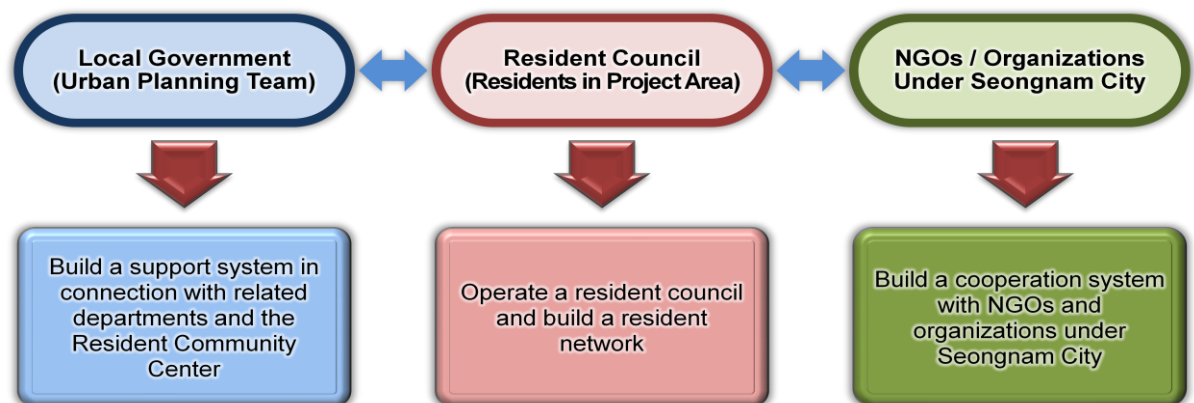
- Encourage architecture that maintains and reinforces the unique settlement environment as environment-friendly residential area.
- Establish refurbishment plans to reinforce resident communities, improve alley landscapes, and expand safety network.
- Establish “resident participating plans” that residents carry out by themselves.



○ Implementation Strategies



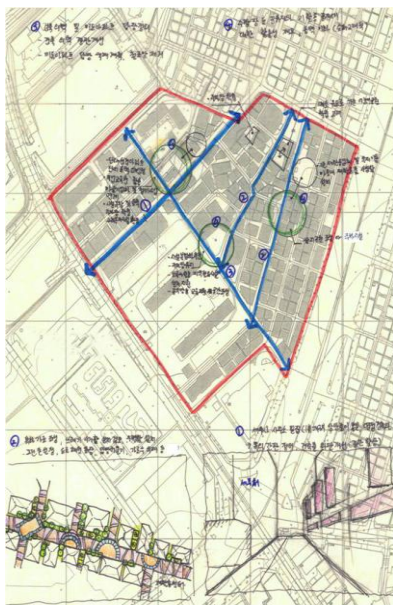
○ Exclusive Organization



○ Implementing Entities and Roles

Implementing Entities	Roles by Entity
Resident Promotion Council	<ul style="list-style-type: none"> Continuously operate a resident council and build a resident network. Encourage the settlement of programs (living culture, community culture, town festivals, etc.) Create jobs and manage funds through town businesses. Establish voluntary rules through resident agreements by receiving the consent of residents.
Seongnam City	<ul style="list-style-type: none"> Build a support system of related departments (Urban Design Department, Park Department, Greenbelt Department, Transportation Planning Department, etc.) and community centers. Discussion and consultation with Seongnam City Happy Town Support Group Prepare continuous connection and support plans with the objects of connection and fusion projects.
NGOs	<ul style="list-style-type: none"> Support the project by building a continuous cooperation system among Seongnam Culture Foundation, Seongnam City Youth Foundation, Seongnam City Social Business Support Center, and the Central Federation for Environment Revival Practice.
Residents	<ul style="list-style-type: none"> Actively participate in various education programs and projects.

○ Master Plan



4. Achievements and implications

4.1 Achievements

- Improved the quality of life by recreating spaces for which residents can feel proud and love.
- Instilled pride and love for the town among residents.
- Provided opportunities for all residents to show interest in one another and cooperate for the town.
- Created meeting places, parks, and resting places that can be shared among residents.
- Confirmed the possibility of town building led by residents instead of by administrators and organizations through the voluntary participation of residents.



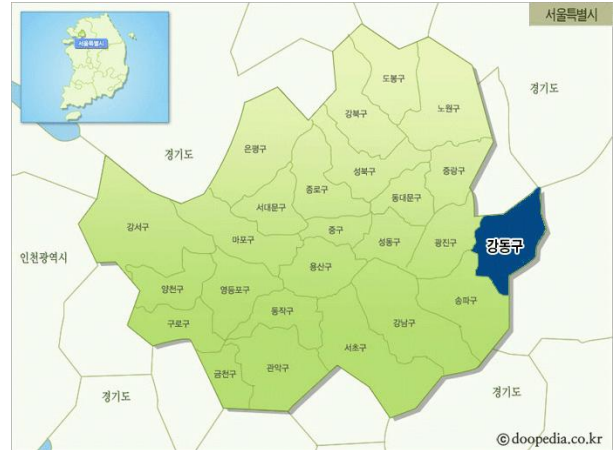
4.2 Difficulties in the Implementation Process and Measures to Overcome Them

- Lack of awareness about sustainable urban regeneration among residents and administrators
 - Reinforce resident education through resident briefings and invitation of urban regeneration experts.
 - Publicize the sustainable urban regeneration of Seongnam City and build a foundation for SNS services.
 - Reinforce forums among departments to build public services for sustainable urban regeneration.
- Conflicts between residents and administration such as regional self-centeredness
 - Build a cooperation system between residents and administration by encouraging the participation of local residents from the initial planning stage.
 - Discover local assets through an assembly of residents, public servants, experts, and NGOs and reinforce discussions among them.
 - Review the possibility of breaking away from the partitions by establishing an urban regeneration center and elevating it to Urban Regeneration Support Center under the direct supervision of Deputy Mayor.

CaseⅢ. Gangdong-gu : Establishment of an eco-friendly local food system through urban agriculture

1. City status and introduction

- Location: Gangdong-gu, Seoul
- Area: 24.59km²
- Population: 478,735인



2. Background

2.1 Background

- Response to climate change
 - Due to serious environmental problems such as heat island phenomenon and carbon dioxide emissions, the city is suffering hot and humid weather and localized torrential downpours in summer and heavy snow and low temperature in winter, and spring and autumn are slowly disappearing.
- Rising interest in safe foods
 - Interest in safe food is rising daily due to mad-cow disease, melamine scandal, and the rapid increase of imported farm products.
 - Due to our low food self-sufficiency, most foods on our dining tables are coming from all around the world while emitting large volumes of carbon dioxides.
- Harmony of nature and people
 - The life of modern city residents is separated from nature and dialogues between neighbors and generations are being disconnected. As a result, the quality of life of urban residents has declined and many of them dream of returning to rural villages after retirement.
- Realization of the value of the natural virtuous cycle of life
 - The needs for recycling organic materials discharged from the urban areas such as food wastes, fallen leaves, and street tree trimming byproducts and for the direct dealing system of safe local food which is a form of consumption that can reduce carbon emissions are rising.

