

SPACE & ENVIRONMENT

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Futures of National Territory by Region	1
National Minimum Standards for Transportation Services	9
A Climate Change Vulnerability Assessment at the Community Level	12
International Collaboration	17
News & Announcements	19

SPACE & ENVIRONMENT is primarily intended to help foreign experts and professionals in relevant fields understand overall present situations of spatial planning and policy of Korea, and published bimonthly by KRIHS.

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Futures of National Territory by Region¹⁾

Lee Yong-woo, Senior Research Fellow

Political, economic and societal megatrends and the prospective of economic integration between South Korea and North Korea are the main driving forces to shape the future of the Korean national territory. Thus, the regional future foresight had been drawn based on the various influential factors of each region: residence, industrial location, transportation, land use, and spatial structure (inter-regional differences). These factors are important because they affect distribution and behavior in regions (intra-regional patterns), and the future appearance regarding nationally specified regional variations (certain regions). The spatial units of the future foresight are divided into seven regions including the Capital Region.

The previous issue 51 presented the integrated national territorial foresight methodology as a framework of the regional foresight and prediction result data focused on including the Capital Region. The integrated results of the regional foresight included the diversification of residential behavior, the modernization of industry, the modernization of transportation, the improvement of accessibility, the acceleration of mountain and maritime space use, the selective revitalization of rural and urban areas, the emergence of new town areas and new axis of national territory, and the reinforcement of economic sphere in Northeast Asia and the Korean peninsula. The current issue introduces the result of future foresights for six regions: Chungcheong, Honam, Daegyeong, Dongnam, Gangwon, and Jeju region.

Overview of Futures Studies on National Territory

This study presents the results of the three-year research work on

1) Continued article first published in Vol. 51.

Figure 1: Provinces of South Korea



national territorial foresight. The first-year (2009) research developed the relevant futures research methodology and applied it to the housing sector for test purposes, and proposed the 10 national territorial trends and issues that would be affected by megatrends.

The second-year (2010) research foresaw national territory by drawing sectoral foresight objects of housing, industrial location, transportation, land use, and water resources, and proposed future images of national territory with policy agenda by summarizing foresight results by sector.

The third-year (2011) research on national territorial foresight aims at the following: 1) drawing foresight objects by region, 2) carrying out foresight on housing, industrial location, transportation, land use, and regional structure by seven region, 3) proposing future images of national territory with policy agenda by summarizing foresight results by region.

Futures of the Chungcheong Region

Increase in job-combined housing supply, and diversification of housing demand

① As high-class jobs are created due to major national projects such as Sejong City²⁾, housing demand will be diversified in Daejeon, Sejong, and Cheongwon: not only apartments but studio apartments, small-scale housing, rural houses, terrace or town houses.

② Increase in cutting-edge new industries centered on Daejeon, Osong, and Cheonan: The International Science and Business Belt in Daejeon will emerge as an international stronghold in basic science research, creating original technologies in linkage with the existing Daedeuk Science Town.

③ Biotechnology Complex and Cutting-edge Medical Compound Complex in Osong-Ochang are foreseen to develop in the new medical bio industry and Cheonan-Asan will be another stronghold in the new IT industry.

