National Spatial Strategy (National Plan)

August 2015

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Part 2 Basic Direction of Measures in Each Field

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Part 1 Basic Conception for National Spatial Strategies

Chapter 1 National Land Situation Changes and National Spatial Development Targets

Section 1 Trends of the Times and Challenges Involving National Land

(1) Rapid population decline, falling birthrates and accelerating uneven population distribution

Japan's population began to decline after peaking at about 128 million in 2008 and is estimated to fall to about 121 million in 2025 and about 97 million in 2050, according to the median projection by the National Institute of Population and Social Security Research. Japan has thus fully become a population-declining society. Japan's total fertility rate turned upward after falling to 1.26 in 2005 and reached 1.42 in 2014. But it still falls far short of the population replacement level of 2.07. Even if the TFR recovers in the future, Japan's population will continue declining over several tens of years. If the TFR's rise is delayed further, the population Japan could maintain may be less.

As a net outflow of young and other people from rural regions to urban ones has continued, the geographical distribution of population in Japan has been becoming more uneven. Particularly, the concentration of the population in the Tokyo region has been intensifying due to a net inflow of population into the region, accelerating a decline in the rural young or productive population.

The Ministry of Land, Infrastructure, Transport and Tourism has estimated the population for each $1km^2$ in a grid[1] of Japan in 2050, indicating that population in the year will fall by at least 50% from the present levels in about 63% of inhabited grid squares[2] and to zero in about19% of such squares. Squares with a lower population will see faster drops in population. Regions including such squares will lose shopping, medical care, nursing care and other live support services remarkably and have difficulty in maintaining the present living standards.

In order to mitigate the uneven population distribution, Japan will have to cap the outflow of population from rural regions to the Tokyo region and correct the excess concentration in Tokyo.

(2) Extraordinary progress in aging

The elderly's share of the total population in Japan exceeded 25% in 2013, indicating that Japan has become the world's most aged society. Particularly, the birthrate fall and

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[1] Each square of the grid represents $1km^2$.
[2] The number of inhabited grid squares stood at about 180,000 as of 2010.

baby-boomers' aging have brought about a further fall in the young or productive population and a further increase in the elderly population over recent years, leading the aging of Japanese society to accelerate. The elderly's share of the population is expected to continue rising in the future, exceeding 30% in 2025 and approaching 40% in 2050. The elderly population is expected to peak in rural regions around 2025 and continue substantial growth in large metropolitan regions[3]. As baby-boomers pass the age of 75 in 2025 and 80 in 2030, large cities will see growth in medical/nursing care and welfare demand and various accidents. These changes and a fast increase in the elderly's share of the population will lead residential zones in the suburbs of large cities to lose their vigor and have serious problems such as an increase in single-member elderly households. Medical/nursing care and welfare policies will have to cooperate with urban, housing and transport policies to address such situation.

Meanwhile, an increase in the number of elderly people in large cities and their suburbs represents a rise in the number of healthy elderly people who live leisurely lives after retirement. Since these elderly people are highly conscious of social participation, it is important to build a society where elderly people can have things to live for and make socially beneficial contributions.

(3) Intensifying competition in changing international community

The international environment surrounding Japan has greatly changed since the government drafted the National Spatial Strategies in 2008.

China continued its high economic growth even after the 2008 Lehman Shock and replaced Japan as the world's second largest economy in 2010. In 2013, China's gross domestic product was about double Japan's. Per capita GDP in Japan was surpassed by Hong Kong's in 2014, falling to the world's third highest position. The Association of Southeast Asian Nations and India have continued economic development, while Russia has increased its presence on the strength of rich energy resources. In Asian trade, Japan's presence has declined, with China deepening relations with other countries or regions.

Japan has seen its trade deficit expanding year by year since its trade balance turned red in 2011, with its income balance remaining firm. Japan's international payments balance structure

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[3] "Large metropolitan regions" refers to the Tokyo, Kansai, and Nagoya regions. They respectively cover areas integrated socially and economically with Tokyo, those with Osaka, Kyoto and Kobe, and those with Nagoya.

Rural regions are regions other than the large metropolitan regions.

Due to statistical constraints, the rural regions here are defined as prefectures excluding the Tokyo-region prefectures (Saitama, Chiba, Tokyo, and Kanagawa), the Kansai-region prefectures (Kyoto, Osaka, Hyogo, and Nara) and the Nagoya-region prefectures (Aichi, Mie, and Gifu).

has thus dramatically changed.

International flows of people, goods, money, and information have grown more brisk and rapid. Under such situation, major Asian cities have grown more attractive through economic development and strategic, priority-oriented measures and increased their presence rapidly, intensifying international inter-urban competition.

In order to allow the Japanese economy to grow and demonstrate its presence in the international community, Japan—even with a population-declining society—must enhance its industry's international competitiveness, win the intensifying inter-urban competition and take advantage of East Asian and Russian dynamism (Asia-Eurasia dynamism) accurately.

Japan must restructure its industry to enhance its international competitiveness and reduce its trade deficit. For example, Japan should restructure food and energy sectors in consideration of its heavy dependence on food and energy imports. The improvement of value added in tourism and other services industries as well as the manufacturing sector is also a challenge.

In order to win international inter-urban competition, Japan must accumulate excellent human resources and goods as well as obtain investment and information from overseas under the concept of a country opened to the world amidst active international flows, including flows within Asia. To this end, Tokyo and other large cities must improve their environments to draw investment and information from abroad.

Japan must not only take advantage of the Asia-Eurasia dynamism accurately but also develop distribution bases in response to global distribution structure changes including the expansion of Arctic sea lane traffic and the Panama Canal. Japan must also develop its environment for the accommodation of international travelers and exploit the 2020 Tokyo Olympics and Paralympics as a big opportunity to communicate Japan's attractiveness to the rest of the world to more proactively attract international travelers.

(4) Imminent mega-disasters and aging infrastructure

Japan conserved and developed its war-devastated national land and made national efforts to prevent and reduce disasters following mega-disasters such as the Ise Bay Typhoon. Nevertheless, the 1995 Hanshin-Awaji Great Earthquake, the 2011 Great East Japan Earthquake, and other earthquakes and tsunami have inflicted great damage on Japan's national land. Furthermore, experts say Japan has a 70% chance of seeing devastating Tokyo-epicenter and Southern Trough earthquakes within 30 years.

Rainfall has grown localized, concentrated and intensified.

Furthermore, rainfall is predicted to become even stronger and more frequent due to climate change accompanying global warming in the future. Therefore, wind and flood damage and sediment disasters are feared to grow more frequent and intense. Frequent volcanic disasters over recent years have led us to recognize anew that Japan is one of the major volcanic countries and we must acknowledge its volcanic dangers and take measures against volcanic disasters. While urbanization, advanced land utilization, distribution system improvement, and information and communications technology development have improved convenience and efficiency, the society has grown more vulnerable to more widespread and intense human and physical damage in the event of disaster. Therefore, Japan must combine physical and non-physical measures appropriately to develop disaster prevention and reduction measures to promote the creation of a disaster-resilient national land structure.

Japan has steadily developed social capital infrastructure. As the development concentrated in a period from Japan's high economic growth, however, a share for more-than-50-year-old facilities will increase rapidly over the next two decades. Overall infrastructure facilities are thus expected to rapidly become older. These facilities may not necessarily become unusable even if they reach the age of 50; however, they must undergo appropriate maintenance and updating to keep their functions. As maintenance and updating costs are expected to increase in the future, various agents such as administrative agencies, citizens and private sector companies must be united to proceed with strategic maintenance and updating of facilities to extend their service lives under the concept of preventive maintenance while helping reduce and level total costs. Particularly, roads, sewage systems and other infrastructure facilities are managed by municipal governments plagued with technical and personnel problems. The key point is whether these municipalities can build sustainable arrangements to maintain infrastructure facilities.

(5) Food, water and energy constraints and global environment problems

While Japan has entered a population-declining society, global population is expected to continue substantial growth. Climate change and other problems have made farm production more uncertain and are likely to affect efforts to stably secure water resources. Meanwhile, demand for food, water, energy and mineral resources has been expanding rapidly due to economic development in emerging countries, resulting in such effects as farm product price hikes. In order to stably satisfy demand for food, water, energy and mineral resources, Japan is required to improve its food self-sufficiency rate, maintain or recover a sound water cycle, promote energy conservation and secure a stable supply and recycling of mineral resources.

The accident at Tokyo Electric Power Co.'s Fukushima Daiichi Nuclear Power Station and the successive shutdown of nuclear power plants have caused cost hikes through electricity shortages and power bill increases, affecting manufacturing and other corporations, including small and medium-sized enterprises. As for nuclear energy, the government gives top priority to safety rather than any other point. Only if the Nuclear Regulation Authority certifies any nuclear power plant as conforming to the world's toughest safety standards, the government will respect the certification and promote its restart. At the same time, the government will reduce Japan's dependence on nuclear power generation as much as possible by spreading energy conservation efforts and renewable energy and by increasing the efficiency of fossil power plants. The government will also have to secure stable natural gas supply by introducing shale gas and developing marine resources such as methane hydrate.

Given that climate change progress, biodiversity damage through the loss of good natural environments and other global environmental problems are serious, the government should consider future climate change effects and build a sustainable socio-economic system that would adapt to these effects and be harmonized with natural environments.

(6) Technological innovation progress including dramatic ICT development

The dramatic advancement of information and communications technologies in recent years is bringing about and accelerating great changes in national livelihood, corporate operations and the economic society. Future technological innovation in ICT and other fields could bring about great social changes, including solutions to the abovementioned problems.

For example, ICT may be exploited for teleworking representing flexible working styles free from physical constraints and for remote education and home medical care/examination. Their diffusion may greatly help correct the geographic maldistribution of population. Big and open data, which have become available thanks to the advancement of data processing technologies, could allow national land infrastructure and energy to be used more smartly. In the meantime, the convenience of ICT has failed to be maximized in some fields due to the insufficient standardization of ICT systems. The administration sector should lead the standardization.

The development of robot suits using robot technologies is expected to reduce the burden of nursing care workers and promote the independence of elderly people. Automatic driving of vehicles is likely to reform logistic systems. Hydrogen, which has been used growingly, is expected to play a central role as a secondary energy[4] in addition to electricity and heat. In the future, the methane hydrate development and other measures could lead Japan to improve its

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[4] Energy converted or processed into a form usable for final consumers.

energy self-sufficiency rate.

Such technological innovation can produce new business and should be promoted with safety secured as a precondition. In national spatial development, the government should foresee technological innovation and relevant social changes toward 2025 and consider infrastructure development, as well as social and institutional measures including thorough business culture reforms, to smoothly incorporate such innovation into society.

The planned Linear Chuo Shinkansen, a high-speed magnetic levitation railway, is likely to greatly influence national spatial development, as did the Tokaido Shinkansen bullet train line in the past. In order to allow the railway to maximize its effects from its opening, the government should plan relevant infrastructure development including town-building and the enhancement of the railway's links to other transportation systems not only for the planned Linear Chuo Shinkansen route but also for the rest of Japan, receiving spillover effects.

The government should also promote the development of safe and affluent national land using outer space by improving large-disaster prevention and response capacity exploiting space technologies for positioning, communications and broadcasting, and meteorological, ground and marine observation and by realizing high-precision positioning systems using quasi-zenith satellites.

Section 2 Changes in national values
(1) Diversification of lifestyles

National values have become diverse as society has matured. Some people try to win competition amid globalization in pursuit of economic affluence, while others seek to obtain nonmonetary richness through lives linked closely to nature or local communities. Citizens are thus allowed to realize lifestyles based on their various values regarding ways of working and living. In the past, rural residents had sought to live in urban areas due to a dominant perception that urban life would be excellent. Recently, however, urban residents have grown eager to live in rural regions. Particularly, a large percentage of young urban residents are hoping to move to rural regions. The number of consultations requested on rural living has increased.

Women who hope to continue working to accumulate careers even after marriage or childbirth are increasing along with elderly people who wish to continue working as far as they are in good health.

In such situation, Japan should build a socio-economic system that can respond to new lifestyles and allow individual citizens to realize respective hopes regarding life and work.

(2) Weakening communities and expansion/diversification of various actors' roles in building a society of mutual assistance

Local communities have been weakening due to a decline in multiple-generation families, the separation of residential zones from workplaces and residents' frequent flow into and from urban regions, and due to aging and declining community members amid young people' outflow and general population aging in rural regions. As a result, interactions between generations and between regions have declined, making the succession of local cultures and traditions difficult, reducing people's attachment to local communities, and leading communities to become vulnerable to disaster. Meanwhile, the Great East Japan Earthquake has prompted mainly young people to pursue human-to-human bonds, indicating signs of new community development beyond local relations.

As communities have weakened, various actors such as non-profit organizations have begun to complement or take over activities that communities had traditionally undertaken. Since we proposed local community development under the New Public initiative in the National Spatial Strategy released in July 2008, the initiative has been expanded and diversified, making progress in developing a society of mutual assistance.

Local community development, though based primarily on self-help and independence, must balance self-help, mutual assistance and public assistance. As fiscal constraints exist on public assistance, the scope of areas where expectations are placed on mutual assistance has expanded, leaving the revitalization of communities and various actors' development of a society of mutual assistance as challenges to be tackled.

(3) Growing national consciousness of safety and security

People have grown more conscious of safety and security due to large-scale earthquake and tsunami disasters such as the Great Hanshin-Awaji Earthquake and the Great East Japan Earthquake, wind and flood damage and sediment disasters that have occurred frequently and are expected to increase in line with global warming, and volcanic disasters and large-scale accidents.