2.2 Goal

- Goal: One vegetable garden per household by 2020
- Vision: Implementation of a sustainable eco-city through the promotion of urban agriculture

3. Implementation method and content

3.1 Overview

- Gangdong-gu has promoted urban agriculture as one solution for many problems of modern cities through the environmental, educational, and cultural values of urban agriculture based on the participation of residents.
- In 2010, the city enacted the “Environment-Friendly Urban Agriculture Ordinance” for the first time in the country. In 2011, the city announced “Environment-Friendly Urban Agriculture Special Zone” and the “2020 Environment-Friendly Urban Agriculture Project” to promote urban agriculture.
 - As the core of this project, they carried out various urban agriculture projects and encouraged the participation of residents while spreading vegetable gardens around the “One Household One Vegetable Garden” movement.
 - The city popularized urban agriculture (vegetable gardens) through step-by-step yearly projects.

3.2 Creation and Operation of Environment-Friendly Urban Vegetable Gardens

- Size of operation: 5,300 accounts (33 sites, 104,541 m²)
- Principle of operation: No-Three Farming (environment-friendly agriculture that does not use chemical fertilizers, synthetic agricultural pesticides, and plastic mulching)
- Operation method
 - Supply environment-friendly chemicals and organic fertilizers
 - Lend farming equipment (except hoe and spray)
 - Special programs and farming education
 - Install message boards for announcement and suggestions
- Operation status: 2,090 lots in 8 areas



3.3 Creation and Operation of Thematic Vegetable Gardens

- Types
 - Gardens for senior citizens' jobs, community gardens, school gardens, native farms, caring gardens (disabled, multicultural families, families with three or more children, North Korean defectors, etc.)
 - Operation of ecological programs such as observation of growth and observation of aquatic organisms in three eco rice paddies including Amsa rice paddy, community rice paddies, eco rice paddies in the urban



agricultural park

○ Operation Programs

- Kind Delivery People (sharing and donation of excess products)
- Self compost grounds (resource circulation practice movement)
- Horticultural healing and youth vegetable garden programs
- Seasonal agricultural culture enjoyment programs, etc.

3.4 Construction of Urban Agriculture Support Center and Environment-Friendly Local Food System

○ Background and Goals

- Need for a system that allows residents to buy safe and cheap local environment-friendly farm products
- Increased interest in local foods and food mileage due to food safety problems.
- Need for the promotion of local communities as a solution to the disconnected communication among different generations and regions

○ Progress

- 2012: Promoted environment-friendliness certified farms
- 2011: Constructed the Urban Agriculture Support Center and organized the Council of Environment-Friendly Agricultural Food Producing Farms.
- 2013-2020: Developed into community business centers where local foods, environment-friendly agriculture, and social business support are carried out.

○ Achievements

- Operation of “Sing Sing Dream” which is a direct dealing shop for environment-friendly local foods for the sales of local environment-friendly certified farm products, direct dealings with no distribution margin, a farmer’s market as shop in shop, and the sales of environment-friendly agricultural materials and various farming tools.
- Education and support for the promotion of urban agriculture such as one-day farmer experience class, rooftop vegetable garden experience, ‘Sing Sing Dream Saturday Market’ together with a flea market, and experiential learning in environment-friendly farms
- Cultivation of environment-friendly agriculture by supporting environment-friendly agricultural materials and certification expenses to environment-friendly production farms and supply of environment-friendly food ingredients for school meals to all local elementary schools (26 schools).
- Provision of places for the community of urban farmers such as social dining and happy dining table with stories



<City Farm Supporting Center>



<Experience Class of a Day Farmer>



Harvesting farm products



Inspection of residual chemicals



Packing farm products



Inputting product information



Display & selling



Environment-friendly farm products



Farming equipment



Environment-friendly chemicals



Herb and Healthy Plants

3.5 Urban Agriculture Park

- Location: Inside Ilja Mountain Urban Natural Park (12,000 m²)
- Purpose
 - Experience traditional environment-friendly farming culture
 - Observation of various medicinal crops and native seed plants
 - A park for education of urban agriculture
- Facilities
 - I Am a Farmer Too Center, Traditional Farm Equipment Exhibition Hall, Ecological Rice Paddy, Observation Vegetable Garden, Experiential Farm, Grass Square, Ecological Pond, Environment-friendly Compost Ground, Photo Zone, etc.



3.6 Operation of Urban Agriculture Academy

- Farming education for urban vegetable gardens and box vegetable gardens
- Operation of field farmer school for urban vegetable gardens
- Education of beekeeping and use of tools through the Urban Bee Farming School
- Operation of ecological programs such as observation of rice growing and aquatic life through Children's Ecological Rice Paddy School
- Case study and field tour of advanced urban agriculture sites in Gangdong-gu through the Field Green Tour program
- Education of the importance of organic native seeds, traditional agriculture, healthy foods, traditional soil and fertilization management through the Native Seed School
- Operation of Resource Recycle School and Urban Agriculture Expert Course, etc.



4. Achievements and implications

- Minimize food mileage and reduce carbon dioxide emissions through the local consumption of local farm products.
- Supply safe foods to consumers and provide stable customers to producers for increase of income.
- Promote integration of local communities by shortening the social distance between producers and consumers.