Enhancement of the Chungcheong Region's accessibility nationwide

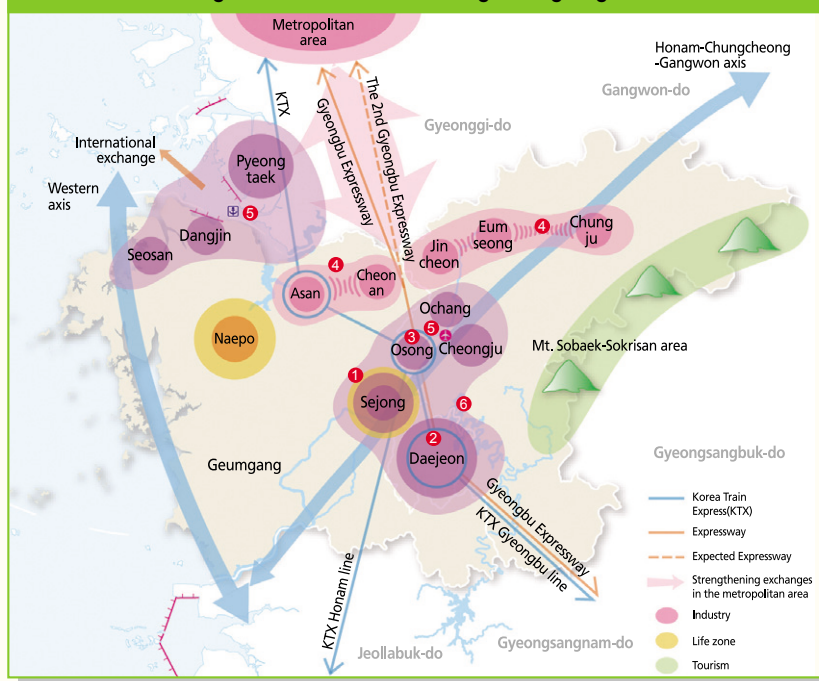
④ The Chungcheong region will be an hour away from major cities in the country as a result of the expansion of traffic networks linked to Sejong City, complete opening of the KTX Gyeongbu and Honam Line, and opening of the Second Gyeongbu Expressway and Seohaean Expressway. With the integration of administration and R&D, Cheongju International Airport can be activated, and Pyeongtaek and Dangjin Ports are expected to be invigorated owing to the development of cutting-edge new industries and increase in export to China.

Consolidation of international exchange function

⑤ Depending on the integration of national administration, R&D, and cutting-edge new industries, Cheongju International Airport can be activated. The free economic zone of the Chungbuk Region is also expected to be designated and Pyeongtaek-Dangjin Ports is foreseen to be invigorated.

2) On July 1st, 2012, Sejong City was officially established as a multifunctional administrative city of South Korea.

Figure 2: Futures of the Chungcheong Region



Integration of cutting-edge new industries in Jeonju-Saemangeum Region and Gwangju Region

③ Saemangeum Region can be developed as a hub of industry and transportation in Northeast Asia where new cutting-edge industries such as solar energy materials, wind power system and module development, and R&D of new renewable energy. ④ The cutting-edge parts industry using carbon fiber is foreseen to integrate in Jeonju and Wanju. ⑤ Gwangju can develop as a photonics industry city fused with IT, BT, and ET.

Consolidation of Daejeon-Sejong-Cheongju metropolitan area's function

⑥ The Daejeon-Sejong-Cheongju metropolitan area is foreseen to emerge as the national hub of administration and cutting-edge science and a hub for the Honam-Chungcheong-Gangwon axis taking charge of national administration, R&D, cutting-edge new industries, international exchanges, and recreation and sports.

Futures of the Honam Region

Increase in new housing supply and in regeneration of city center

① In Honam Region where population and households are expected to decrease continually, new housing supply according to national projects such as Saemangeum and innovation cities is expected to encroach on the existing housing market. ② Low-rise housing, historical places, and cultural spaces in urban centers of Gwangju-Jeonju will be regenerated in order to improve the residential environment and vitalize economic activities of cities.