In particular, the Great East Japan Earthquake hit a vast region and inflicted heavy direct damage. Furthermore, it brought about wider-area damage through electricity and other supply chain disruptions. The earthquake and subsequent tsunami were combined with a nuclear disaster into a composite disaster. As a result, the disaster exerted great impacts on Japan's economic society, leading people to grow more conscious of not only residential safety but also crisis management regarding a wide range of economic and social systems, including energy

supply and logistics.

Through experiences with these disasters, people have growingly recognized that self-help and mutual assistance as well as public assistance are indispensable for responding to large-scale disasters and become more ambitious to voluntarily participate in post-disaster restoration. Japan has thus accumulated knowledge about how to allow a large number of voluntary activity participants to operate organically and efficiently.

Meanwhile, some people have failed to appropriately evacuate disaster-affected areas. People still live in regions featuring high disaster risks. Firefighters and education-related people for emergency rescue and evacuation operations in disasters have become victims, indicating that Japan should continue efforts to improve people's consciousness of disaster risks.

Section 3 Changes in National Land Space

The decline in population is exerting great impacts on national land space. In rural regions where the population has already been decreasing, problems have been emerging, including underutilized or unutilized downtown land, deserted farmland, forests which have not been managed adequately, and land lots whose owners are difficult to find.

Vacant houses have increased in rural regions and suburbs of large metropolitan regions and are expected to increase further in line with a decline in the number of households.

At the same time, a population decline can generate surplus spaces through a drop in development pressure, providing an opportunity to manage such spaces systematically, strategically and slowly for improving natural and living environments.

Japan is rich with forest resources, boasting one of the world's highest forest coverage rates. Forests that were planted after World War II have begun to reach maturity and become ready for harvest. Therefore, Japan can sustainably manage forests covering 70% of national land by utilizing domestic wood in a full-blown manner while proceeding with appropriate maintenance and conservation of forests.

Japan is now required to protect its beautiful national land for future generations by managing national land appropriately while responding to the population decline and by taking advantage of the population fall to improve natural and living environments.

Japan has one of the world's vastest territorial water spaces and exclusive economic zones, being rich with various resources. As a maritime country surrounded by sea in all directions, Japan must conserve maritime environments and interests as well as utilize marine resources while defending its territories and territorial waters. It must also appropriately control its

remote islands that can play a key role in conserving its territorial waters and exclusive economic zone and utilizing marine resources.

Section 4 Need for New National Spatial Strategy

Japan is now at a turning point.

In order to allow everyone to feel affluence even over the next several decades in which population will continue declining, Japan will have to tackle national spatial development initiatives to adapt to the population decline. At the same time, Japan will have to implement national special development measures to mitigate the population decline so that people's lifestyles will change to raise birthrates to stabilize the population in several decades.

Whether Japan will be able to continue economic growth and develop as an affluent country with population stabilizing after a decline or lose its vigor with population continuing to decrease unlimitedly will depend on its future efforts.

Japan is now urgently required to address approaching mega disasters and the rapid aging of infrastructure and to secure stable food, water and energy supply amid a substantial increase in global population.

For us at a turning point, the next decade is a period for determining Japan's fate.

In order for Japan to mobilize various resources, technologies and wisdom to systematically and efficiently implement national spatial development over the next decade while foreseeing a long term through 2050, the government must clarify a long-term, comprehensive vision.

Therefore, we now provide a new National Spatial Strategy to clarify basic policies, targets and basic nationwide measures regarding national spatial development over the next decade.

Section 5 Japan's Future Picture

(1) Population outlook

The Long-term Vision for Overcoming the Population Decline and Vitalizing Local Economy in Japan (Cabinet Decision on December 27, 2014) describes raising the total fertility rate back to the population replacement level as an essential condition for stopping the population decline and maintaining Japan as a vigorous society over the future. The TFR is expected to rise to around 1.8 if young people realize their hopes for marriage and childrearing. The initiative envisages that if the TFR's population replacement level of 2.07 is achieved thanks to policy effects, Japan may secure the population level of around 100 million in 2060. Japan is expected to maintain real annual GDP growth in the 1.5–2.0% range in the 2050s if the population is stabilized with productivity being improved.

(2) National spatial development targets

It is clear that Japan's future situation may be harsh if national spatial condition changes as described in Sections 1 to 3 are left untouched. Therefore, we must gather our wisdom to tackle challenges among these changes front on and try to proactively take advantage of ICT and other technological innovation and the Asia-Eurasia dynamism for realizing a bright future while overcoming relevant difficulties. We set the following national spatial development targets for leading Japan to be united to tackle challenges toward a bright future. This strategy's basic policy is to proceed with national spatial development toward these targets over the next decade.

1) A country where people can feel safe and affluent

We will pursue "a country where people can feel safe and affluent," which will minimize natural disaster and accident damage, protect national livelihood by securing food, water, energy, income, jobs and life services, and allow citizens to be proud of regional attractions under diverse lifestyles.

2) A vigorous country sustaining economic growth

As an essential condition for the first target, we will pursue "a vigorous country sustaining economic growth," which will improve industrial productivity, create innovation through regional resources and interregional cooperation, activate women and elderly people, and take advantage of the Asia-Eurasia dynamism to achieve economic growth even under declining population.

3) A country exerting a strong presence in the international community

In addition to the first and second targets, we will pursue a country exerting a strong presence in the international community, which will, as a global growth base, accumulate cultural, industrial, research and development, financial and other functions attracting global attention, enhance gateway functions, develop transportation and accommodation conditions from the viewpoint of people from overseas and realize an "open country," encouraging people from overseas to visit, do research or business in and invest in Japan.

In order to achieve these national spatial development targets, we should reverse our way of thinking to interpret unavoidable challenges as resources instead of heavy burdens and take advantage of them for national spatial development. For example, we should interpret the population decline as a liberation from expansion or development pressures and the ultra-aged society as an accumulation of human resources rich with experience and wisdom, pursue the affluence and innovation that such mature society can achieve, and exploit many world-pioneering challenges as business chances to achieve model solutions for the world.

Chapter 2 Basic National Land Concept

Section 1 Developing National Land Promoting Interaction-Led Regional Revitalization: Interaction as a Source of Japan's Vitality

(1) Basic national land concept for a society plagued with full-blown population decline

In order to achieve a vigorous country where people feel affluent as described in Section 2 of Chapter 1, regions that constitute Japan's national land featuring natural, social and cultural diversity should discover and recognize their respective resources and values, and deepen them to allow local citizens to take pride in and love their communities. Each region should then improve its resources further and communicate the improved resources to other regions including other countries for their appreciation, encouraging people, goods, money and information to actively move between regions.

In order for Japan to win tough international competition, demonstrate its strong presence in the international community and sustain economic growth even under declining and aging population and global constraints, each region in Japan should widely create innovation as an engine for economic growth. Innovation here means that regions with different resources voluntarily cooperate in leading diverse and different people, goods, money and information to be moved, mixed and combined to create new mechanisms, organizations and processes to generate new value. Innovation may include a familiar case in which local farm products are combined with ICT to increase their added value and develop their sales channels. Newly generated value may then become new regional resources to bring about new moves of people, goods, money and information to produce more vigor. In this way, each region should pave the way for creating various kinds of innovation in national spatial development.

Using the word "interaction"—referring to that caused by convection emerging from temperature differences within a fluid—, this strategy basically aims to develop national land that promotes interaction-led regional revitalization by triggering the active interaction of people, goods, money and information between regions with various resources throughout Japan to create innovation.

(2) Significance and patterns of interaction

In interaction that represents active flows of people, goods, money and information that are based on various resources and bring about vigor in each region, these resources fuse to create innovation that can improve productivity. Over several decades where population will decline inevitably and over a later period where population will be stabilized at a lower level, each region and Japan as a whole will have to promote interaction to maintain vigor.

Interaction also pays attention to regional resources, leading to the maintenance and promotion of national land diversity that can improve Japan's attractions and help develop a national land accommodating various lifestyles.

Furthermore, interaction fosters mutual understanding in normal times, paving the way for mutual contributions between urban and rural regions, role-sharing between regions, and interregional collaboration and cooperation in the event of disaster. On a personal basis, interaction can help people expand their scopes of values, improve productivity and find something to live for.

The first interaction that Japan should promote is between urban and rural regions. We should promote people's flow from urban regions to rural ones and urban residents' dual habitation and working, instead of any unilateral flow of people from rural regions to urban ones. Such interaction may not only help cap the excessive concentration in Tokyo but also allow urban residents to get relief and rural residents to grasp consumer needs. In this way, interaction has the potential to generate new value by allowing people to obtain value they could not obtain otherwise. People's moves to rural regions, the diversification of lifestyles and the advancement of ICT have begun to pave the way for interaction. The second interaction Japan should promote is between rural cities. Their interaction will allow them to share roles in maintaining high level urban functions and make their respective resources clearer, leading to more active interaction. The third interaction to promote is between large metropolitan regions. Anticipating the planned opening of the Linear Chuo Shinkansen, the three large metropolitan regions should promote their interaction to develop a super-mega-region that would trigger innovation by distinguishing and integrating their resources.

The first external interaction Japan should promote is between the Tokyo region and other countries. International interaction of people, goods, money and information may further increase the Tokyo region's presence in the world. The second is between the Kansai and Nagoya large metropolitan regions and rural regions, and other countries. For example, they may positively accept international travelers and export their respective special products such as industrial products and agriculture-forestry-fishery goods to promote interaction and maintain and increase their vigor. While Japan's interaction with other countries is very important for securing Japan's economic growth, we should fully recognize differences between Japanese and other ways of thinking, practices, as well as their background cultures, histories and climates.

The proximity between regions is important for allowing their interaction to trigger innovation. If regional resources are distinguished, however, interaction may emerge between

rural regions and distant large cities as well as between Japan and other countries to generate innovation. Innovation may be produced through interaction not only between two regions having their respective resources but also between three or more regions having their respective resources.

Innovation may also be created when flows of people and goods in transportation networks are combined with those of money and information in communications networks.

Therefore, the national spatial structure to distinguish various regional resources and support various flows is required for promoting interaction-based innovation.

(3) Elements required for generating, maintaining and expanding interaction

Since various regional resources are the prime mover of interaction, more remarkable differences between regional resources make interregional interaction more dynamic. In order to generate interaction, therefore, regions must have and find their respective deep-rooted resources. Each region must distinguish its resources by brushing up and accumulating them and communicate the distinguished resources to other regions, including other countries, to attract people, goods, money and information from the outside. This is the first phase of interaction.

Resources here include unique nature, human practices or lifestyles, food and other local cultures, agriculture, forestry, fisheries and other local industries, and local products. What resources in each region could trigger interaction and how they should be brushed up may depend on needs in other regions. Since residents in each region may fail to find such regional resources, viewpoints outside the region should be utilized for finding them. We must also recognize that spatial or temporal differences, including those in living environments and the extent of aging between urban and rural regions, could become elements to trigger interaction.

In the second phase of interaction, people in a region must have ambitions to use their regional resources for creating new value and obtain information on resources in other regions so that resources in different regions may be mixed or combined to create innovation. Important in this phase may be venues (interaction bases), human resources and devices for interaction that induces innovation.

Interaction in a fluid emerges from temperature differences, promotes heat exchange, and disappears with temperature differences eliminated. In order to maintain and expand interregional interaction, therefore, each region must always have its own unique resources by finding and brushing up new resources or creating them, and by seeking cooperation with new partners. In this way, each region must always recognize its enterprising spirit and its position

in a competitive environment.

At the same time, each region must be sustainable for the maintenance and expansion of interregional interaction. In this sense, each region must retain its settlement environment by ensuring safety and security, and life service functions.

Good transportation, information and communications networks to support smooth flows of and cooperation between people, goods, money and information are required for generating, maintaining and expanding interregional interaction. But a basic requirement is a social environment where various values are recognized and respected.

Various participants in interaction are conceivable, including local governments, universities and other education and research organizations, private sector enterprises, self-employed workers and nonprofit organizations. It is efficient for these parties and financial institutions in each region to cooperate in generating, maintaining and expanding interaction voluntarily and strategically. The government may provide support for various regional parties and take various measures to pave the way for interaction to be generated, maintained and expanded throughout Japan.

For example, universities and other educational and research organizations may serve as regional resources or attractions to trigger interregional interaction and as intellectual interaction bases taking advantage of regional resources for innovation. Private enterprises in giant cities may cooperate with rural regions in triggering interregional interaction. We may have to study and implement measures for exploiting private resources for interaction and new public-private cooperation initiatives for interaction.

Each region must brush up regional resources as the prime mover of interregional interaction under its own selection policy and responsibility. In this sense, the central government will enhance local autonomy in view of the existing decentralization initiatives and continue to tackle decentralization and deregulation.

Section 2 Multi-layered, Resilient, "Compact and Networked Structure"

We will develop a compact and networked structure for national land promoting interaction-led regional revitalization. In this strategy, "compact" means integration to enhance spatial concentration, while "networked" refers to regions that are linked together. The compact and networked structure is important for adapting to a population-declining society.

(Significance of "compact," and "compact" for a new era)

Healthcare, nursing care, commerce, finance, fuel and other services to support national

livelihood in each region have been established for a certain minimum size of population. In the population-declining society, therefore, these services are feared to become unsustainable for some regions. Some measures should be taken to ensure that these services are convenient for all users including elderly people.

In order to maintain and develop sustainable regional communities during the population-declining process lasting for several decades, each region will have to voluntarily reform its structure to compactly concentrate administration, healthcare, nursing care, commerce, finance, fuel and other life-supporting service functions at certain locations for the efficient provision of these services. The concentration may allow each region to maintain these service functions, improve the convenience for living and secure human settlement environments. The compact concentration of functions required for living may also allow women to use nearby facilities for bearing and raising children more easily, contributing to mitigating the population decline.