CaseIV. Gangneung City : Making a green city by carbon reducing

1. City status and introduction

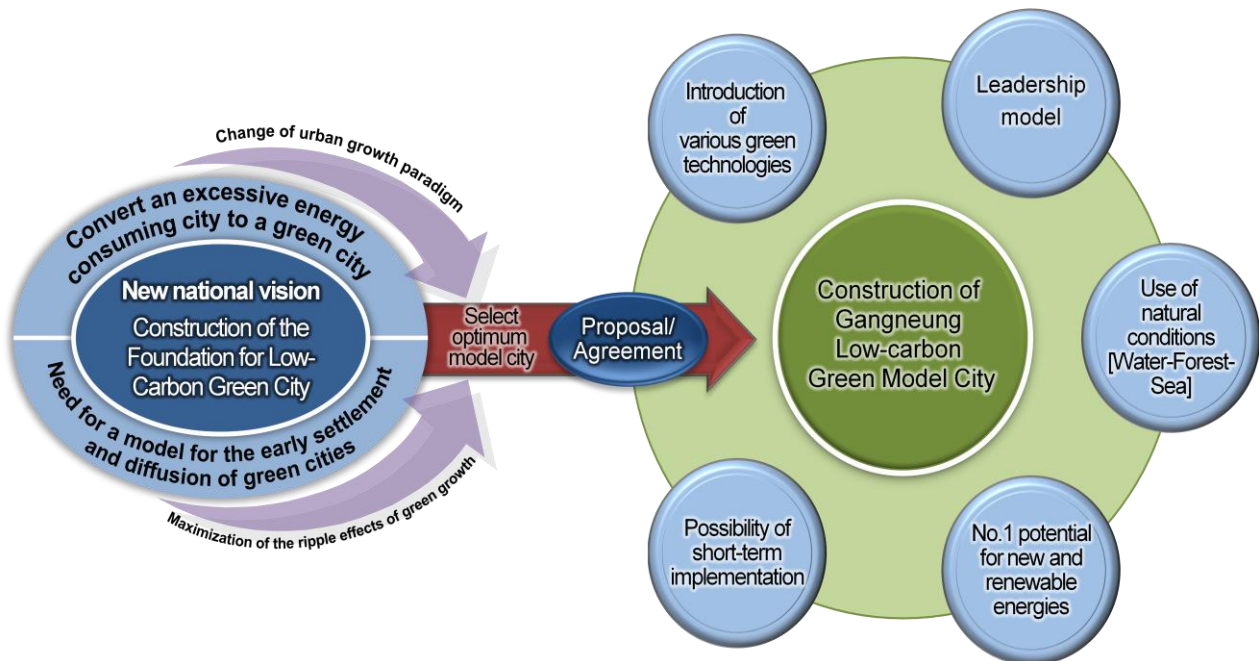
- Location: Gangneung City, Gangwon-do
- Area: 1,046.657km² (Land: 1,040.237km², Sea: 6.420km²)
- Population: 219,274



2. Background

2.1 Background of the Creation of Low-carbon Green Model City

- In February 2009, the central government proposed the creation of a low-carbon green model city to Gangwon-do and Gangneung City was finally chosen through a screening of green cities
- The goal is to lead the era of “low carbon green growth” by recreating an excessive energy consuming city to a green city where the green technology and industry can grow, and to create the new values of cities by creating a representative model city for the early settlement and spread of green growth.



<Concept of low-carbon green city of Gangneung>

2.2 Goals

○ National Strategy Aspect

- Promote the image of a leading country that responds to climate changes by creating the world's first futuristic state-of-the-art "environment-friendly zero carbon city."
- Set up a milestone of national urban policy to overcome the "Post-Kyoto Regime" through a low carbon model city.

○ Industrial and Economic Aspect

- Lead the era of "environmental revolution" by taking the initiative of the green industry and economy while preoccupying the world-class green technology and standards.
- Create green jobs through the creation of a green technology complex and develop and preoccupy overseas markets for low carbon green cities.

○ Socio-cultural Aspect

- Lead the global low-carbon green culture by creating a new Korean green lifestyle.
- Implement a low-carbon green society by using the model city as a place of education, publicity, and experience of people for "low-carbon green growth" which is the national vision of South Korea.

3. Implementation method and content

○ Leading Projects

- We selected leading projects that can create a boom in low-carbon green model city and build the foundation for "green tourist city" and that can provide field learning opportunities and publicity effects by combining green technology with design elements.
- Green Square Project and Green Street Project were chosen.

○ Mid-term Projects

- We selected mid-term projects that can build the foundation for the full-scale implementation of low-carbon green model city project and that can be implemented within the current system or through partial improvement of the current system.
- 10 projects were chosen: Bicycle activation, Introduction of online electric buses, Introduction of environmental basic facilities and new and renewable energies, Replacement of street lamps with low-carbon products, Dissemination of green homes, Development of water reuse and recycling systems, Automation of the living waste discharge and collection system, Creation of Gyeongpo Wetland, Model green path project, and Model U-City project.

○ Long-term Projects

- We selected sustainable projects that can verify the possibility of market entrance of the green technology and industry and create new jobs.
- 14 projects were chosen: Construction of compact light rail transit, Creation of green transfer centers,

Construction of new and renewable energy complex, Construction of solar and photovoltaic power generation complex, Construction of compact wind power complex, Construction of marine bio-ethanol production plant, Construction of eco-villages, Creation of low-carbon business support districts, Development of a low-carbon hanok village, Installation of waste cogeneration plant, Restoration of Gyeongpo Lake, Construction of World Ecological Natural Park, and Gyeongpo Tourist Resource Project.

○ Step-by-step Implementation Plan

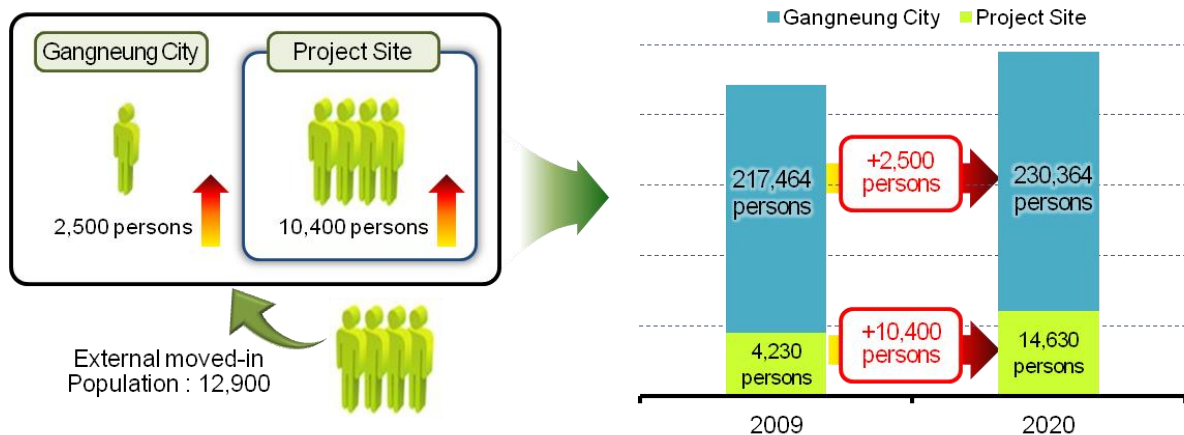
- For stage 1, projects that can visualize the achievements within the development period and can be completed by 2012 will be selected.
- For stage 2, projects that require the creation of foundation until 2012 or continuity through the reorganization of laws and systems or through private investments will be selected.