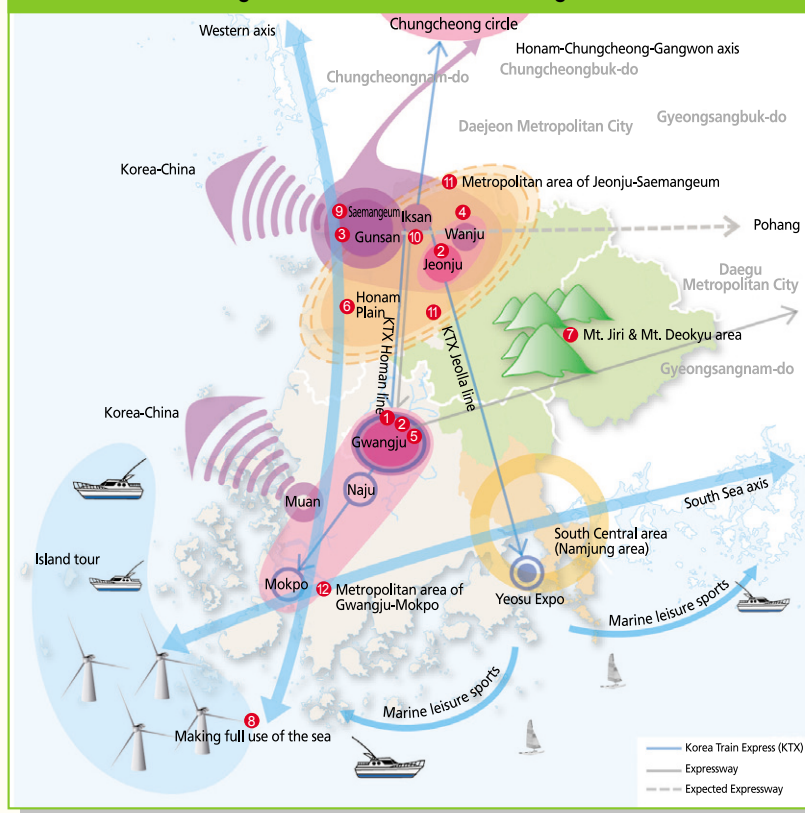
Revival of Honam Plain and development of bio food industry

⑥ The Honam Plain will be reborn as a cutting-edge bio agricultural area using hi-tech agriculture and biotechnology, contributing to regional reactivation beyond agriculture with traditional farming methods and low productivity. As demand for safe and eco-friendly foods increases due to the pursuit of health and wellbeing, the Honam Region's traditional food industry is expected to be upgraded as a life care-type cutting-edge food and bio industry.

Multicultural and multifunctional mosaic of Mt. Jiri-Mt. Deukyu area

⑦ Local residents, households returning to rural villages, and multicultural families with their children are expected to increase in the Mt. Jiri-Mt. Deukyu area. Based on outstanding natural environment, improvement of accessibility, and diverse natural resources, the area is foreseen to become multicultural and mosaic patterned through the production of forest products, health functional foods and the activation of mountain healing, recuperation, and hands-on reports tourism.

Figure 3: Futures of the Honam Region



Hampyeong and strengthened connection between the southwest coast of Muan-Yeongam-Haenam and Mokpo, metropolitan areas connecting Gwangju and Mokpo can be formed.

Futures of the Daegyeong Region

Increase in decrepit apartments' repair/maintenance and city center regeneration

① Due to the decrease in population and housing demand, repairment and maintenance of decrepit apartments and of low-rise housing are expected. ② Development of Daegu's city center is likely to be reactivated because of the restoration and preservation of cultural and historic resources along with regeneration of low-rise detached houses.

Enhancement of marine use in the west and south coasts

⑧ In the west coast, marine wind power generation can be carried out, and biofuel can be produced using seaweeds. With the accessibility improvement between land and islands and the development of fish cultivation technology, islands developed for tourism and high value-added seafood cultivation are likely to increase.

Formation of metropolitan areas connecting coast and inland

⑨ When the new renewable energy industry is integrated, export production and exchange functions targeting China are expected to be consolidated in the Saemangeum area; culture and carbon industries in Jeonju and ⑩ cutting-edge bio food industry are foreseen to be integrated in Iksan, ⑪ new metropolitan area connecting Jeonju-Iksan-Gunsan-Saemangeum will be formed. Due to expansion of photonics and cultural ⑫ industries to Naju-