If services are concentrated at locations where disasters are less likely, it may help to increase safety from disasters. Furthermore, the concentration of urban functions may be significant for the effective utilization of untapped urban heat that would be indispensable for realizing a low-carbon society.

The concentration in urban regions is different from that in rural regions. In urban regions, residential zones have spread to suburban areas in line with population growth. But such urban structure must be reformed in the population-declining, aged society. In addition to traditional land use regulations, new regulations are required to lead dispersed residential functions to be concentrated in urban regions. In rural regions where residences have originally been dispersed, life service functions are required to be concentrated as the population decline has made everyday life difficult. Therefore, the concentration of residential functions cannot be an essential objective in rural regions, unless such concentration is required for disaster prevention purposes or agreed on among residents.

Developing concentrations or clusters of industries related to specific areas to distinguish regional resources may be effective for promoting interaction through interregional cooperation. Creating interaction venues where various and different people, goods and kinds of money and information would be mixed and combined to create new value may also be effective for the promotion. These measures should be promoted for the compact structure in a new era.

When new network nodes including railway stations and expressway interchanges are created, they should be systematically used as compact stations.

We must take note of the facts that regional cultures and renewable energy power generation

facilities are deeply linked to their respective regions and unsuitable for compacting and that there are things that should be left dispersed for maintaining diversity or reducing disasters.

(Need for "networks," and "networks" for a new era)

Compact concentrations alone are not sufficient as a regional or spatial structure. It is important for transportation, and information and communications networks to connect compact concentrations with various service functions in residential zones. In the population-declining process lasting for several decades, the enhancement of networks to maintain population covered by service concentrations would help prevent a decline in convenience and adapt communities to the population decline.

If a region alone has difficulties in securing sufficient service functions, multiple regions may cooperate in sharing roles or tie up with those with core service functions. Regions may thus be connected with each other through networks to allow their residents to benefit from a full range of low to high-level service functions.

It is important to develop an economic cycle within a block through networks.

Networks will be required to realize national land spaces to support a society where children can be born and grown at ease. It will be an effective measure to mitigate the population decline.

Networks are indispensable for mobilizing various and different people, goods and kinds of money and information to generate innovation. The combination of "compactness" and "networks" can promote the creation of new value.

"Compactness" and "networks" are thus closely related to each other and should be tackled integrally and strategically.

The expansion of networks can secure the mobilization of people, goods, information and energy in the event of a disaster.

Regarding transportation networks, a comprehensive transportation system should be developed through the combination of road, railway, water route, air route and other transportation networks, role-sharing and cooperation between transportation modes (for realizing the best mix), and collaboration between business operators, facility managers and other stakeholders. Information and communications networks' advancement has various potentials including those allowing people to start up businesses and receive remote medical care and education even in rural regions. These potentials as well as cyber security enhancement should be taken into account in the development of these networks. It is necessary to develop transportation, information and energy networks for a new era, with ICT exploited

to achieve the maximum efficiency of network flows.

Japan must develop networks with other countries to promote the nation's interaction with them. In doing so, we should select countries or regions with which Japan should promote interaction from economic, diplomatic, cultural and other viewpoints. We should also develop such networks in a strategic manner.

(Multi-layeredness and resilience of compact and networked structure)

In order to maintain service functions required for living in the population-declining society, each region must compactly concentrate service functions at service stations in line with the hopes of local residents and connect these stations and residential zones with networks to secure a certain block population size. These functions may range from those required for everyday life to those available only at certain times, while a required block size may depend on specific service functions. Therefore, the compact and networked structure may be multi-layered.

Since national land represents infrastructure for industry, networks including other countries must be developed for industrial clusters and supply chains as well as for the abovementioned life service functions. A compact and networked structure including a large city like Tokyo is significant for developing networks for connecting industrial clusters driving the Japanese economy with overseas markets and venues for attracting people, goods, money and information from throughout the world

In some cases, the compact and networked structure may have to be considered as a wide block depending on themes such as preparations for mega disasters and the development of wide-area sightseeing routes.

Furthermore, the compact and networked structure is significant for mitigating risks by securing the dispersion and redistribution between compact concentrations of backup and other functions for preparations for mega disasters and the multi-layeredness and substitutability of networks. The concentration and redistribution of medical care, nursing care and welfare functions should be considered in line with regional characteristics and population mixes.

Japan should thus develop various sizes of service stations to achieve a compact and networked structure that should be multi-layered and resilient for the entire national land, so that regions will cooperate in allowing life service functions to provide high level urban and international business functions to create innovation, and make the national spatial structure invulnerable and resilient to disasters.

The formation of "national land promoting interaction-led regional revitalization" giving

priority to regional resources and interregional cooperation, and of the multi-layered, resilient "compact and networked structure" for national land and regions will lead to balanced national land development that will take advantage of natural, cultural, industrial and other unique regional resources and meet the future era.

Section 3 Correcting Excess Concentration in Tokyo and Positioning the Tokyo Metropolitan Region

A continuous net outflow of population from rural regions to the Tokyo metropolitan region has intensified a decline in rural young or productive population, leading to rural regions' loss of vigor. People's excessive moves to and stays in the Tokyo region should be corrected to change the flow of people. To this end, rural regions should become attractive in terms of employment and life. From this viewpoint, we will seek to develop "a country with shining rural areas."

Given that the Tokyo region still has the problem of overpopulation and anticipates emergent mega disasters, including an earthquake beneath the region, we must correct the excess concentration in Tokyo.

Furthermore, the Tokyo region is expected to see substantial growth in the elderly population in the future, indicating a great challenge of how to respond to subsequent growth in demand for medical, nursing care and welfare facilities and human resources. Particularly, we must prevent the challenge from inducing any greater net inflow of population into the Tokyo region.

The correction of excess concentration in Tokyo has become a central challenge under Japan's spatial strategy with various measures studied and implemented. Based on these measures as well as national spatial changes including the advancement of ICT technologies and lifestyle changes such as people's growing moves to rural regions, we must resolve the problem of people's excess retention in Tokyo and correct excess concentration in Tokyo by triggering interaction through the promotion of the multi-layered, resilient "compact and networked structure" where life service and unique industrial bases, or defensive, offensive bases, will be developed at various locations throughout Japan and connected through networks, as described in the previous section. With a view to mitigating the risks of disasters like the anticipated earthquake beneath Tokyo, we must take advantage of ICT development to move central government and private enterprise facilities and functions to rural regions or establish backups in these regions, and we must promote people's subsequent moves to these regions.

Meanwhile, Tokyo, which is one of the world's leading cities and serves as the engine for Japan's economic growth, must exploit ICT and other technologies to develop comfortable,

attractive business and residential environments to increase international competitiveness along with other Japanese cities and play a key role in developing "a country spreading wings globally."

To this end, we seek to create attractive rural communities by correcting excess concentration in Tokyo and to maintain and improve Tokyo's vitality by addressing overpopulation and disaster prevention challenges to realize national land that is comfortable, safe and secure.

The relocation of Diet and other buildings has been studied at the Diet as a key challenge to correct excess concentration in Tokyo, enhance the nation's response to disasters and develop a relieved environment in Tokyo, since relocation destination candidates were reported to the Diet in 1999 under the Act for Relocation of the Diet Building, etc. We will have to consider the direction of the ongoing study.

Section 4 Direction of Region-by-Region Development

Regions will voluntarily take initiatives to materialize the "compact and networked structure" in line with their respective characteristics.

(Rural regions)

In hilly and mountainous rural regions with small population sizes, life service and other functions should strategically be concentrated at small stations for their maintenance. In some of these regions, networks between central and other communities have become insufficient as the other communities have inevitably lost service functions amid the population decline and grown more dependent on the central communities. These regions should strategically implement the concentration of various functions at small stations and the development of convenient networks linking residences to these stations.

Small stations have the potential to have both a defensive function of securing human settlement environments for residents in the population-declining society and an offensive function of gathering people, goods, money and information to create new value, contributing to developing a compact structure for a new era. They will thus maintain and brush up regional natural and cultural resources, enhance rural regions' networks with urban regions and promote interaction between people, goods, money and information. They will also take maximum advantage of regional resources to build regional economic cycle mechanisms.

(Rural cities)

Since rural cities provide high level urban functions beyond small stations' life service functions and play a key role in securing employment venues, they should develop a compact city structure and networks between small stations in their vicinity and with each other.

Since urban functions located and established in rural cities are defined by local population sizes to some extent, cities with various population sizes may be layered. Rural cities with a population of less than 100,000 may provide some urban functions to residents in their vicinity including small stations. They may maintain their higher-level urban functions by developing urban regions in cooperation with neighboring cities through networks or benefit from high level urban functions that may be provided by prefectural capital cities or larger rural cities with a population of several hundreds of thousands or more.

Prefectural capital cities or rural cities with a population of several hundreds of thousands or more may provide high level urban functions, enhance the competitiveness of local industries, including those in their vicinity, and accumulate functions for their overseas expansion.

(Rural blocks)

Blocks subject to Regional Plans will deepen interaction with each other and with other East Asian regions and develop regional strategies taking maximum advantage of their respective resources to increase regional growth potential and grow more independent.

The mutual and continuous succession of these blocks will be combined with the initiative for four national axial zones[5]—the northeastern, Sea of Japan, new Pacific and western Japan national axial zones, which have been proposed to be clarified through the 21st century in the past national spatial strategy.

Central cities in these rural blocks will develop networks with rural cities to provide higher level urban functions and will accumulate block-leading growth industries to support the independence of their blocks. They will also develop networks with the large metropolitan regions, becoming bases for nationwide interaction.

In materializing the compact and networked structure irrespective of their population sizes, these cities will try to develop networks with Asian and other countries and become stations for external interaction between people, goods, money and information. Particularly, rural cities on the Sea of Japan side will promote "a compact and networked structure" that responds to the

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[5] According to the Grand Design for the 21st Century (Cabinet Decision in March 1998), the northeastern national axial zone is designed for the central highland, the northern Kanto region, the Pacific side of the Tohoku region and Hokkaido, and their vicinities, the Sea of Japan national axial zone for northern Kyushu and the Sea of Japan side of Honshu Island and Hokkaido, and their vicinity, the new Pacific national axial zone for Okinawa, central and southern Kyushu, Shikoku, the Kii Peninsula and the Ise Bay coast, and their vicinities, and the western Japan national axis zone for the Pacific belt and its vicinity.

Asia-Eurasia dynamism.

(Large metropolitan regions)

The large metropolitan regions including the Tokyo region will take the opportunity of a development pressure decline amid the population fall to promote renovation including the shortening of distances between workplaces and residences, the elimination of traffic jams, the reduction of disaster risks, the improvement of urban environments and the effective utilization of vacant houses or sites. Particularly, they will take advantage of the national strategic special zone system to accumulate industries that drive Japan's economic growth and to develop an attractive environment to attract high-level human resources from throughout the world.

Networks will be developed between areas with various resources within the large metropolitan regions and between these regions and block central cities, rural cities or other countries to proactively build a compact structure for a new era and networks for a new era to generate and expand various forms of interaction. The three large metropolitan regions, while enhancing their respective independence as interaction bases, will promote the development of a super-mega-region that would trigger innovation by further distinguishing and integrating their resources through the Linear Chuo Shinkansen.

(Symbiosis between urban and rural communities through mutual contributions)

Rural communities have multiple functions, including national land conservation as well as food supply through agricultural, forestry and fisheries. Urban communities are not separated from rural communities. But urban communities are supported by food and water produced in rural communities, by benefits from green or blue tourism and by national land conservation functions. Rural communities can sustainably develop agriculture, forestry and fisheries thanks to the presence of urban markets. Rural communities exploit their multiple functions for interaction with urban communities to create new value. In this way, urban and rural communities depend on each other and develop Japan's national land through their interaction and mutual contributions.

Meanwhile, urban and rural communities have been plagued with challenges in response to the abovementioned national spatial changes. In urban regions, particularly the large metropolitan regions, fast growth in medical care, nursing care and welfare demand through rapid population aging is feared along with an increase in disaster risks through the concentration of population and various functions. In rural regions, young people's net outflow to urban regions and the aging of population have made life difficult in some communities.

Solutions to these challenges could be found through not only separate efforts of urban and rural communities but also their cooperation based on recent developments including people's growing moves to rural regions. In this sense, urban and rural communities are required to make mutual contributions.

Urban and rural communities, instead of confronting each other, will make mutual contributions for their symbiosis and efforts to solve their respective challenges to develop the entire national land.

We may have to make plans to develop and improve the Northern Territories as part of Japan's national land. Given that they are now under special conditions, we now plan to give the basic national spatial development direction for the territories when conditions are met for doing so.

Chapter 3 Specific Direction for Realizing Basic National Land Concept

Chapter 2 has put forward a multi-layered, resilient "compact and networked structure" as a desirable picture of the national land or regional structure to realize the basic concept of national land promoting interaction-led regional revitalization. In this respect, the chapter has specified the correction of excess concentration in Tokyo as a requirement and called for improving international competitiveness of Tokyo and other regions that would play a key role in developing a country spreading wings globally.

Measures in all fields related to national spatial development will have to be mobilized to realize the basic concept. This chapter describes the main directions of these measures.

Section 1 Local Vitalization for Japan's Global Development

In the population-declining society, we must protect the lives of residents in population-declining regions to maintain a national land where we can continue to live. To this end, each region must locally shine by brushing up its attractive points, by realizing reginal revitalization, by protecting the lives of residents and by restoring growth and vitality.

At the same time, Japan must spread wings globally to maintain and improve its vitality. We must develop "a money-making national land" to support Japan's economic growth. Specifically, the large metropolitan regions as the engine for Japan's economic growth must drive the national economy to maintain and develop economic vitality, while rural industries must take advantage of their unique resources to proactively develop their business operations with a view to global expansion.