4. Achievements and implications

4.1 Expected Social Effects

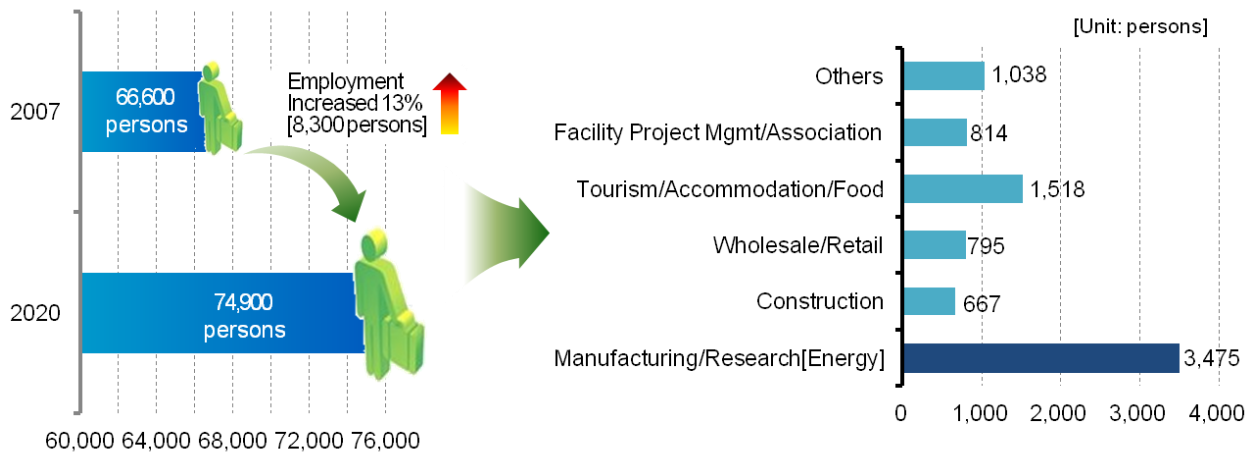
○ Effect on the increase of population

- A total of 12,900 external population is expected to move to the project site.
- The total residents of the project site in 2020 will be 14,630, and the population of Gangneung City is expected to increase to 230,364.



○ Effect on the increase of employment

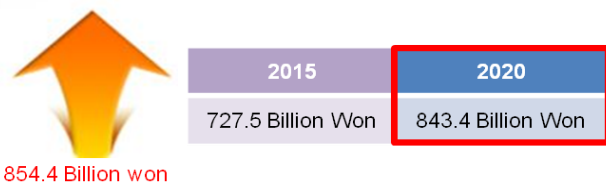
- As a result of the model city project, the employed population is expected to increase from 66,600 in 2007 to 74,900 in 2020 by 8,300 (13%). This is 1,800 more than the average employment effect of existing new towns which is 6,500, because it is classified as an energy and tourism industry new town rather than residential new town.
- Among the new employed population of 8,300, ‘manufacturing and research (energy)’ occupies the highest percentage of 41.9%, followed by service industries including “tourism, accommodations and foods” which is expected to occupy 18.3%.



(Employment structure and labor effects in 2007, The Bank of Korea, July 2009)

○ Ripple effect on production and effect on income

- The ripple effect of the model city on production and the effect on income are estimated to be 843.4 billion won and 410.9 billion won in 2020, respectively.



854.4 Billion won

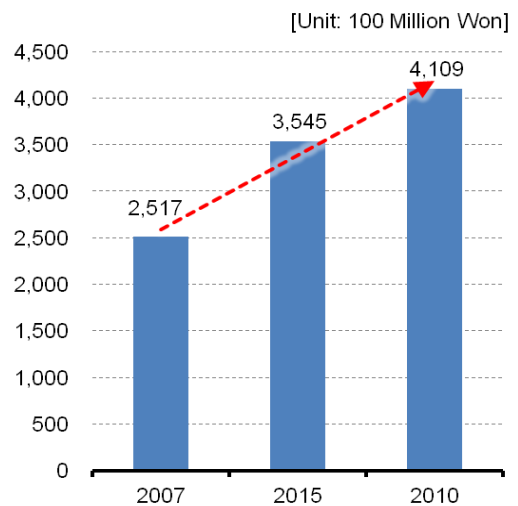
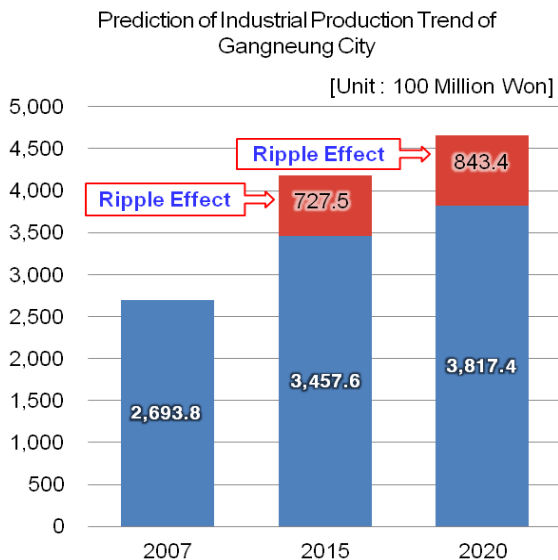
• The production ripple effect was estimated by the constant price in 2007.



410.9 Billion won

• Annual wage increase rate was reflected based on 2007 (5%)

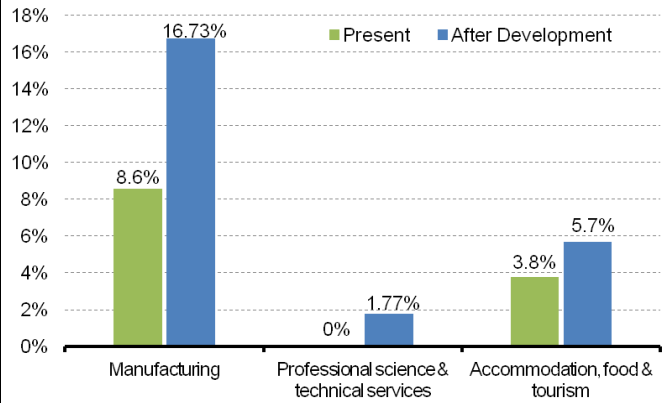
• Applied 5% wage increase rate until 2010, 4% between 2011 and 2015, and 3% between 2016 and 2020



○ Effect on the improvement of industrial structure of Gangneung City

- As a result of the construction of the model city, the manufacturing, tourism, accommodation, and food industries are expected to make a great advance, and 594 new businesses will be created in the professional science and technical service industry.