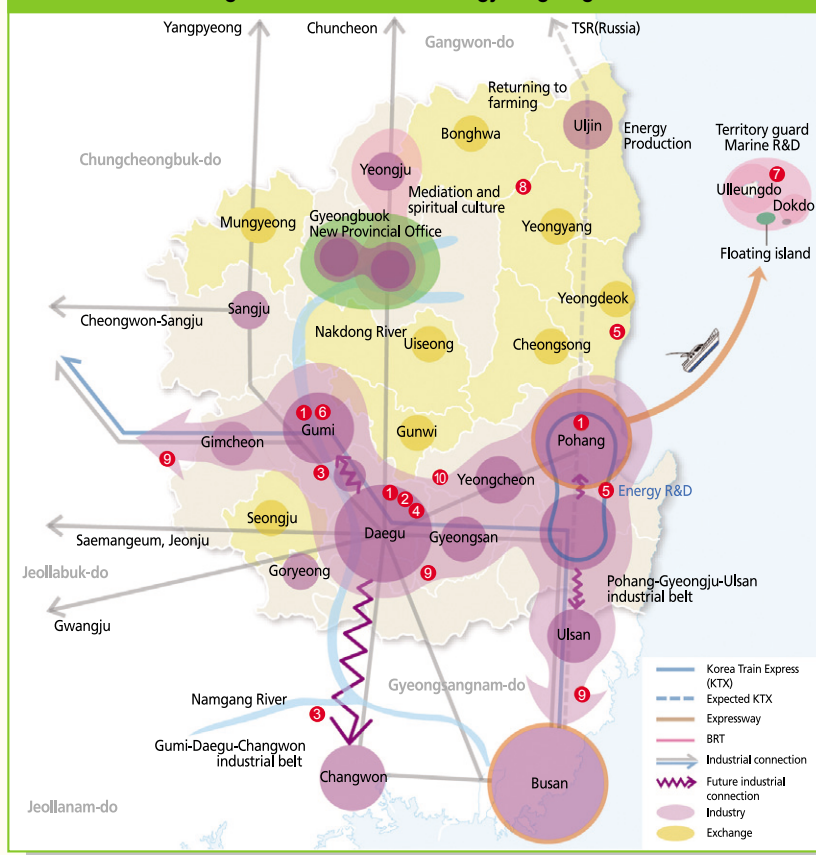
Integration of cutting-edge new industries in Gumi, Daegu, and Pohang

③ Cutting-edge new industries will be integrated centered on the south of the Daegyeong Region connecting Gumi, Daegu, and Pohang. ④ IT convergence and integration treatment, health care equipment, and cutting-edge fiber materials industries are foreseen to develop in Daegu. ⑤ ET and NT industries including hydrogen fuel cells, solar energy equipment, and cutting-edge machine parts are expected to be enhanced in Pohang-Gyeongju, and ⑥ cutting-edge IT and green energy in the existing national industrial complex in Gumi can be developed.

Enhancement of east coast use

East coast tourism, energy production, and marine resources and energy R&D functions in Pohang and Ulsan are expected to be integrated. ⑦ In Ulleungdo and Dokdo, national territorial protection and

Figure 4: Futures of the Daegyeong Region



geological tourism are expected to be activated.

Activation of the northern area of Gyeongbuk

⑧ The new town in Andong-Yechon where the Gyeongbuk provincial office will be moved, is foreseen to function as a core of the northern area of Gyeongbuk. Confucian culture can be used in spiritual culture nurturing and meditation and rest resources in the area.

Contrast enhancement between the south and the north in the Daegyeong Region: ⑨ Daegu metropolitan area will expand in the western and southern directions, with the regional development axes to be consolidated further in connection with Gumi and Pohang. ⑩ The Daegyeong Region is foreseen to be classified clearly into the southern metropolitan area centered on cutting-edge new industries and the northern small and medium-sized cities centered on leisure and rest.

Futures of the Dongnam Region

Increase in housing regeneration and country houses

① The Busan city center can be regenerated as a community restoration type. High and low-rise regeneration can be developed in a compound manner in Haeundae. ② Multi-habitation is likely to increase owing to the increase in country houses in the suburbs of Ulju, Yangsan, Gijang, Milyang, and Geoje with good accessibility and natural environment.

Full-swing international multi-habitation and multicultural society

The international multi-habitation of Japanese who want to have housing in Busan in search of safe

places from natural disasters is foreseen to increase.