From these viewpoints, the following first provides basic directions for rural and large metropolitan regions. Each region must comprehensively resolve challenges in the three aspects of population and national livelihood, social infrastructure and systems, and industry and employment. By giving priority not only to the quantity of people, goods, money and information for interaction but also to their quality, Japan may be able to achieve both the rural revitalization and the development of the large metropolitan regions. The following later provides specific directions for Japan's expansion of global operations.

(1) Creating unique local communities

a. Picture local communities should pursue

Given that rural regions account for about 90% of Japan's national land and about 50% of its population, their future conditions may be the key to depicting Japan's future picture. Rural regions have faced Japan's economic and social environment changes such as the rapid decline

and aging of population and received their impacts faster than the other regions. We must depict a future picture of rural regions undergoing even severer environmental changes. But we must not leave rural regions to simply shrink even in the population-declining society.

Therefore, we will seek to realize regional revitalization, protect the lives of residents and restore growth and vitality to build rural communities that will (a) allow their residents to feel affluence, (b) be independent, and (c) be stable and sustainable.

(Building communities where resident can feel affluence)

First, we must consider the lives of people living in rural communities and give top priority to allowing them to feel affluence and be proud of their lives. The affluence means the following:

- Communities have vitality and stably secure income and jobs required for everyday life.
- Residents can feel livability, healthiness, brightness, warmth, safety and security.
- Residents with various values and lifestyles are allowed to achieve self-realization.
- Communities are opened to and in contact and connected with other countries, allowing residents to benefit from various new potentials.

(Building independent communities)

Communities, when being built, will be required to take advantage of their natural environments, landscapes, history, cultures, traditions, human resources, industries and technologies for brushing up and demonstrating their regional resources and strengths. Therefore, not only local governments but also local residents, enterprises and other stakeholders will have to voluntarily participate in building their communities while seeking advice from people in other regions. Since various local resources can lead to Japan's advantages, the central government will support local voluntary initiatives. As for remote islands, snowy areas, mountainous villages, peninsulas and other areas with severer geographical and natural conditions, the government will implement initiatives and assistance suitable for their respective characteristics. Through such community-building efforts, communities that are as economically and fiscally independent as possible will be realized.

(Building stable, sustainable communities)

Livelihood, towns, natural environments and cultures developed through community-building efforts should be made stable and sustainable over a long time and carried over to next generations. To this end, community-building efforts should be based on a medium

to long-term viewpoint.

b. Future local community design

It is very important for each region to exercise wisdom to structurally consider its future picture in order to protect the lives of residents and maintain vitalized communities in the population-declining, aging society. Then, each region should build a multi-layered community structure including small stations based on the "compact and networked structure" concept and realize easy-to-use transportation systems contributing to an affluent national life.

(Developing and utilizing small stations in rural regions)

In some mountainous regions that have experienced a population decline faster than other regions, it is impossible to maintain life service functions (including medical care, nursing care, welfare, shopping, public transportation, distribution, fuel supply and education) and community functions. These regions should build a compact and networked structure to restore, maintain and enhance such functions. Specifically, each region covering multiple communities, including elementary school districts, may gather life service functions and local activity bases at small stations within walking distance between blocks of residences to increase convenience for residents, and may develop community bus and other transportation networks to connect the small stations with neighboring communities to maintain life service functions.[6]

A small station may serve not only as a defensive bastion for the everyday life of residents but also as an offensive bastion for interaction between local and outside citizens through cooperation with a roadside station or the parallel establishment of a lodging facility. For example, it may become an innovation base through ICT-using collaboration among primary, secondary and tertiary industries to create jobs.

Since realistic, sustainable efforts based on local residents' needs and initiatives are important for developing small stations, local residents and non-profit organizations should take the leadership in community-building efforts while receiving help from local governments.

(Compact city formation in rural cities)

In rural cities expected to see a rapid population decline, urban population density may fall,

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[6] For an old elementary school district or any other small area with a population of several hundreds, life service functions for concentration may include retail stores for food and other everyday products, a small medical facility like a clinic, a small gas station, and other life service facilities required for the everyday life of local residents. For a municipal area with a population of several thousand before the Heisei municipal mergers, additional life services may include restaurants, a municipal government office, dental and other medical facilities, a financial institution, roadside stations and a farm stand according local needs.

making it difficult to maintain urban functions such as medical care, nursing care, welfare and commerce. To realize rural cities where residents can enjoy healthy, comfortable lives, each rural city should lead urban functions to concentrate in urban centers and other life-base areas, guide residences to the vicinity of these areas or public transportation systems and link these areas through public transportation networks to form a compact city. In this respect, each rural city should locate everyday medical care, childrearing support and home-visit nursing functions at life-base areas and general medical institutions and administrative facilities at an urban center accessible with public transportation. In this way, each rural city should locate urban functions for their efficient utilization.

The compact city formation should be promoted for multiple purposes including the development of living environments for elderly and childrearing generations, the realization of fiscally and economically sustainable city management, the shift to a low carbon city structure through effective use of heat and the building of disaster-resisting towns[7].

(Collaborative core urban areas to form vigorous economic and living zones)

In order to maintain urban functions even amid the population decline, cities and regions must collaborate in securing local population sizes meeting necessary functions. Regions and cities that can benefit from urban functions of nearby cities should promote their collaboration beyond administrative boundaries. In this respect, they should concentrate and vitalize necessary urban functions at urban centers or life base areas and take maximum advantage of transportation networks linking these areas to residential zones to form urban areas.

Urban areas of certain or greater population and economic sizes will promote the formation of "collaborative core urban areas" to drive economic growth, concentrate and enhance high level urban functions and improve life-related services. Other urban areas will promote the formation of "autonomous settlement blocks" and exploit transportation networks for cooperation with nearby large cities and other urban regions to secure higher level urban functions and enhance local economic infrastructure.

In such urban area formation, we will give consideration to historical and cultural relations between municipalities and respect their intentions. In considering future pictures of urban areas and specific collaboration initiatives, we will collect opinions from private-sector and

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[7] The compact city concept has emerged from Europe and originally been used as a city planning means to realize sustainable development in regard to global warming and other environmental problems. In Japan, however, the concept is frequently used for addressing a decline of urban centers, the aging society, the maintenance of administrative services and other challenges facing cities. In this strategy, the concept refers to a city structure that population-declining rural cities should pursue.

local stakeholders.

c. Creating attractive jobs

Active industrial operations will be a precondition for stabilizing regional life infrastructure for residents, improving the vitality of town communities and realizing further regional growth and development. This means that each region will secure stable income and employment as well as stably supply life services consumed by local residents. Furthermore, each region is expected to take advantage of regional resources for promoting external sales to earn income from outside regions.

The creation of attractive regional jobs will contribute to encouraging people to move from the Tokyo region to rural areas and provincials to gain employment in their hometowns, generating new human flows.

(Improving value-added productivity of local consumption industries)

Local consumption industries that provide local residents with services required for their everyday lives support local employment. But these industries in Japan feature lower value-added productivity than in other industrial countries and have much room for improvement. So, invigoration and productivity improvement measures should be promoted in accordance with business operations and types of major industrial categories to secure reasonable income and stable employment. Each region should seek to improve profitability and productivity of these industries through fine-tuned assistance from local financial institutions and promote their realignment and replacement to realize a favorable cycle in which local funds are locally reinvested. Furthermore, each region should explore potential demand in consideration of future structural changes in demand through the declining and aging population.

Since these initiatives are important for urban policies, each region should grasp a local service supply structure through local economic analyses and promote more compact life service functions and improved public transportation networks to raise productivity and establish service provision arrangements meeting local service demand.

It is also important to create local consumption industries for the purpose of promoting local consumption of local energy and other efforts to take maximum advantage of local resources to reduce external procurement and generate local income and employment.

(Enhancing competitiveness of export-oriented industries)

Export-oriented industries in a region earn income from other regions including other countries to drive local economic development. In the future, particularly, local industries should have global viewpoints and strategically promote the enhancement of their competitiveness, the exploitation of overseas demand and other proactive business expansion efforts to get direct links to the global economy.

Particularly, manufacturers are expected to continuously play a role in driving regional economic development. We will provide comprehensive support for global niche top companies[8] and other firms expected to expand employment and for relevant industries and promote higher added value on products, quality control and external business expansion, including exports, to take advantage of local resources for enhancing local industries' competitiveness.

Agriculture, forestry and fisheries supporting local economies can also serve as key export-oriented industries. While supporting local consumption of local produce initiatives exploiting local agricultural, forestry and fishery resources, the government will promote the advancement of agriculture, forestry and fishery products production and distribution systems through smart agriculture using ICT and robot technologies, and through AFFrinnovation (adding value to agriculture, forestry and fisheries products in an innovative way, making new combinations, or creating a value chain) to develop new products with higher added value and enhance the competitiveness of products to explore sales channels and demand in Japan and other countries. In a bid to turn forestry into a growth industry, we will promote the creation of timber demand through the diffusion of new wood products including CLT (cross laminated timber) and the establishment of a stable and efficient roundwood supply system of domestic wood products meeting demand. As for the fisheries, the government will promote cooperation among AFFrinnovation as well as initiatives for using marine resources for multiple purposes, such as tourism, to revitalize fishing communities.

In the future, tourism demand is expected to increase in Japan and other countries. Tourism is an important industrial sector that earns income for regions from the outside through additional local consumption and provides an opportunity to expand sales of local products to other regions. In this sense, we must enhance the competitiveness and value-added productivity of regional tourism as well as other regional industries. So, we will attempt to powerfully attract domestic and international tourists into each region, expand population for interaction, increase

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[8] Top niche companies have top domestic market shares for specific products. Among companies that have become niche top firms by taking advantage of their technological capacity, many develop into top global niche companies with top global market shares.

local tourism consumption and create regional jobs by taking advantage of regional resources to combine unique natural environments and landscapes of national parks and geoparks with marine resources, cultural assets, historical streetscapes, friendly rural villages, attractive food cultures and traditions to efficiently and effectively create composite attractions of goods for seeing, eating and buying.

(Creating regional innovation, developing startup-expanding towns)

In order to stably create and maintain attractive regional jobs, each region should promote its spontaneous development including the exploitation of regional innovation for creating new industries and improving the added value of existing enterprises, instead of depending on efforts to attract enterprises and plants from other regions. To this end, each region should accumulate its unique industries, knowledge, technologies and other resources as well as combine them with people, goods, money and information from other regions to induce interaction-based innovation. It is necessary for each region to enhance support arrangements for encouraging local human resources, including young people and women, to start up new businesses and existing enterprises to launch their second businesses in new areas.

To this end, local industrial, academic, administrative and financial sectors, including enterprises, universities, research organizations, governments and financial institutions, should promote the creation of intellectual interaction stations to generate interaction-based innovation and start up new businesses. In this respect, it is effective to use technology seeds at local universities and other organizations. So, we will support the employment of local and other human resources with business administration and planning capabilities for developing new products and new sales channels using regional resources and external networks. At the same time, local universities, higher professional schools, special training schools and other schools will try to implement education and research programs responding to the needs of local business operators to nurture human resources supporting local industries.

These initiatives will be promoted to increase "startup-expanding towns," where many businesses are started up.

(Dispersing business functions from Tokyo)

Given that enterprises have concentrated their head offices in the 23 special wards of Tokyo, they will have to relocate such offices out of Tokyo and expand recruitment in other regions in order to secure employment in rural regions and make Japan's economic functions more resilient.

Therefore, we will provide support for business operators to relocate or establish offices, training facilities and other head office facilities out of Tokyo. Government agencies will materialize plans to relocate offices out of Tokyo as proposed by local stakeholders to secure employment in rural regions and contribute to regional development meeting local strategies.

When enterprises establish factories in rural regions, they will give full consideration to environmental conservation while relevant local governments will proactively pave the way for accepting such facilities to secure local employment.

ICT development has enabled teleworking, cloud sourcing and other working styles free from geographical constraints. Given that the development of environments in which people can work while living in rural regions instead of any major metropolitan region can contribute to expanding rural employment growth, we will study model cases based on rural conditions and needs of enterprises, and support their working style reform while promoting the development of environments in which people can implement hometown teleworking or satellite office teleworking.

d. Promotion of human interaction and national livelihood

While a rural population decline is accelerating with population concentrating further in the Tokyo region, we must reverse the flow of people from rural regions to Tokyo to correct excess concentration in Tokyo and promote the revitalization of rural regions with unique resources. Over recent years, people have increasingly moved to rural regions to pursue rich natural and living environments, self-realization, community participation, social participation, joint working, and yearning for rural history, cultures and traditions, indicating growing life-oriented approaches. As there are indications that the time is coming for people to voluntarily select their hometowns, Japan is required to consider new hometown-building approaches.

In order to improve the vitality of Japan as a whole and enhance its growth potential, various human resources will have to interact with and develop each other to induce innovation and create new value. Therefore, we will maintain the vitality of rural regions and realize Japan's sustainable growth by correcting the geographical maldistribution of the population to achieve a balanced population distribution and by forming national land where interregional human interaction will be dynamically implemented.

(Enhancing local attractions and strengths to trigger human interaction)

Each rural region must create resources to trigger human interaction and promote the flow of people from urban regions to rural ones. Each region already has various assets such as unique

environments and landscapes, history, cultures, traditions, human resources, industries and technologies. So, each region must voluntarily review these local resources and take maximum advantage of them to brush up its strengths and attractions to attract a wide range of generations including young people. Specifically, each region should promote initiatives to use various means suitable for regional resources to attract people, including the creation and securement of attractive jobs as well as industries bringing about stable income and employment continuously, the development of attractive tourism and sport bases and unique academic and R&D bases, and the creation of good hometown landscapes and attractive spaces.