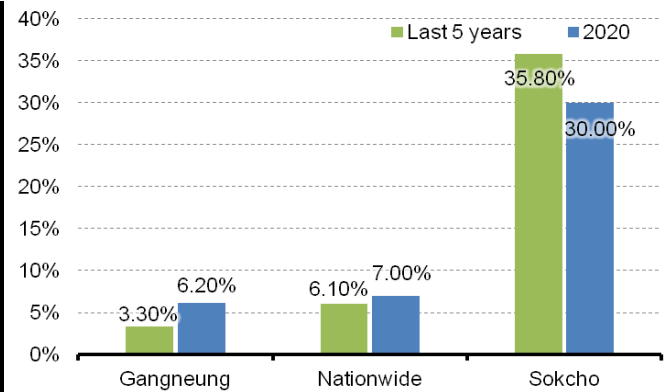
Industry	Present (2007)	After development
Manufacturing	2,324(8.6%)	5,469(16.73%)
Professional science and technical service industry	-	579(1.77%)
Accommodation, food, and tourism industries	1,025(3.8%)	1,864(5.7%)



○ Effect on the improvement of tourist industry structure

- Due to the increasing tourists following the construction of the model city, the tourism industry structure of Gangneung City is expected to increase to 6.2% by 2020, up by 2.9% over the last 5-year average of 3.3%.

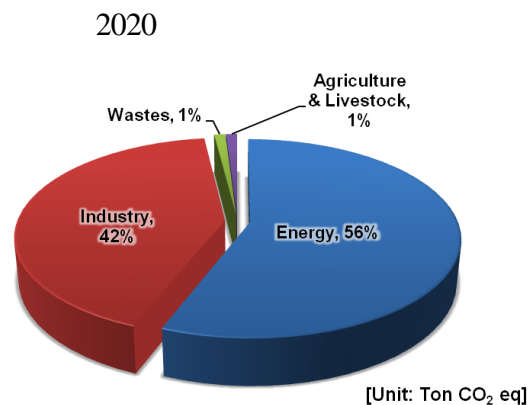
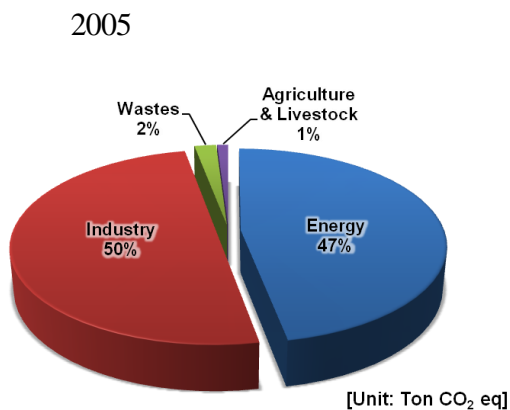
Region	Last 5-year average(2005~2009)	2020
Nationwide	6.1%	7.0%
Gangneung	3.3%	6.2%
Sokcho	35.8%	30.0%



4.2 Expected Effects on Environment

○ Greenhouse gas emissions of Gangneung City

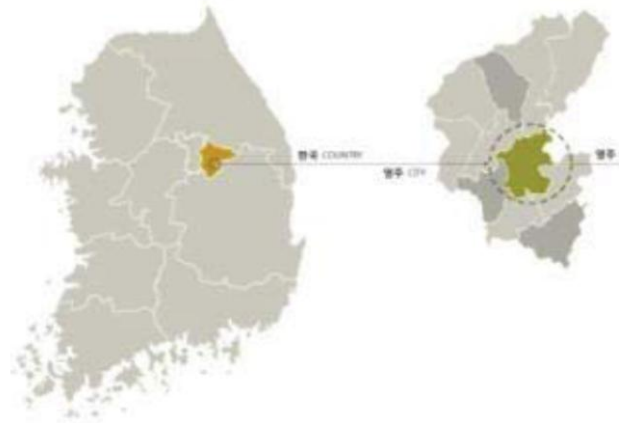
- The greenhouse emissions of Gangneung City in 2005 were 5,991,000 ton CO₂eq, but they are expected to increase to 7,569,000 ton CO₂eq/year by 2020 (26% increase over 2005).



Case V. Yeongju City : Urban regeneration by residents, administrators, and experts together

1. City status and introduction

- Location: Yeongju City, Gyeongsangbuk-do
- Area: 668.6km²
- Population: 112,222



2. Background

2.1 Background

- Since modernization until 1960s, Yeongju City has developed into a transportation city, and its urban economic spheres were diversified after movement of the train station to the new building in 1980s.
- In 1990s, the decline of the old urban area accelerated with the stagnating local economy due to the downturn of the coal industry.
- The conventional urban regeneration method based on the improvement of physical environment because the financial independence of Yeongju City is very low at 18.5%, and the population is decreasing and aging.
- Therefore, the “Integrated Master Plan” was established in 2009, recognizing the need for urban regeneration strategy from the total perspective considering the economic, social, and cultural aspects.
 - This regeneration strategy to reinforce local communities and connect the public spaces, historical and cultural resources, and commercial facilities based on public buildings is in line with the circumstances of Yeongju City.

2.2 Project Goal and Strategies

- Project Goal
 - Improve the economic activities and quality of life of the residents by promoting urban regeneration in which residents take the leadership and the public administration cooperate with them while establishing the local identities of the urban areas based on public buildings.
- Implementation Strategies
 - Use public buildings as urban activation strategy.
 - Establish an urban regeneration strategy that actively utilizes the historical, cultural, and ecological resources of the area.
 - Establish an integrated urban regeneration master plan and operate an exclusive organization to carry it out.
 - Secure a base for community activation