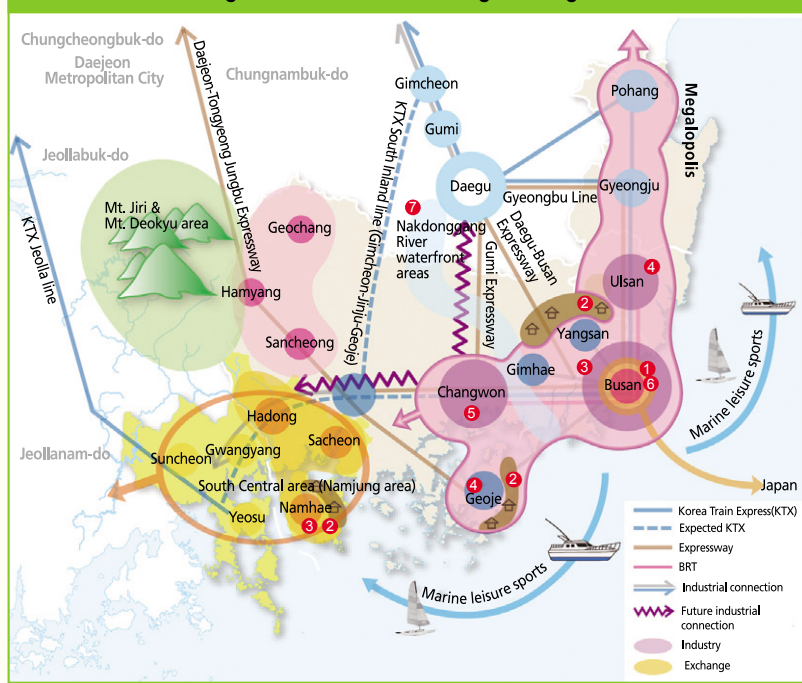
③ A multicultural society of foreigners and overseas Koreans is expected to be formed in full scale in the south coast including Gimhae, Yangsan, and Namhae.

Enhancement of cutting-edge new industries of industrial belt in the Dongnam Region

Ulsan's petrochemical and auto industries are expected to be developed into green chemical, energy-related, and green car industries, respectively. ④ Ulsan and Geoje's shipbuilding industry is foreseen to transform into marine plant and special and intelligent shipbuilding. ⑤ Changwon's machine industry will be developed into cutting-edge parts and materials and robot industries.

⑥ Strengthening of Busan's global exchange and tourism functions: Busan's status as a global city can be strengthened further thanks to the expansion of the international exchange function and the

Figure 5: Futures of the Dongnam Region



Futures of the Gangwon Region

Increase in empty rural housing regeneration and country houses

① Empty houses with good accessibility and natural environment are expected to be used as housing for households returning to rural villages, second house or country house for city dwellers, and resting/recuperating home. Country houses may be built around mountainous areas or waterfront spaces with good accessibility.

Development of resources-based industry and bio medical industry

consolidation of the international financial and logistic function, and city tourism activation arising from the opening of the Arctic sea route and establishment of multimodal system.

Activation of south coast marine recreation and sports

⑦ Marina facilities can increase in the south coast with the marine recreation and sports population likely to increase. With cruise ship operation up to Japan and China, foreign tourists enjoying marine recreation and sports around the south coast may increase.