At the same time, each region should try to improve environments for medical care, nursing care, welfare, childrearing and life services to allow all people, including youths, women, elderly people and physically challenged persons to live comfortable, fulfilling lives.

(Promoting relocation to rural regions, dual habitation and dual life/working)

To promote people's relocation from urban regions to rural ones, we will expand relocation information covering life and employment and step up one-stop consulting and other support services for relocation to rural regions systematically and integrally. Under a new hometown building initiative, we will promote countryside exploration programs including those using long vacations for staying in rural regions for tourism purposes. As the elderly population is expected to increase rapidly in large cities, we will promote an initiative for "relocation with good health conditions" to realize senior people's hopes to live in rural regions.

Some people have adopted new lifestyles such as "dual habitation," and "dual life and working" to have multiple life bases to enjoy double lives, instead of relocating to rural regions. To promote "dual habitation," we step up initiatives to exploit privately owned vacant houses or public rental housing and encourage LCCs[9] to start services in Japan. To realize lifestyles in which people proactively participate in multiple local communities as bases for living and working beyond seasonal stays, we promote "trial settlement" and other initiatives. We also attempt to promote children's temporary studying on islands or in rural communities, enterprises' cooperation with rural villages for a one-village-for-one-company movement and school education programs including stays in rural villages to expand interaction between urban regions and rural villages.

(Developing environments allowing young people to live in rural regions)

Young people flow out of rural regions mainly to go to college or find jobs. Therefore, it is

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[9] LCCs, or low-cost carriers, take advantage of low-cost and frequent flights to offer lower airfares.

important to develop educational and employment environments that allow young people to continue to live in rural regions. Specifically, we promote measures for young people's settlement in rural regions, including the improvement of the attractions of rural universities and professional schools for encouraging young people's entrance into these rural schools, the exploitation of scholarship programs for promoting university students' settlement in rural regions after graduation and cooperation between rural governments and universities in creating jobs. ICT and satellite campuses may be used to allow rural university students to take courses for universities in other regions.

Furthermore, we encourage rural universities to cooperate with local governments and enterprises to nurture human resources to support the future of rural communities and settle in these communities.

(Maintaining rural livelihood)

In rural communities, mainstream industries have included primary industries in which jobs have been closely related to everyday life. Furthermore, resident workers have engaged in multiple jobs. If such combination of agricultural and other jobs is given a positive rating, people may be able to maintain lives in rural communities despite an overall population decline.

Young people move from rural communities to go to higher education institutions or to find jobs, which may make it difficult for them to maintain lives in the communities. But such migrants from rural communities may return home along with their families on weekends, and during the Obon festival and year-end holidays and engage in family business, contributing to the maintenance of life in rural villages. These people may resettle in rural communities in the future. Their resettlement in rural communities is more likely than urban residents' relocation to rural regions. Arrangements may be made for these families to continuously return to their hometown communities and resettle there later. They could be taken as broadly defined members of these communities. National spatial development should allow these families to continue to live in rural communities. In order to maintain rural community lives with limited human and financial resources amid a population decline, residents there may have to consider life maintenance measures for low-density lives, including mutual assistance and self-help as well as traditional public assistance regarding social life infrastructure.

(Taking advantage of 2020 Tokyo Olympics/Paralympics for regional revitalization)

We should lead the positive effects of the 2020 Tokyo Olympics/Paralympics to spill over

throughout Japan instead of being limited to the region hosting the event. The events may be a good opportunity for rural regions to feel familiar with other countries and turn into regions open to other countries through direct contact with international visitors.

To guide international tourists from Tokyo to rural regions and lead them to repeat visits to Japan, we will strategically promote visits to Japan, including by expanding inbound tourism supporters and informing people from other countries about local resources and attractions, and conduct environmental improvements such as the expansion of aircraft and ship access to rural regions and the promotion of railway tours. After the 2016 Rio de Janeiro Olympics, we will take advantage of cultural programs and the torch relay to inform other countries about Japanese cultures and other various attractive tourism resources of various regions to promote visits to Japan. We will also support the development of environments allowing international tourists to stay and move in Japan without stress and of tour programs meeting their needs.

Exploiting international attention paid to Japan as the host of the Olympics/Paralympics, we will take advantage of media reports in other countries, international travel fairs and tourism events to communicate local attractions such as products, technologies, special goods, cultures, traditions and social infrastructure to other countries in a bid to explore new sales channels.

(2) Developing vigorous metropolitan regions

The large metropolitan regions serve as the engine of Japan's economic growth and play roles in driving the economy to maintain and develop its vitality and in providing their high level urban functions to neighboring cities and regions. To maintain its global level competitiveness at a time when major Asian cities increase their global presence amid rapid globalization, Japan must develop attractive metropolitan regions to draw excellent human resources and investment from throughout the world.

Meanwhile, we must pay attention to the fact that the large metropolitan regions include areas that see a remarkable population decline and must go in the directions as described in (1).

a. Taking advantage of uniqueness and cooperation in metropolitan regions for creating new value
(Improving metropolitan regions as venues of creation through interaction among people from Japan and other countries, goods, money and information)

Japan's three large metropolitan regions have had their respective unique resources as described later and accumulated domestic and foreign enterprises, universities and research organizations. In the future, we will implement metropolitan development to further distinguish

their unique resources and attract excellent human resources from Japan and other countries into these regions. Specifically, we will accumulate functions and industries shaping unique resources to activate interaction among people from Japan and other countries, goods, money and information, will form good-quality office spaces through urban renovation, will advance urban transportation systems and develop intellectual interaction stations to achieve an environment in which it will be easier to generate innovation or do international business, attempting to improve the large metropolitan regions' functions as the "venue of creation."

(Making the Tokyo region a global model to win international interurban competition)

The Tokyo region is a leading metropolitan region that supports Japan's political and economic center and has accumulated various urban functions in an advanced manner. Therefore, we will take the 2020 Tokyo Olympics/Paralympics as an opportunity to promote advanced structural reform initiatives, including the world-pioneering realization of a hydrogen society and the introduction of information, communications, robots and other cutting-edge technologies, to form a large metropolitan region as a global model to enhance international competitiveness. In the run-up to the 2020 Tokyo Olympics/Paralympics, it is important for the Tokyo region to respond to anticipated large-scale disasters including an earthquake beneath the capital. We will intensively implement preparatory disaster-prevention measures and promote barrier-free buildings and transportation systems to realize a safe, secure Tokyo region. We will also further disperse functions from the Tokyo region and accumulate functions for central Tokyo and business core cities undertaking various business functions of the Tokyo region in a bid to form a balanced Tokyo region.

(Exploiting unique resources to develop Kansai and Nagoya regions)

The Kansai and Nagoya regions, as well as the Tokyo region, are required to serve as major engines of Japan's economic growth. The Kansai region features cultures, history, Asia-leading commercial functions, and the accumulation of health and medical industries developed over a long time, while the Nagoya region boasts the world's most advanced manufacturing industries, including automobile and aerospace sectors, as well as research and development functions to support the industries. We will exploit these unique resources to promote the development of these metropolitan regions.

In anticipation of the super-mega-region to be formed through the Linear Chuo Shinkansen as described later, we will further brush up their respective resources and make them more attractive to maximize the effects of the three metropolitan regions' integration, seeking to

develop these regions through interaction.

b. Developing safe, secure metropolitan regions

The large metropolitan regions will promote efforts to become invulnerable to various disasters by stepping up hard and soft disaster prevention/reduction measures for each city and for wider regions. They will also promote low-carbon cities making effective use of waste heat and other untapped energy sources and develop a symbiotic society networking water and greens.

Furthermore, the large metropolitan regions will promote environmental cleanup and conservation, crime and disaster prevention, common facility maintenance and management, and other community activities by residents of all generations, particularly volunteer and social business activities[10] as the number of vigorous elderly people increases rapidly in these regions. Therefore, these regions will develop community centers and arrangements for supporting these activities.

Anticipating that medical care, nursing care and welfare demand will expand rapidly in line with elderly population growth, the large metropolitan regions will combine urban, housing and transportation policies with medical and welfare policies to integrally promote comprehensive regional care and compact town-building measures to realize "a smart wellness city" where people of various generations including the elderly will interact with each other and live secure and healthy lives. Then, serviced housing for the elderly and stations for medical care, nursing care, health and community services will be developed with used house and housing reform markets vitalized to facilitate the relocation of elderly households according to their life stages.

c. Developing an environment in which people have and raise children securely

Given that birthrates in the large metropolitan regions are lower than in other regions, the metropolitan regions must develop an environment in which people have and grow children securely with the work-childcare balance achieved.

To this end, the large metropolitan regions will promote quality housing supply and childcare center development at city centers or living bases. They will also develop safe, comfortable roads and parks as well as barrier-free public spaces to create an environment where childrearing people can live safe, secure lives. In addition, they will form community stations

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[10] Social business activities mean that various parties including residents, non-profit organizations and enterprises cooperate in using business methods to resolve various local social challenges including environmental protection, nursing care and welfare, childrearing support, town-building and tourisms.

for interaction between multiple generations, diffuse three generations living together or close to each other, spread teleworking and secure a work-life balance to reduce childrearing burdens.

(3) Expanding global operations

In order to enhance the Japanese economy's growth potential amid the economic globalization, Japanese enterprises and people must have connections with overseas economies to absorb the growth potential of their overseas counterparts. To this end, Japanese enterprises and people should enhance their functions as the gateway to East Asian and other countries by making such achievements as the creation of innovative technology seeds and develop an attractive business environment for enterprises operating at home and abroad. Particularly, rural regions must secure human resources who can operate globally.

At the same time, Japan should promote the creation of the so-called super-mega-region attracting people, goods, money and information from throughout the world, in anticipation of the Linear Chuo Shinkansen planned to link Japan's three large metropolitan regions. Furthermore, Japan should increase population for tourism-based interaction, and students from other countries and businesspersons staying in Japan.

Through these initiatives, Japan will create national land meeting the globalization.

a. Expanding operations globally to enhance growth potential
(Enhancing Japanese enterprises' international competitiveness)

Japanese enterprises operating globally must boldly select and concentrate businesses and realize the sustainable expansion of enterprise value to win fierce international competition. Financial institutions must provide risk money and step up advisory functions in consideration of lending target enterprises. Local financial institutions must exercise their discerning capabilities and consulting functions and use experts to provide fine-tuned assistance to small and medium-sized enterprises and micro business operators.

Global enterprises exposed to a cost-cutting race, small and medium-sized manufacturers with aging workers, medical care, nursing care and welfare service providers, farming and construction sectors plagued with human resources shortages and distributors should use robots and ICT to improve their productivity. Manufacturers should shift to smart factory systems (efficient production systems using ICT) to maintain domestic mother factories with product development functions and secure the advantage of their production bases. Given that robot technologies have been increasingly used to support severe work and simple tasks not only on

production lines in factories but also in the medical care, nursing care, welfare, farming and distribution sectors, Japan should take advantage of robot technology development to revolutionarily advance livelihoods and industry.

(Enhancing Japan's technological capabilities)

To lead the world in technological capabilities, Japan must develop systems to sustainably create and smoothly commercialize innovative technology seeds in advanced technology fields. Under a national strategy, therefore, we will build cooperation arrangements beyond borders between administrative and other organizations to create world-leading industry-academia-government interaction stations where industry, academia and government people will interact for innovation. These stations will enhance human resources development for knowledge innovation.

We will also try to enhance various forms of competitive basic research for finding technology seeds, bridging functions for commercializing innovative technology seeds and interregional cooperation between industrial clusters to promote open innovation in which enterprises will escape from closed or self-contained technology development styles and pursue flexible innovation.

In implementing these initiatives, we will promote the development of an environment to make innovation easier from the viewpoint of town-building.

(Inducing new growth industries)

As Japan pursues growth through open innovation, the government will play a role in inducing new growth industries. We will proceed with initiatives for Japan to lead the world in fields where it has comparative advantages with global demand expected to grow, including the development of basic technologies for a hydrogen society, the construction of hydrogen stations and other relevant infrastructure, medical/nursing care and welfare, smart factories, and the exploitation of ICT and robot technologies for farming and other areas.

b. Developing a business environment to attract foreign investment

If a region is to attract investment from other regions and countries, the region may need to have attractive Japanese partner enterprises, technologies and markets as noted earlier and develop one of the world's best business environments based on the needs of foreign companies. Therefore, we will take advantage of the national strategic special zone system to create success stories and spread them throughout Japan toward the realization of impactful bold regulatory

reforms.

In a bid to reduce business costs, we will steadily promote electricity and gas system reforms for the full deregulation of retail to realize low-cost, stable energy supply.

To allow global companies to efficiently promote business deals with overseas bases and trading partners, we will realize comfortable access from international airports to urban centers, develop urban centers with advanced business infrastructure including urban transportation and communications networks, and streamline and advance transportation networks with logistic facilities developed, realizing an environment where people, goods and ideas flow smoothly. In this respect, we will try to make effective use of wide-area transportation networks, including beltways being developed in large metropolitan regions, for promoting interaction between the large metropolitan regions and neighboring regions.

We will also promote the development of intellectual interaction stations for matching between various people, goods and ideas, encouraging enterprises and people from Japan and other countries to create value through dynamic interaction.

Furthermore, we will try to enhance medical care, welfare, education, amusement and other services to provide an environment in which value-creating high-level human resources, including those from overseas, can live and do business without stress.

c. Enhancing promotion of global interaction
(Enhancing airport functions to expand air networks)

We will enhance the functions of Japan's four major airports— Haneda, Narita, Chubu and Kansai—to build international and domestic air markets and various air networks integrating these markets.