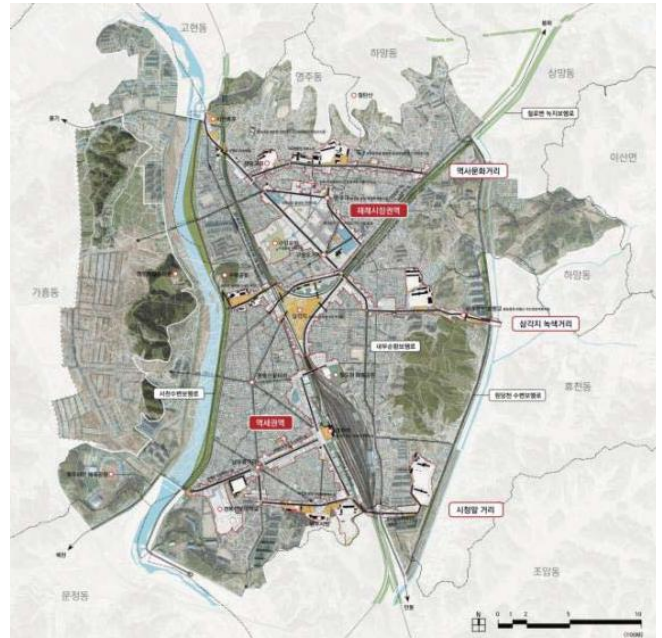
3. Implementation method and content

3.1 Establishment of Integrated Master Plan

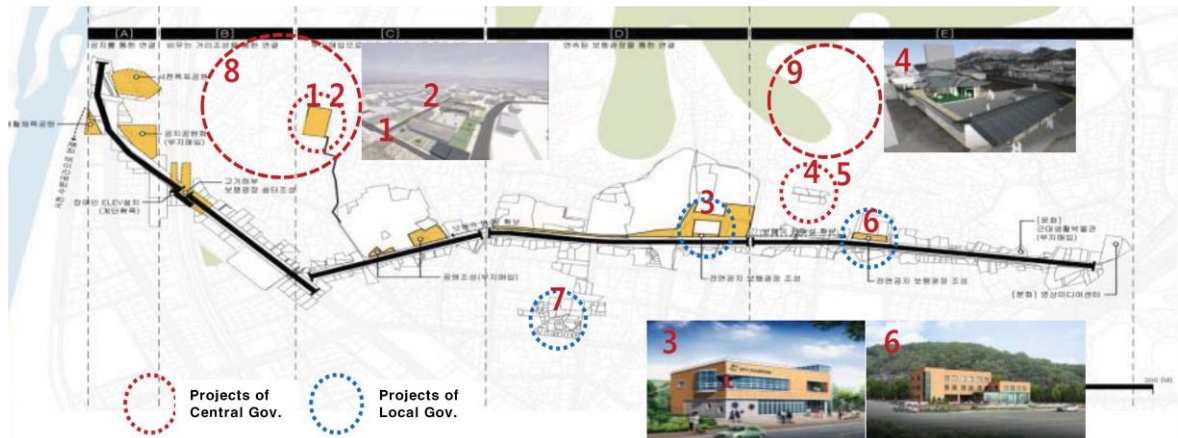
- In December 2009, an integrated master plan for urban regeneration through public buildings was established.

3.2 Base Project: Historical and Cultural Street Project

- Construction of Youth Culture House by using the site of the old Education Office
 - This was the first project according to the master plan. It was supported by a civil expert and confirmed the possibility of the integrated management of the historical and cultural street.
 - The street environment was improved and a street square for the youth was created according to the integrated master plan in connection with the wall demolition project of the Yeongju Elementary School.



<Master Plan of CBD Regeneration>



1. Construction Architecture City Museum by reusing the Modern Railroad Residence
2. Construction of the community facility “Dream of a Goose”
3. Youth Culture House
4. Local Food Experience Center
5. Resident Living Culture and Welfare Support Center
6. Sangmang-dong Community Center
7. Basic research and planning design outsourcing for the regeneration of the Husaeng Market
8. Selected for the “Base Diffusion Type Residential Environment Improvement Project” supported by the Ministry of Land, Infrastructure and Transport
9. Hyanggyogol Residential Environment Improvement Project



○ Construction of Local Community Center

- Construction of Local Community Center in connection with the construction of Modern Urban Architecture Museum
- Selected as “High Quality Hope Village Creation Project” in 2010, and operated by the Resident Self-Government Council since completion in 2012.
- Creation of synergies in connection with the support of the central government as a catalyst for the activation of residential environment improvement project



○ Construction of Hyanggyogol Traditional Food Experience Hall by reusing a modern hanok

- Remodeling of 140-year old hanok as a local government project of the Agricultural Technology Center
- Introduced a new base and cultural programs in connection with the Hyanggyogol Residential Environment Improvement Project.

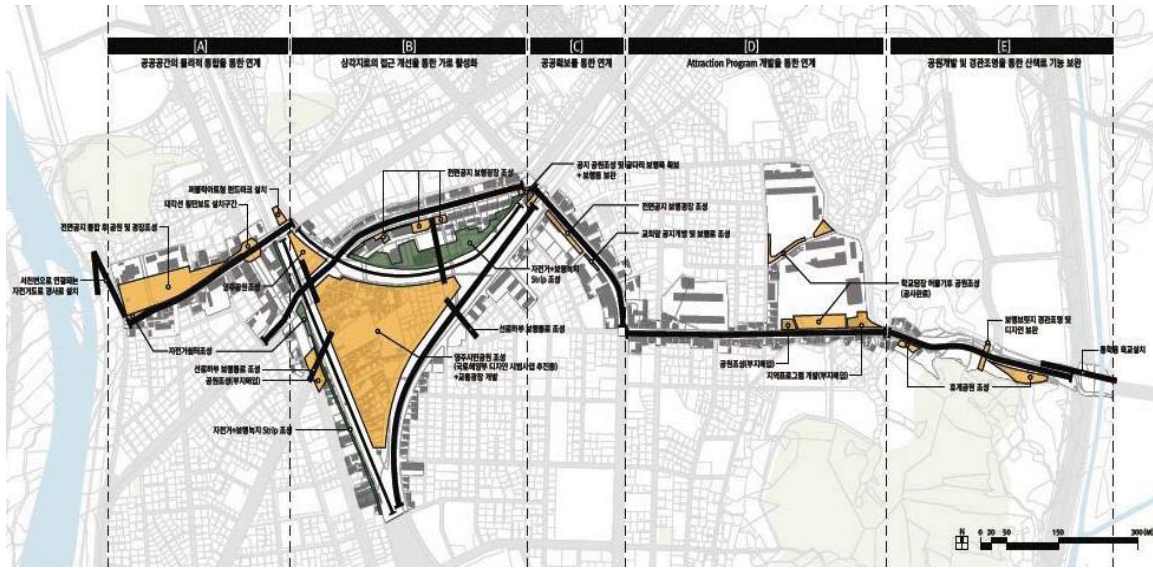
- Construction of the Living Culture and Welfare Support Center for residents
 - Selected as local public design model project by the Ministry of Security and Public Administration in 2011.
 - The external spaces (court and traditional wall) that had been excluded from the Traditional Food Experience Hall due to insufficient budget was included in this project.
 - Operation of programs to connect the foods of the experience hall with the volunteer services of residents and with the Resident Daecheongmaru, Small Park, and Senior Welfare Center



- Organization of a council for the voluntary operation and maintenance by residents from the initial stage of the project
 - Repair and maintenance of the Resident Welfare Support Center by the residents themselves
 - Education to improve poor deteriorated houses of the residential environment improvement project site
 - Only the minimum maintenance costs for improvement are supported by Yeongju City.
 - Install solar systems to minimize maintenance costs.
 - Part of the construction cost for the Senior Welfare Center is supported by Yeongju City.