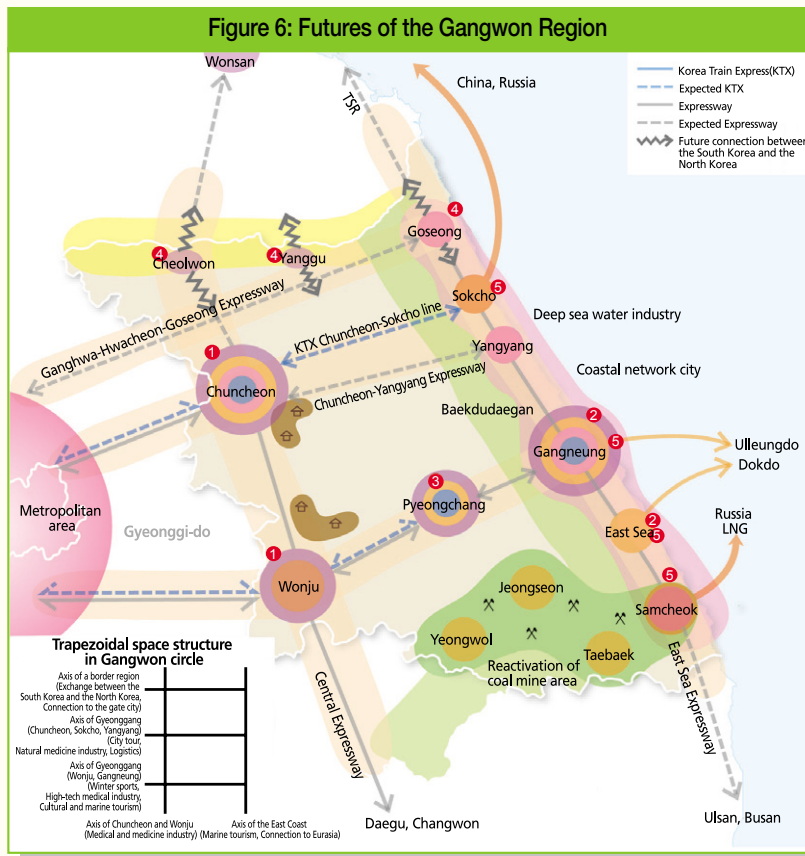
Consolidation of coastal megalopolis in the Dongnam Region centered on industry and tourism: The connection of high-speed transportation means such as KTX, expansion of the wide area public transportation network, and the advancement of industrial structure in the Dongnam Region can expand the coastal metropolitan area. The coastal megalopolis in the Dongnam Region will lead the development of the south coast axis through supplementation among structural enhancement of industrial cities, expansion of Busan's function as a global city, and activation of rest-tourism function of the south coast.

② The resources-based materials and parts industry is expected to develop, with regional economic activation expected through production and manufacturing of rare metal such as dolomite in Okgye. The bio medical stronghold function is foreseen to be strengthened in the Gangwon Region. Based on the international resources market's trend and clean technologies development, the relevant regions can be activated with the resumption of coal mining in the Taebaek mountainous areas.

Strongholds of leportainment throughout the four seasons

③ The Gangwon Region is expected to be a stronghold for the world's top tier "leportainment - a combined term for leisure, sports and entertainment," throughout the four seasons where leports, rest, tourism, local training, and international competitions can be compounded. Diverse uses of rest and treatment spaces, high value-added forest production spaces, and carbon absorption sources in mountainous areas will be developed and high value-added can be generated as well.

Expansion of exchanges between east-west and



between south-north

④ The economic community of the pan-east sea region can be consolidated through the increase in exchanges between South and North Korea and with Russia and Japan according to the economic integration between South and North Korea. The international logistics function in Sokcho is foreseen to be strengthened and the free economic zone of the east coast is likely to be designated. The linked tourism between Mt. Seorak and Mt. Geumgang is expected to be activated and the boundary areas including gateway cities can also develop actively.

Formation of ladder-type spatial structure

The 3 × 2 ladder-type spatial structure is foreseen to be formed in the Gangwon Region. Concerning the east-west direction, Gyeonggang axis connecting Seoul-Chuncheon-Sokcho and Seoul-Wonju-Pyeongchang-Gangneung is foreseen to be consolidated centered on recreation, sports

entertainment, bio medical and green tourism and the boundary area connecting Goseong-Yanggu-Cheolwon can be activated. ⑤ Concerning the south-north direction, 2 axes are expected to be formed; the axis of Sokcho-Gangneung-Donghae-Samcheok as a small but robust city network and the axis of Cheolwon-Hwacheon-Chuncheon-Wonju as the hub of exchange and industry between the two Koreas.

Futures of the Jeju Region

Increase in demand for rest and foreigners' housing

The use of luxury resting-type housing and rural village housing for leisure, rest, and recuperation is expected to increase. With the Jeju Region shaped as

the free international city, foreigners' stay and multicultural facilities are likely to increase.

① Activation of the MICE (Meeting, Incentives, Convention, and Exhibition) industry: foreign direct investment is foreseen to increase, and foreign tourists are likely to soar as the Jeju Region emerges as an island for conventions and incentive tourism destination in Northeast Asia. Special-interest tourism such as education, health, and geology is expected to be activated.