Through the diffusion of low-cost business models including low-cost carriers that are expected to grow rapidly, we will lower air fares, increase direct flights between domestic regions and between Japanese regions and other countries as well as absorb demand for flight connections to promote air travel.

(Building internationally competitive logistics networks)

Cargo traffic on Arctic Sea routes as an alternative international trade channel has been increasing. A project to expand the Panama Canal again is ongoing. Ships are growing in size. As indicated by these developments, the logistics structure is expected to dramatically change on a global scale, forcing us to build a strategy meeting the structural changes.

To improve the business location environment to enhance the international competitiveness

of Japanese industry, we will promote the enhancement of international logistics networks including strategic international container or bulk ports as cores. We will also try to expand logistics networks through the improvement of port functions contributing to enhancing the competitiveness of key regional industries. Furthermore, we must promote initiatives to improve wide-area distribution efficiency, including the enhancement of distribution networks such as beltways in the three large metropolitan regions.

(Enhancing gateway functions to absorb Asia-Eurasia dynamism and developing a national land exploiting the Sea of Japan and Pacific sides)

Against the backdrop of growing economic operations in East Asian countries and Russia, Kyushu and the Sea of Japan coast regions are expanding international trade. The Sea of Japan coast regions are also being increasingly used for energy development. Given the rapid economic growth in East Asian countries, including Southeast Asian nations, and the establishment of production networks for the whole of East Asia, we will particularly have to further facilitate interaction. With a view to absorbing Asia-Eurasia dynamism, therefore, we will have to enhance gateway functions of Kyushu and the Sea of Japan side and consider how to promote their interaction and cooperation.

After the Great East Japan Earthquake, it was reaffirmed that Japan should enhance cooperation between its Sea of Japan and Pacific sides to exploit both sides with multi-layered and substitutable networks secured to ensure the resilience of its national land as a whole. Developing such national spatial structure may contribute to improving the safety of the Sea of Japan side as well as the Pacific side.

Since it is growing important to exploit the Sea of Japan side as well as the Pacific side where functions are concentrated, we will try to enhance functions of the Sea of Japan side and steadily develop Shinkansen bullet train lines and road networks between the two sides to fully exploit both sides for enhancing Japan's links to the world.

d. Developing a super-mega-region through the Linear Chuo Shinkansen railway

The Linear Chuo Shinkansen development is a national-perspective-based project expected to combine the main western and eastern arteries of Japan into a dual system, integrate the three large metropolitan regions and revitalize other regions to greatly reform the national spatial structure. The central and relevant local governments will cooperate and collaborate with to the project's undertaker, Central Japan Railway Co., for its steady progress in the construction of the ultra-high-speed railway line.

The Linear Chuo Shinkansen will reduce a trip from Tokyo to Osaka to about one hour—similar to intra-city travel—, allowing the three large metropolitan regions to integrate into a super-mega-region and attract people, goods, money and information from throughout the world and lead the world, while exercising their respective roles and sharing the four major international airports and two strategic international container ports. Specifically, world-leading international functions in the Tokyo region, world-leading manufacturing and relevant research and development functions in the Nagoya region, and cultures, history, commercial functions, and health and medical industries developed over a long time in the Kansai region will interact and fuse with each other in a manner to meet the new era to create new value in wide-ranging areas.

Tsukuba Science City hosts various research organizations of the central government, incorporated administrative agencies and private enterprises, whereas Kansai Science City covers universities, research institutes and small and medium-sized enterprises that possess their own unique technologies. They will join universities and research organizations located along the Linear Chuo Shinkansen in enhancing their cooperation and expand their knowledge links, leading people, goods and information in and outside the super-mega-region to deepen cooperation to create high-level value.

Regions that have no easy access to large cities may use stations along the Linear Chuo Shinkansen line to obtain such access and activate interaction with large cities, resulting in dual habitation and other new lifestyles linking urban lives to natural environments and business locations in a vast wilderness.

Connections between the Linear Chuo Shinkansen and other transportation networks will have to be enhanced to expand all transportation networks in order to spread super-mega-region effects throughout Japan. For example, Kyushu's Asian Gateway functions may cooperate with the super-mega-region to produce synergetic effects.

(Super-mega-region development initiative)

The Linear Chuo Shinkansen's opening, coming after the National Spatial Strategy period, is expected to bring about great national spatial structure reforms, including the formation of the super-mega-region. It may not be easy to accurately anticipate what new value will be created through these reforms and their impacts on Japan's society and economy. However, in order to spread their effects throughout Japan and maximize them, we will widely gather wisdom to consider the super-mega-region development initiative in a broad-based, cross-sectoral manner.

e. Expanding tourism-oriented country campaigns
(Promoting strategic initiatives covering a long term including 2020 as a pass point)

As we enter an age for great interaction mainly in Asia, tourism is a pillar of Japan's policy to realize a powerful economy. Particularly, population-declining regions must proactively attract domestic and international tourists to increase population for interaction to revitalize their local economies.

Given that international tourism demand will increase in line with economic growth in Asian and other emerging countries, we will make strategic efforts to enhance the "Visit Japan" campaign, develop better accommodation environments and create regional attractions to achieve a target number of international travelers to Japan over a long term through 2025, seeing 2020 as a pass point.

(Strategic "Visit Japan" campaign enhancement)

While travelers to Japan have rapidly increased in number, supporting the Japanese economy, their destinations have concentrated in Tokyo and popular tourist routes, with rural regions failing to benefit from the increase. As visits to Japan have also concentrated in spring cherry blossom and summer seasons, it is important to create and maintain more seasons for visiting Japan.

Therefore, we will enhance the Visit Japan campaign to guide international travelers into rural regions by proactively informing people in other countries about rural attractions through the "Visit Japan" promotion and the development of wide-area tour routes following the start of LCC and chartered flights to and from rural airports. Attractions of ski resorts should be communicated to people overseas in an effort to stimulate tourism demand in the snowy season, when tourism demand is usually limited.

(Developing international tourist accommodation environments)

In order to boost the number of international tourists visiting Japan to 20 million by 2020 and to an even higher level later, we must thoroughly eliminate inconveniences, obstacles and fears for international tourists and further increase the degree of their satisfaction. So, we will improve and enhance multi-language services including the development and diffusion of multi-language translation systems, increase the convenience of secondary transportation and parcel delivery services, improve communications, payment clearance and shopping environments, and Muslim tourists' eating and worship environments, develop customs, immigration and quarantine arrangements at airports and seaports, and secure international

tourists' safety. We will ensure and enhance these and other initiatives to develop environments for international tourists' comfortable and safe moves and stays in Japan through their eyes in all aspects. We will also accelerate the development of environments for accepting port calls by cruise ships (to facilitate existing port facilities' acceptance of cruise ships in response to an increase in port calls by cruise ships and their greater sizes), promoting Japan tours using cruise ships that take a great number of international tourists to rural regions for regional vitalization.

In accommodating the rapidly increasing number of international tourists, we must carefully check supply and demand as well as take appropriate measures to prevent the capacity of aircraft, buses and other transportation systems and lodging facilities from falling short of meeting demand.

(Developing world-class attractive tourist resorts)

To call world attention to Japan's rich tourism resources, local residents and governments must explore local natural environments, landscapes, history, traditions and other unique attractions as tourism resources through non-Japanese eyes and brush them up as Japanese brands to link their regions into lines and clusters and strongly communicate Japanese attractions to the rest of the world. In this way, they must create and communicate "global values of local attractions" in a bid to develop tourism resorts to be selected by people from overseas.

Then, each region must have a voluntary strategy to attract international tourists in collaboration with the central government's overall strategy while analyzing its appeals to each market and considering specific markets for further campaigns.

Tourist resorts that attract many international tourists and are prosperous and vigorous may become attractive destinations for Japanese as well. By developing world-class tourist resorts, regions can realize vigorous areas where Japanese and international tourists visit.

Considering the above, central and local governments and private sector business operators should share roles to promote initiatives that will improve communication capacity through interregional cooperation, develop wide-area sightseeing routes, brush up world-class local resources, create mechanisms for visitors experiencing local attractions and improve local landscapes.

(Attracting and hosting MICE and drawing in businesspeople from overseas)

Attracting and hosting MICE (meetings, incentive tours, conferences and exhibitions) allow Japanese people to take advantage of participation in international conferences, business

seminars and other events to communicate the attractions of Japanese cities as international business and innovation bases to people overseas, contributing to drawing foreign direct investment and business functions. So, Japan has been making efforts to build national arrangements to attract MICE, leading to the hosting of multiple large international conferences with thousands of participants in recent years. These efforts have contributed to enhancing Japanese cities' international competitiveness.

In a bid to absorb growing business demand mainly in Asian countries in the future, we will enhance efforts to attract and host MICE events and thoroughly develop environments in which businesspeople from overseas would visit, stay and do business more easily.

Section 2 National Land Management and Infrastructure to Support Safety/Security and Economic Growth

(1) Developing national land resilient and flexible to disasters

Safety is infrastructure for all activities. For pursuing "a country where people can feel safe and affluent," disaster prevention and reduction, and national resilience enhancement are part of the most important initiatives. Urgent initiatives are required to protect people's lives and everyday lifestyles as concerns exist about the imminence of Tokyo epicentral and Southern Trough earthquakes described as having a 70% chance to occur in 30 years, as well as about frequent wind and flood damage, and sediment disasters that accompany more local, intense or severe rainfall. Therefore, we will promote "the mainstreaming of disaster risk reduction" into all policies. In national spatial development, the central government will cooperate with local governments and all other organizations to develop national land that protects human lives from disasters, prevents disasters from fatally damaging the economy and society, promptly recovers from disasters, and is tough against and resilient to disasters.

(Promoting appropriate policy mix and efficient measures)

Given that disasters could cause unexpected events, we will appropriately mix hard and soft measures and prioritize measures in promoting disaster prevention and reduction measures. In this respect, it is important to try to make effective use of existing social capital and positive use of private sector funds to promote efficient measures. It is also important to devise ways to make measures available for effective use not only in the event of disaster but also in peacetime. In order to forestall disasters, we should appropriately conserve and manage farmland and manage and protect forests so that farmland and forests appropriately work to conserve national land. In regions vulnerable to disasters, land use restrictions and other measures to secure land

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uses based on disaster risks should be taken with consideration given to the characteristics of disasters and the intentions of residents.

As ICT, energy systems and transportation infrastructure are important not only for disaster prevention and reduction but also for economic growth, a compound viewpoint is required to integrally promote disaster prevention and reduction, and the economic growth strategy. In order to maintain Japan's economic and social activities and secure prompt restoration and reconstruction in the event of disaster, not only the central and local governments but also individual private enterprises should take business continuation initiatives including the creation of business continuation plans and preparations for restoration and reconstruction. These initiatives can be used for not only natural disasters but also for other risks including accidents. Since capacity development for risk management in the public or private sector can contribute to improving the international credibility of Japan's economy and society and international anti-disaster measures, Japan should promote these efforts and communicate them to the rest of the world.

(Strong promotion of urban disaster prevention and reduction measures)

In the metropolitan areas where population and various functions concentrate, greater vulnerability to disasters comes in exchange for greater convenience or efficiency. Therefore, we will promote river flood prevention and anti-flood measures using sewage systems in dealing with urban flood disasters hitting underground malls and subways. We will also step up measures against floods caused by high tide water amid a typhoon or by the destruction of banks or flood gates amid an earthquake at below-sea-level areas where urban functions concentrate. Other initiatives to improve urban safety should be strongly promoted, including the enhancement of earthquake resistance for housing and other buildings likely to collapse in the event of an earthquake, the improvement of dense urban centers vulnerable to large-scale fires and the accommodation of people unable to return home in the event of disaster.

As even urban areas are required to prepare for sediment disasters and large tsunami, initiatives should be enhanced to develop relevant facilities and warning and evacuation arrangements.

(Securing multi-layeredness and substitutability of various functions and networks to build national spatial structure invulnerable to disasters)

The Great East Japan Earthquake brought about the loss of municipal central management functions for disaster response, delayed responses due to transportation, energy and other

lifeline destruction, and economic damage expansion through supply chain destruction, exposing the invulnerability of Japanese economic and social systems to mega-disasters. In order to minimize damage from the anticipated Tokyo epicentral and Southern Trough earthquakes and secure prompt restoration and reconstruction, we will give top priority to protecting human lives and attempt to disperse population and functions concentrating in the Tokyo region. We will also promote the development of backup arrangements for Tokyo's capital and core management functions

We will have to improve lifeline infrastructure's resistance to disasters and enhance transportation nodes to secure the multi-layeredness and substitutability of transportation, energy and other lifeline networks to prevent such key infrastructure from being lost even in the event of a mega-disaster. Particularly, the elimination of missing links of road networks and other measures will be taken to secure substitute transportation routes for the main western and eastern arteries supporting Japan's economy and society as well as to enhance cooperation between the Sea of Japan and Pacific sides of Japan to ensure the multi-layeredness and substitutability of the national land framework.

As it is important for both the public and private sectors to step up these initiatives, we will promote public-private cooperation in energy storage and other measures, and private enterprises' measures using market and financial functions.

(Enhancing self-help and mutual assistance, and public assistance supporting them)

Basic local disaster prevention and reduction measures include residents' decisions and actions to protect themselves. Therefore, we must enhance residents' self-help efforts to think and appropriately act on their own while recognizing local disaster risks and using information provided by administrative agencies. We must also spread mutual assistance between residents and within local communities. In this respect, disaster prevention education and exercises should be expanded to keep citizens conscious of disasters and improve their knowledge.

To support self-help and mutual assistance, the administrative sector must try to accurately assess and publish disaster risks and provide easy-to-understand information in the event of disaster through the use of ICT systems.