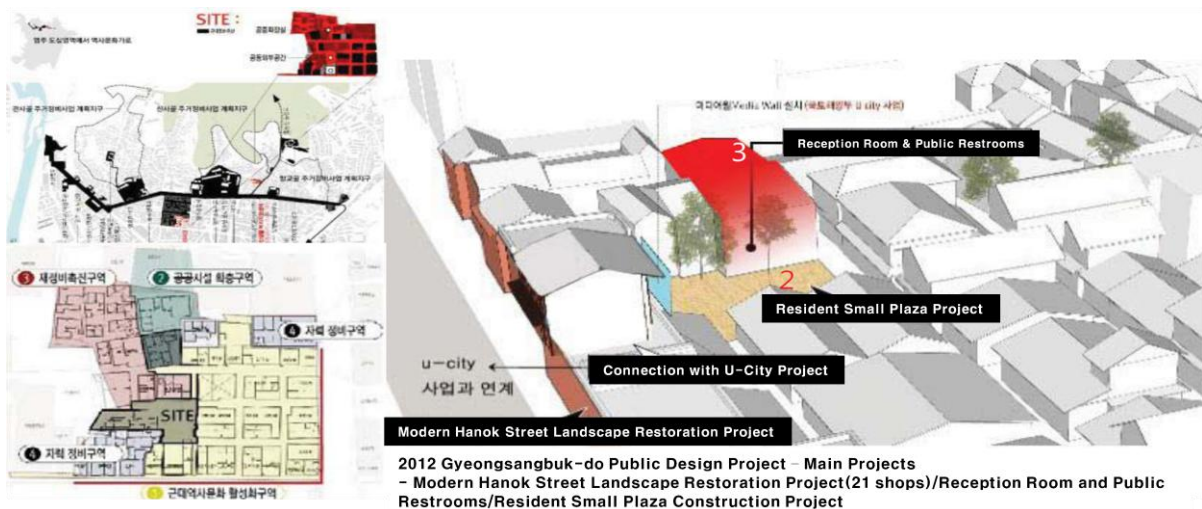
3.3 Base Project: Samgakji Green Street Project

- Wall demolition of the Provincial Library as local government project
- Selected as the best national land environment design model project by the Ministry of Land, Infrastructure and Transport
 - After being selected as the best national land environment design model project, an integrated park and safe pedestrian streets for the tax office and the provincial library were constructed.
 - The Senior Total Welfare Center and the Disabled Total Welfare which were the projects of other departments have been invited and connected based on the place.



3.4 Base Project: Regeneration of Declined Traditional Market

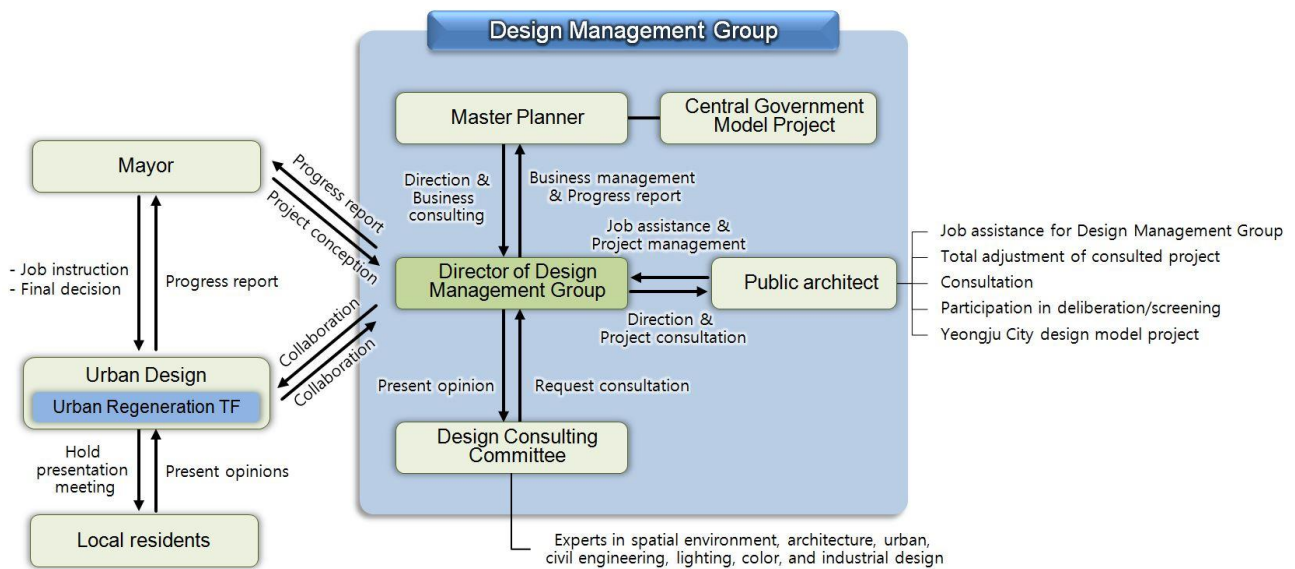
- Activation of the declined Husaeng Market as a total regeneration base
 - The direction was set to a complex regeneration with the combination of apartment houses and commerce.
 - Selected as Gyeongbuk public design model project for the improvement of spatial environment and the maintenance of settlement environment, and also as U-city project of the Ministry of Land, Infrastructure and Transport for the stable fire protection of modern wooden shopping street of the 1940s.



- Selected as model project for urban regeneration leading areas by the Ministry of Land, Infrastructure and Transport in 2014
- Old downtown regeneration project to reverse the decline of the station front with the movement of the old station building.
- Three bases will be targeted with the leadership of residents and the support of the administration: Husaeng Market in front of the Yeongju Station which had been very successful in the past but has lost its function; Jungang Market which opened in the Yeongju Station site but failed to gain commercial supremacy; and Guseong Village which lost the function of background residential area for railway laborers.

3.5 Project Implementation System

- The project is planned and carried out through a governance in which Yeongju City, residents, and experts work together around the Yeongju City Design Management Group.



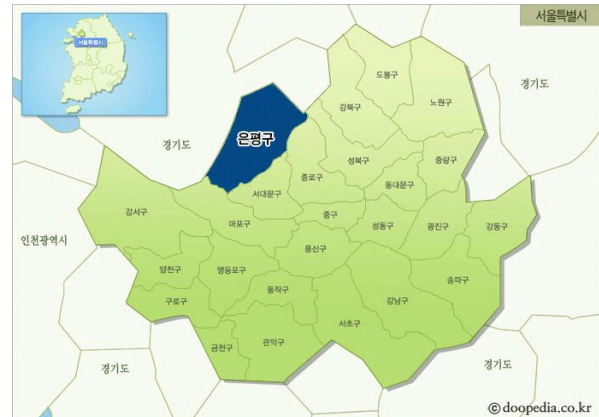
4. Achievements and implications

- Reflection of the local identities around the improvement of the place value using public buildings
- Promotion of the project with an organization having rich experience of urban regeneration through the civil expert system
- Total regeneration and sustainable project management based on the integrated regeneration master plan
- The residents' abilities were improved through the operation of Town Creation Center and programs and the project was implemented by the leadership of residents with the cooperation of the public sector.