Change in tourism, agriculture, and fishery industries due to subtropical climate

Due to Jeju's subtropical climate, tourism is going to be much more attractive. The farming area for tropical fruits will expand, and Jeju's coffee can emerge as a new tourism product. ② The fishery industry can capture higher value-added by cultivating tuna and saw-edged perch.

Activation of marine tourism, resources, and energy

developmen

③According to the building of compound marine wind power generation complexes, power generation, cultivation of fish in an enclosing net, and marine tourism are foreseen to be developed in a compound manner. As importance of ocean use increases, R&D on marine life, resources, and energy is expected to be activated around the Jeju seas including Ieodo.

Formation of linkage-type spatial structure between coast and mountainous areas

④The development of the area between Jeju's coasts and Mt. Halla is foreseen to increase. When the development of a currently implemented international English city as well as housing complexes for the rest is finished, Jeju Island can be reorganized into a linkage-type spatial structure between coast and mountainous areas.

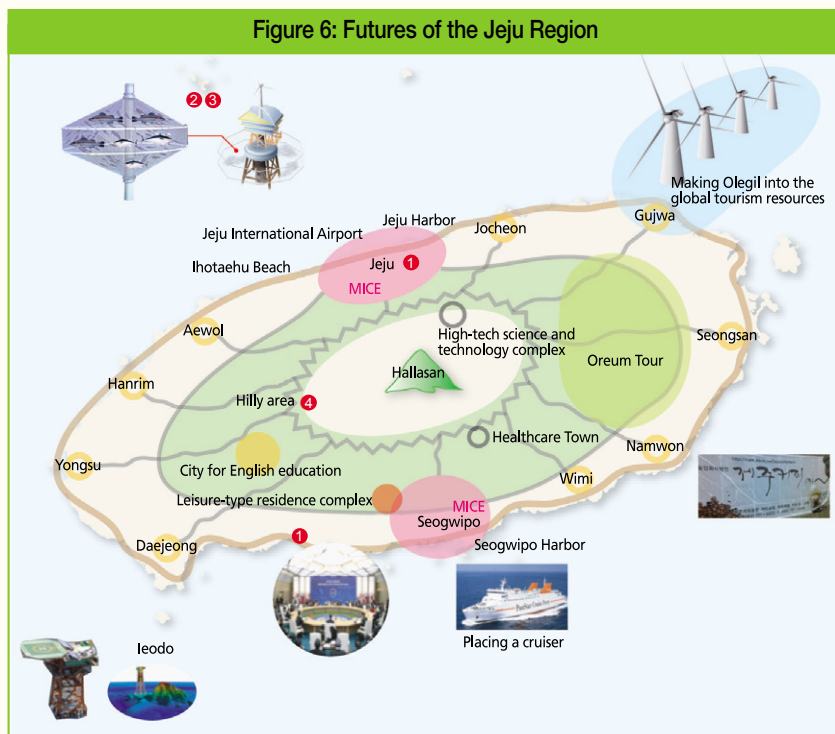
Future Images of Nation Territory and Policy Agenda

The future images of national territory are desirable, optimistic, and concrete shape of national territory consisting of regions. The future images of national territory have been summarized as follow: ①diversification of housing types, ②increase in cutting-edge industry, ③accessibility improvement through increase in cutting-edge transportation, ④advanced use of mountainous or coastal area, ⑤selective activation of rural villages and cities, ⑥emergence of new metropolitan regions and national territorial axes, and ⑦consolidation of economic regions in the Korean Peninsula or Northeast Asia.

The future policy agendas to achieve the desired future images of the national territory are as follow:

①consolidation of national territorial policy

Figure 6: Futures of the Jeju Region



focusing on the soft power, national territorial regeneration in multi-aspect, expansion of win-win space between generations and cultures, and tailored regional development strengthening in order to achieve stable economic growth and to create plural national territory, ②regional policy consolidation centered on spaces for multidimensional balanced development, supplying basic services, and narrowing the disparity between regions, brackets, and generations in terms of national territorial use, ③building strong areas against natural disasters to cope with climate change, reorganizing the energy-saving type spatial structure, and securing the minimum farmland for food security, ④and the spatial coexistence of North Koreans staying in South Korea to cope with the economic integration between South and North Korea and enhancement of safety of border and coastal areas.