(Promoting initiatives to reconstruct areas destroyed by the Great East Japan Earthquake and rehabilitate Fukushima)

We will proceed with the reconstruction of areas destroyed by the Great East Japan Earthquake as rapidly as possible. We will take various measures for restoring or developing

coastal banks and reconstruction roads, for reconstructing housing and towns, for revitalizing industry and occupations and for supporting disaster-affected people (in health and life fields) to accelerate the reconstruction. To speed up Fukushima's reconstruction and restoration from the nuclear disaster, we will promote measures to support citizens' early return to their original homes and their new lives.

(2) Managing national land appropriately to develop safe, secure and sustainable national land

Japan is endowed with a varied, rich natural environment while being vulnerable to natural disasters such as earthquakes and typhoons. Under such natural conditions, relations between humans and nature, and national land supporting them have been developed. In the course of the development, the wisdom to sustainably benefit from natural blessings and secure safe life while avoiding natural threats has been generated and incorporated into production and lifestyles to create unique resources as regional cultures for succession. The present diverse national land has resulted from our ancestors' efforts. To pass on this national land to coming generations, Japanese people must live in various regions such as cities and rural areas and look for ways to deal with nature in response to changes of the times to shape safe, secure and sustainable national land.

a. Appropriate national land management and effective land utilization

Dilapidated farmland and unmanaged forests in rural areas are feared to affect not only the stable food supply but also these areas' multifunctional roles, including national land conservation, water recharge and conservation of biodiversity. In urban regions, unused land and vacant houses are feared to increase further as land demand declines.

In order to pass on the rich national land to the coming generations, we must devise sustainable national land management measures based on the utilization of farmland and forests as well as develop national spatial information to promote the effective utilization of land as infrastructure for various operations.

(Securing farmland indispensable for stable food supply and managing them favorably for multifunctional roles)

As farmland is production infrastructure for food to support national life, the government will secure prime farmland indispensable for stable food supply. In this effort, the government will improve the efficiency of farm management by business farmers by promoting the

consolidation of farmland for business farmers through the expansion of farmland compartments and the services of the Public Corporations for Farmland Consolidation to Core Farmers through Renting and Subleasing (Farmland Banks). The government will support the management of water channels (concentrated for business farmers) on a community basis. In hilly, mountainous areas and other areas with disadvantageous conditions, the government will promote systematic farmland management on a community basis, new farming styles such as commutation-based farming in which farmland is managed by business farmers from other areas, and regional cooperation through interaction exchanges between urban and rural areas.

By realizing rural area promotion through the sustainable agricultural development under these initiatives, the government will secure business farmers and their farmland toward the future and sustain the desirable management of farmland to perform rural areas' multifunctional roles, including conservation of national land.

(Managing and conserving forests playing key roles in conserving national land and recharging water)

Forests, which account for about 70% of Japan's national land, have multiple functions ranging from the supply of wood as a renewable resource to national land conservation, with watershed conservation, rich natural environment conservation and mitigation of global warming, playing key roles. However, Japan's forestry and wood products industry have plunged into a severe situation as wood prices have fallen over a long time with forestry income following a downward trend. Some forests are thus left unmanaged adequately. At a time when forests planted after World War II a have begun to reach maturity and become ready for harvest, the public and private sectors must be united to take this opportunity to implement the circular utilization of forest resources and the necessary management and conservation of forests to allow them to continue fulfilling their multiple functions over the future.

Therefore, we will implement forest management steadily and make efforts to expand demand for domestic wood by promoting the construction of medium and large scale wooden buildings in urban regions through the development and commercialization of new products and technologies such as CLT (cross laminated timber) and wooden fireproof materials and by stepping up the utilization of woody biomass, as well as to establish a stable and efficient roundwood supply system.

(Maintaining or recovering sound water cycles)

Water has provided massive benefits to various ecosystems including humans, hydrated

human life through its cycle, and played key roles in industrial and cultural development.

But population's concentration in urban regions, industrial structure changes, climate change accompanying global warming, and other factors have led to changes in water cycles, causing various remarkable problems, including drought, flood, water pollution and adverse effects on ecosystems.

Therefore, we need to promote comprehensive measures to maintain or recover sound water cycles, including stakeholders' cooperation in comprehensive and integrated river management, sustainable conservation and utilization of groundwater, stable supply of safe, tasty water, responses to global warming, responses to critical drought and water environment improvement.

(Promoting effective land utilization)

In cities where the land utilization density has declined due to the population decline, urban centers must be made more compact to prevent any further density fall resulting from suburban development. In urban centers, the effective utilization of unused land and vacant houses should be promoted to improve regional value. In regions where new land utilization measures are required, they should be implemented appropriately with consideration given to convenience, natural environments and other regional conditions.

While the development of cadastral data for clarifying land ownership borders is indispensable for facilitating land transactions, private land development and national infrastructure arrangements, and for accelerating disaster prevention, post-disaster restoration and reconstruction, as well as for providing the base for national land utilization, the cadastral survey progress rate (at the end of FY2014) is limited to 51% in Japan—24% in urban regions and 44% in rural regions. In preparation for the anticipated Southern Trough earthquake, sediment disasters and other disasters in the future, we will further clarify priority survey targets, including cities where population and functions concentrate. For rural regions where cadastral data have rapidly been lost, we will consider efficient cadastral survey methods.

As a demographic shift to urban regions makes progress, land whose owners are difficult to find will increase further, mainly in rural regions. Therefore, we will consider how to find landowners and how to deal with the utilization of land whose owners are unknown.

(Conserving, creating and utilizing beautiful landscapes and attractive spaces)

Japan's good landscapes have been formed as regional nature, history and cultures have been integrated with relevant living practices and production operations. As Japan enters a mature

society, the present generations are significantly responsible for conserving, revitalizing, creating and passing on to coming generations national land of beautiful picturesque scenery and attractive spaces in rural regions and large cities. Therefore, we will promote land uses harmonizing human activities with nature, support for conserving beautiful rural villages, communities and homestead woodlands and for forming townscapes, the creation of attractive waterfronts and the elimination of power poles. As good landscapes are indispensable for a rich life environment and play great roles in increasing the appeal of regions and promoting tourism and interregional interaction, their conservation, creation and utilization should be promoted to revitalize regions with unique resources.

b. Developing sustainable national land harmonized with the environment

While global population and economic expansion is feared to cause a tighter supply-demand balance and higher prices for food, energy and natural resources imports, on which Japan heavily depends, growing environmental loads, including biodiversity losses, and other problems are emerging in Japan. Against such backdrop, we must comprehensively promote initiatives for building a symbiotic society, a recycling-oriented society and a low-carbon society to develop national land infrastructure for sustainable human lives and economic operations harmonized with the environment.

(Securing biodiversity and conserving, restoring and utilizing the natural environment)

Biodiversity losses in Japan have affected all ecosystems and are expected to spread further due to the continued effects of past development and modification and the reduced utilization and management of *satoyama* village forests. Such biodiversity losses will exert major adverse effects on the stable food supply, water recharging, national land conservation and other ecosystem services (natural blessings) that support human lives. They will also lead to reduced appeal of regions.

Therefore, we will promote the conservation and restoration of natural environments and the formation of ecosystem networks linking forests, villages, rivers and seas mainly in regions that have natural environments worthy of conservation and excellent natural conditions. We will also step up environmental education using forests, rivers, seas, parks and other fields, the creation of jobs through tourism and products taking advantage of natural parks and other natural resources as well as rich green environments in rural areas, and interaction between cities and rural areas through economic cycles, in a bid to penetrate biodiversity into society.

In urban regions, we will promote initiatives for conserving and restoring natural

environments and for maintaining and creating attractive spaces, including regional communities' united efforts to create nature-rich rivers and manage green spaces, based on the characteristics of regional ecosystems.

Furthermore, we will promote green infrastructure initiatives to take advantage of natural environments' various functions (providing habitats, forming good landscapes, restricting temperature rises, etc.) in both hard and soft aspects of social capital development and land utilization for creating sustainable, attractive national land or regions.

(Securing stable regional supply of food, energy and resources)

While Japan is making progress in transition to a recycling-oriented society in terms of material cycles, we plan to promote further efforts for the 2Rs (reduction and reuse[11]) and the recovery of useful resources from waste, which have lagged behind recycling.

In order to secure food and energy supply for disaster-affected areas in the event of large-scale disaster and prepare for global food and energy crises, Japan must try to secure a stable supply of resources from abroad and build systems to secure food and energy supply for each region to some extent. Therefore, we will seek to build independent, diverse regional communities that will have distributed power sources and sustainably use regional resources through their own production, consumption and recycling of such resources as much as possible.

Furthermore, we will promote the comprehensive management of energy supply and demand using ICT systems, the diffusion of distributed energy sources including cogeneration systems and the spread of renewable energy sources including solar photovoltaics, wind, hydro, geothermal energy and biomass. Given that any region cannot be completely self-sufficient in resources and energy, regions must establish sound interregional supply and demand relations including daily interaction.

(Global environmental responses including global warming mitigation and adaptation initiatives)

As the global warming problem has globally been growing more serious, Japan has seen a wide range of adverse effects of global warming, including not only changes in wind, flood and sediment disasters but also the qualitative deterioration of agriculture, forestry and fisheries products, the increased incidence of heat stroke and a decline in coral reefs. Therefore, we will

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[11] "Reduction" means reducing waste and is given greater priority than "reuse" or "recycling." "Reuse" means using used products, parts or containers again.

promote initiatives to reduce greenhouse gas emissions causing global warming and secure the absorption of GHGs through forest management and other measures using forests as GHG sinks. We will also step up initiatives based on a comprehensive global warming adaptation program to rebuild an economic and social system where the effects of global warming are taken into account.

c. Conserving and utilizing marine waters

(Conserving marine interests and promoting marine resources utilization including marine resources and marine renewable energy resources development)

Japan's territorial waters and exclusive economic zone are rich with fishery, energy and mineral resources. Therefore, the government will be untied to comprehensively and systematically promote the conservation of marine interests, the development of marine resources and marine renewable energy resources such as offshore wind power, and the research and development of technologies for marine environment conservation under a basic plan for marine measures. The government will also promote the development of marine information as the base for the above efforts.

(Conserving and restoring natural environments integrated with onshore areas)

Natural environments have deteriorated in some lakes, reservoirs, bays and other closed waters as well as coastal zones such as tidelands and beaches. Given that nutrient salts and sediments indispensable for the growth of marine biological resources are provided through rivers from mountains, we will integrally consider mountain, forest, village, river and marine environments and sediment moves as well as promote the conservation and restoration of tidelands, beaches and other natural marine environments integrated with onshore areas.

(Appropriate conservation and management of remote islands and initiatives for sustainable settlement on manned remote islands)

Remote islands play key roles in conserving or utilizing Japan's territories and exclusive economic zone, marine resources and natural environments. We will promote initiatives to appropriately manage remote islands and enable sustainable settlement on manned islands under the recognition that people should continue to live on manned remote islands serving as the base for conserving marine interests.

(Protecting territorial lands and waters)

In order to utilize seawaters while appropriately conserving marine interests and attempting to conserve and restore marine environments, we will promote initiatives to protect territorial lands and waters.

d. National land management with citizens' participation

It is expected to become difficult to invest the same labor and costs in managing all land as in the past as the population decline and fiscal constraints continue. Since land abandoned after artificial management is likely to deteriorate instead of returning to nature, it will become important to promote initiatives to prevent that from happening.

(National land management promoting measures to produce compound effects)

Appropriate national land management may promote humans' harmony with nature and disaster prevention and reduction through the conservation of national land and biodiversity as well as the maintenance or restoration of sound water cycles and effectively support the development of sustainable local communities through these efforts. It is important to proactively promote measures bringing about such compound effects to continue appropriate national land management even under the population decline.

For example, the restoration of wetlands accompanying the development of flood control basins has realized disaster prevention and reduction harmonized with nature. The appropriate management and conservation of forests have worked to conserve national land, conserve the watershed and form good landscapes, contributing to sustainable national land resources management and affluent regional livelihood. Disaster risk information should proactively be provided to induce life services and residences to unused land with less disaster risks and offer an opportunity to reconstruct public facilities for their relocation to such land. Such initiatives to harmonize effective land utilization with disaster prevention and reduction are important.

(Taking the development pressure drop accompanying population decline as an opportunity for selective national land utilization)

The drop in development pressure through the population decline and industrial structure changes can be taken as an opportunity to widen the range of national land utilization options and form national land that is safer and more comfortable and sustainable. For example, through compact city policies, the main areas of cities can be more convenient. In hilly and mountainous regions where appropriate spatial management is difficult due to declining and aging population, we will use deteriorated farmland and other land for new purposes, including

afforestation for new production, the restoration of natural environments such as lost wetlands, and the creation of habitats for rare wildlife, attempting to create beautiful landscapes and secure biodiversity. On land with high disaster risks, we will restrict land utilization in line with such risks to improve local safety, while considering local conditions.

While considering local and land conditions, we will select and promote optimum initiatives to prevent national land from deteriorating and use them to the advantage of people by devising ways to reduce management costs and finding new ways to utilize them.

(National land management by various actors)

These initiatives will be realized as advocated and agreed regionally with regional natural, historical, cultural and economic environments taken into account. Therefore, it is important for various regional actors such as local residents and governments to consider how to utilize regional land for the establishment of regional visions. Based on such regional initiatives, the central government will provide information for disaster prevention, environmental conservation and national spatial management and cooperate with prefectural governments in making coordination from a wider-area viewpoint to support these initiatives.