Case VI. Eunpyeong-gu : Refurbishment of the deteriorated residential environment of the disadvantaged group

1. City status and introduction

- Location: Eunpyeong-gu, Seoul
- Area: 29.6km²
- Population: 503,660



2. Background

- The problems of the conventional redevelopment method of complete demolition and the construction of a new town whereby the residents who have lived there for a long time have to leave the town because they could not bear their share of the development cost have been continued.
- Therefore, we need local development projects that repair and maintain deteriorated houses and urban infrastructure facilities in the town while building various convenience facilities together with the local community.

3. Implementation method and content

- Project Overview
 - The 'Toad Housing' Project is a house remodeling method that repairs the current houses instead of the conventional redevelopment method that completely demolishes old houses and construct new apartment buildings.
 - This is a town creation project that restores a community of residents rather than exclusively physical regeneration that only repairs houses. This project includes social regeneration, discovery of local resources, and the creation of jobs.
 - The nonprofit corporations Nanum and Future and Green Korea United, and many civil activities established Toad Housing Co., Ltd. as a social business and Toad Housing carried out this project under partnership agreements with Eunpyeong-gu Office, Green Korea United, and the Citizens Movement for Environmental Justice.
- Implementation Method
 - To restore old traditions, alley culture, and community of the area, Toad Housing supports the residents to cultivate their village by themselves while participating in alley neighborhood meeting, club gathering support, and village school operation. Furthermore, they play the role of a community

facilitator that sets up and carries out village plans while participating in the regeneration projects together with the residents.

- Operate the “House Repair Architecture School” to help residents perform various maintenance, repair, and replacement tasks in the old houses by themselves or through the community in the “Self House Repair, Repair Village House Together” project.
- Regenerate deteriorated empty houses and supply them as shared houses to solve the residence problem of single-person households, prevent the acceleration of the deterioration, and contribute to the activation of town community.
- Discover and share various house repair needs in the deteriorated residential area through the local network so as to contribute to the activation of local economy and the creation of jobs.
- Solve the local energy problem by promoting energy efficiency improvement projects combined with proper technologies to save energy costs of old houses and provide energy welfare.
- Link and support residential welfare services to the low-income group and people in blind spots and provide universal residential welfare services down to the fourth income group such as the provision of rental houses, emergency houses, and house management for the disadvantaged people.

<Contents of Main Projects>

House Improvement	<ul style="list-style-type: none"> - Residential environment improvement project for the low-income group - House energy diagnosis and efficiency improvement in response to climate change - Remodeling of deteriorated houses - Discover and regenerate empty houses to supply them as shared houses and activate local community - Remodeling and energy performance improvement of general buildings - Creation of jobs through local community networks and activation of local economy
Creation of a good town for living	<ul style="list-style-type: none"> - Discover town resources that can be shared through local research. - Manage the town with the participation of residents through the operation of a neighborhood school and neighborhood meetings. - Create local jobs through the creation of a good town for living.
Support and residential welfare services for residents	<ul style="list-style-type: none"> - New town and redevelopment consultation - Connect with the consultation on residential welfare for resident-underprivileged people in Eunpyeong-gu and the discovery of local resources.

○ Model Project

- The Eunpyeong-gu Office chose Sansae Village (900 households) at 237 Sinsa-2-dong, Eunpyeong-gu as the project site.

Sansae Village was created as a housing site for people who moved there after demolition of their houses in 1970s. They wanted redevelopment since 2001, but it was not implemented due to low business value. Sansae Village has been regarded as a representative place with poor residential environment due to multi-household houses and multiplex houses, narrow alleys, and insufficient parking space. Shuttle buses and even fire engines could not enter the village due to the old narrow paths. As the village was located at the foot of a mountain, it was colder in winter which further lowered the residential satisfaction of the residents.

- Toad Housing surveyed the residents to collect their opinions about residential environment and examined the inconveniences and problems that needed improvement together with residents. Then they established a village general plan, reflected it to urban planning, and improved the infrastructure facilities together with the public administration.
- They consistently opened a village school, architecture counseling classroom, resident classroom, and neighborhood meetings to help residents to plan and build the village by themselves. Most residents of Sansae Village where 54% of the houses were 30 years or older said that they urgently needed repair and management of their houses.
- Accordingly, Toad Housing provided free house management services to over 20 houses of the low income group from 2011, including windows, doors, heat insulation, toilets, boilers, sinks, drains, bathrooms, electric wiring, and replacement of parts.



- They diagnosed the parts that wind and heat leaked by using airtight diagnosis systems and thermal diagnosis systems and saved heating and electric charges through heat insulation works.
- The rugged roads and sidewalks were cleanly refurbished, the houses and village stairs were re-decorated, and tree beds were installed in every house.
- On the hideous faded walls of the village alleys, students from a nearby alternative school and members of the Eunpyeong Artist Association drew mural paintings.

○ Organization and Operation of Cooperative Association

- The house consumers who needed repair or construction of their houses established the Housing Cooperative Association in 2013 to save costs through the economy of scale.
- The housing coop started with 50 members with the goal of collecting investments of 100 billion won for the long term by gradually increasing members to 1,000 so as to supply good quality houses at low prices to their members.
- The construction company established the Duha Construction Cooperative Association in 2013 to educate their members who are technicians in various areas and to save costs and expand businesses through the improvement of construction quality and customized work for consumers.

- Duha Construction Cooperative Association started with five construction technicians with the primary goal of constructing small scale houses such as multi-household and multiplex houses and they established a plan to expand their business to the construction of house construction cooperative complexes, professional construction projects, and luxurious houses in the future.
- Eunpyeong-gu is supporting the renting of the cooperative offices, the education of professional technicians, business support through employment of the cooperative members, and administrative procedures such as reporting of establishment. Furthermore, they have an one-step service system that provides guidance on the laws, construction and loans for house construction at one place through the Construction Consulting Room for residents who want to build their houses.



<Establishment of Consumer and Construction Cooperative Associations (source: Budongsan Serve)>

○ Participation of Residents

- The residents created the Village Reception Room which is a resident community space by investing their money and discuss issues related to the village in weekly meetings.
- The residents organized Village Keepers who patrol the village at night. Furthermore, they operate a village vegetable garden and donate the crops cultivated there. In this way, they are actively carrying out community activities.

4. Achievements and implications

- The improvement of the residential environment of the underprivileged residents was supported and the village landscape and image were improved. The community of village residents was restored, and such effects as social regeneration, discovery of local resources, and job creation were obtained as well.
- The Toad Housing project of the Sansae Village could be actualized through the harmony of the private sector, social corporation, and administration. Good results were obtained especially because both the administration and private sector desired the improvement of residential environment and residents actively participated in this project.