Participants in national land management in some rural regions are diversified to include immigrants and urban residents from other regions, enterprises and nonprofit organizations as well as local residents, indicating that such diversification should be promoted further to realize appropriate national land management in the population-declining society. Therefore, we will combine regional initiatives as the base with public management according to multi-faceted national land values and encourage various actors to participate, such as urban residents who benefit from water, agriculture, forestry, fisheries and other national land resources. In this respect, we will encourage various actors to participate not only in direct spatial management including farmland conservation and forest development but also in other initiatives including regional product consumption, green and blue tourism programs, and donations and investment contributing to national spatial management.

In the population-declining society, it is becoming more important to promote national land management in which each citizen has interests and participates (national land management by citizens).

(3) Maintaining, developing and utilizing national land infrastructure

Roads, airports, seaports and other social capital, energy infrastructure, and information and communications infrastructure constitute national land infrastructure. The national land

infrastructure that our ancestors have accumulated with their wisdom and efforts under severe national land conditions in Japan is the infrastructure for today's economic and social operations and daily life.

In order to build a vigorous country as national land surroundings greatly change, we must appropriately maintain, manage and wisely use national infrastructure developed so far to allow its functions to be fully exercised and must enhance any shortfall. For future generations, we must sustain this initiative and make strategic efforts to maximize the effects (stock effects) of existing infrastructure's functions.

a. Stable/sustainable promotion of national land infrastructure arrangements
(Social capital development under thorough selection and concentration based on severe fiscal conditions)

In future social capital development, we will have to proceed with necessary development including the elimination of missing links in road networks and the enhancement of transportation nodes and systematically promote any development projects responding to the rapid aging of infrastructure, intensifying meteorological disasters, approaching large earthquakes, rural exhaustion under the population decline and fiercer international competition, while attempting to make effective use of existing stock and implementing thorough selection and concentration.

To maintain Japan as a safe, secure country, we will attempt to promote safe, secure infrastructure development, reduce disaster risks and protect people's lives and assets to generate economic growth in normal times.

To make Japan a country where people can feel affluence through the maintenance and improvement of life quality, we will promote the improvement of life infrastructure functions and reform regional structure to sustainably and efficiently provide life services meeting changes in local needs under population declining and aging.

Furthermore, to make Japan a country that will continue economic growth, maintain and expand its vitality and demonstrate its presence in the international community, we will attempt to promote growth infrastructure development, enhance competitiveness by improving industrial productivity and vitalize regional economies to achieve economic growth through the creation of innovation.

In this respect, an outlook for stable, sustainable public investment is indispensable for the appropriate and steady implementation of social capital development including maintenance, the systematic and stable securement and training of social capital developers and the induction

of private sector investment.

(Enhancing energy infrastructure)

To realize an environment where Japan with limited domestic energy resources can stably continue social and economic operations, we must establish an energy supply and demand structure where energy supply is kept balanced with demand. In normal times, a stable, efficient energy supply and demand structure must be secured to respond flexibly to energy supply volume changes and price fluctuations. In the event of crisis, arrangements must be made to allow any disruption to supply of some specific energy sources to be backed up by other energy sources smoothly and appropriately. In order to realize such "multi-layered, diverse and flexible energy supply and demand structure," we will develop necessary infrastructure based on the steady promotion of electricity and gas system reforms for the main purpose of full retail deregulation.

Furthermore, we will promote the development and utilization of renewable energy, hydrogen energy and other new energy sources, and develop necessary infrastructure to address energy constraint and environmental problems. Given that hydrogen energy is expected to play a central role as secondary energy, we will promote the development of technologies for its production, storage and transportation and the reduction of costs as well as strategically develop relevant institutions and infrastructure.

(Developing information and communications infrastructure)

Information and communications infrastructure is required for promoting the utilization of ICT to support the convenience of national life and the efficiency and credibility of economic operations and for creating innovation to generate new values and various services. The development of advanced information and communications infrastructure throughout Japan may expand the range of workplace and residence options through telework, changing the national spatial structure greatly. In not only normal times but also emergency times, such as large disasters, information and telecommunications infrastructure will provide communications means for urgent messages and safety confirmation, playing key roles as indispensable infrastructure for securing the people's safety and maintaining government functions.

b. Promotion of strategic national land infrastructure maintenance

In the future, infrastructure stock worth some 800 trillion yen[12] will enter an aged stage. For example, the share bridges 50 or more years old (2 meters or longer) in Japan will rise from 18% in 2013 to 43% in 2023 and 67% in 2033. In response, more strategic maintenance measures will have to be implemented.

First, to secure people's safety and security, we will have to build and continuously develop a maintenance cycle in which regular checks and diagnoses to grasp the conditions of facilities will be followed by the implementation of necessary measures and the recording of facility conditions and measures implemented for the next regular checks and diagnoses.

To level the relevant budget over a medium to long term while reducing total costs for maintenance and replacement, the service lives of infrastructure will have to be extended to avoid large-scale repair or replacement as much as possible. Therefore, we will promote the introduction of preventive maintenance to implement preventive repair in response to minor damage in early stages to retain and recover functions with consideration given to facility characteristics, safety and economic efficiency.

Meanwhile, infrastructure's roles and functions are expected to change amid changes in national land surroundings. In considering strategic maintenance, therefore, we will take into account other relevant projects, revisit the necessity of specific facilities, details and times for specific measures, and promote strategic initiatives to consider qualitative improvement, function changes, usage changes, combination and consolidation on the occasion of replacement for facilities identified as necessary as well as abolish or eliminate those identified as unnecessary.

Municipal governments that manage massive infrastructure facilities with limited technological and personnel capacity must take advantage of mass merits, private sector ingenuity and know-how, and private engineers for infrastructure management.

Furthermore, they must share philosophies and information on social capital maintenance and promote initiatives to spread best practices.

c. Wise utilization of national land infrastructure

Anticipating that the development of major transportation infrastructure including beltways in the three large metropolitan regions and Shinkansen bullet train lines will make great

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[12] As estimated by the Cabinet Office Director-General for Policy Planning (in charge of economic and social systems), "Japan's Social Capital 2012 (November 2012)" for gross capital stock in 17 sectors (roads; seaports; aviation; railway and transportation organizations, subways; public rental housing; sewage systems; waste disposal; water systems; urban parks; education; water control; forest conservation; beaches; agriculture, forestry, fisheries; postal services; national forests; and industrial water systems).

progress, we will promote initiatives to wisely utilize national land infrastructure by developing necessary infrastructure and taking maximum advantage of existing networks to create innovation in economic and social systems.

To generate dynamic interaction through the "compact and networked structure," people, goods and information must be allowed to smoothly flow. National land infrastructure to support them must promote interaction.

In order to promote interaction, flexibly respond to various risks including large disasters and maintain Japan's international competitiveness, we must devise ways to maximize functions of national land infrastructure and add advanced technologies and systems to infrastructure for diversifying uses.

d. Securing key supporters of national land infrastructure and expanding infrastructure business

Since national land infrastructure is supported by local managers and skilled workers, we will promote initiatives to secure and train comprehensive personnel from a medium to long-term perspective. By paving the way to secure treatments allowing engineers and skilled workers to be respected and proud, we will realize an environment in which young people can devote their lives to infrastructure operation with women enabled to perform better.

As infrastructure enters a full-fledged maintenance age in the future, systems to maintain and secure safe and resilient national land infrastructure supported by world-leading technologies should be positioned as one of the infrastructure business pillars and developed as a maintenance industry.

Through initiatives to promote research and development for creating innovation, develop markets and step up exports for international expansion, we will lead the Japanese maintenance industry to become the world's frontrunner and enhance Japan's infrastructure business competitiveness.

The government will promote public-private partnership and private finance initiative (PPP/PFI) projects to take maximum advantage of private sector funds, technologies and know-how for maintaining, developing and utilizing national land infrastructure. In doing so, the government will use various measures including the concession system, which allows private business operators to make the maximum use of their inventiveness, to expand the financial size of relevant projects to 12 trillion yen for 10 years between 2013 and 2022.

Section 3 Participation and Cooperation to Support National Spatial Development

(1) Nurturing key supporters of local communities

In order to develop local communities with unique resources in the population-declining society, each region should not passively implement a prescription given by the central government but take leadership by drafting projects based on regional characteristics on its own. In this respect, each region will have to train and secure local supporters. In particular, regions that have seen productive population declining due to falling birthrates, aging population and net population outflows are required to strategically nurture local supporters.

(Nurturing key supporters of local communities)

In nurturing supporters of local communities, regional education organizations such as universities, professional schools and technology colleges that are well versed in local conditions can play great roles. Based on changes of the times and local social needs, these regional education organizations are expected to nurture human resources contributing to local communities through practical education linking students to local jobs, an education for taking advantage of regional resources or education for brushing up special skills. They must also secure educators for such education.

Interregional human interaction should be implemented for nurturing local supporters, allowing young people to return to their hometowns and work there after studying at and graduating from universities in other regions. Initiatives should be promoted for local residents to solve local problems and revitalize their communities through learning activities at social education facilities.

In order to continue to secure excellent human resources, regions must develop systems for human resources nurtured in this way to get their local contributions rated highly and follow career paths for the future.

Regions must also develop a comfortable working environment for people working pro bono, or experts who take advantage of their skills, knowledge and experiences gained through their jobs in business administration, management, ICT and other areas for social and public purposes.

(Forming society for hopeful young people)

If local communities are to be sustainable, they may have to allow young generations to work and live hopefully. Therefore, they should implement education, employment, life and other measures to pave the way for young generations to do so. They should also help young

generations take leadership in tackling community building to realize their hopes through intergeneration interaction including the inheritance of elderly people's wisdom and experiences.

To allow working young people to have hopes, local communities should develop an employment environment, clarify paths through which they can accumulate careers, improve treatments for engineers and skilled workers and build a society where professionals are respected.

(Realizing a society of women's active participation)

In order to build a society where people can fully demonstrate their capabilities irrespective of gender, we must realize a society where women can actively participate. Compared with Western countries, Japan sees a higher percentage of women quitting jobs on the occasion of childbirth and a lower employment rate for women with children. To allow women to realize their hopes to advance their careers even after childbirth, we will seek to realize a society of women's active participation, enabling women to work easily and bear and raise children while working.

From the perspective of national spatial development, therefore, we will attempt to build communities where residences are close to workplaces and childcare facilities or communities that support childrearing. We will also seek to promote telework to improve the employment environment.

In addition, it is important to encourage women to start up business. Women's implementation of work styles to harmonize their work with childrearing can be expected to generate hope among young people.

(Promoting a society of elderly people's active participation)

Aging itself is not a problem. We must pursue a society of good health and longevity. Those authorized to receive nursing care account for only 6% of people aged below 75. Many elderly people are ambitious to work as long as they have good health even after reaching the age of 70. We seek to realize a society of elderly people's active participation, enabling elderly people to realize their hopes, make social contributions and work until death.

Therefore, it is important to implement town building that contributes to health promotion. It is also important to establish a job matching system for the employment of elderly people with experience and expertise. For example, elderly people can be expected to take jobs requiring extensive capabilities, including their rich experience and excellent communication skills, and

support young people's activities by passing on skills to them. The number of retirees living in the vicinity of large cities is particularly expected to increase in the future. It is important to utilize their experience and knowledge for local community building. So we will seek to develop opportunities for their participation in local community building.

Elderly people living in rural regions are expected to contribute to local community building by taking advantage of their skills in industrial, food culture and other areas for forming regional resources. Elderly people's participation in local community building is important.

(Realizing a society of full participation by physically challenged people)

We seek to realize a society of full participation by physically-challenged people where they can live securely with their personalities and characteristics respected without being separated from others due to a disability, can take part in all social activities based on their own decisions, and can exercise their capabilities to the maxim extent.

To this end, we will build arrangements for physically-challenged people to easily receive consulting and other support services in familiar areas and will promote their employment and enhance support for their employment. We will also promote town building with consideration given to physically-challenged people by securing housing where they can live securely and by eliminating barriers for them at buildings and public transportation systems.

(2) Building a society of mutual assistance

The society of mutual assistance is a vigorous society where residents voluntarily support each other under the spirit of mutual assistance to address regional problems and vitalize local communities. The "new public" initiative, as advocated in the National Spatial Strategy decided in July 2008, means that various actors expand their operations from the traditional public area to the private area including public values and to an intermediate area between public and private areas to support local residents' lives and maintain local operations. The initiative has expanded, with its supporters diversified. In building the society of mutual assistance, a balance between self-help, mutual assistance and public assistance must be found, though with priority given to self-help and independence. As areas for mutual assistance have expanded due to progress in the population decline and fiscal constraints on public assistance, we must build the society of mutual assistance. Important in this respect is a view that not only voluntary activities but also commercial activities as profitable social business operations should be promoted to help solve regional problems.

(Developing various actors for building the society of mutual assistance)

Important for building the society of mutual assistance is the development of various actors building the society and environmental arrangements. Therefore, we will promote the development of various daily life support service industries, including medical care, nursing care, welfare, food, supervision and childrearing services, as business operators and the launch of social businesses to find and solve local problems and will develop an environment where these supporters can freely operate.

Required for realizing the continuity of operations by the builders of the society of mutual assistance are the development and securement of human resources and the creation of fundraising systems. Former enterprise employees and other urban residents rich with knowledge and experience should be mobilized for building the society. Expected initiatives to this end include the development of a job-matching system and the promotion of dual habitation and working to create a society where people move between their urban and rural residences and workplaces according to their lifestyles and life stages. As for fundraising systems, we promote the development of a donation culture as well as crowdfunding and other mechanisms to raise funds from an unspecified number of people.

Furthermore, we will build a platform for an intermediate support organization to help actors building the society of mutual assistance and will encourage various actors and regional enterprises to promote their personnel exchange, attempting to help local communities, enterprises and other actors cooperate in building the society of mutual assistance.

We will also promote support for regional independent organizations that tackle various local problems with various social business operations.

(Utilizing human interaction for building the society of mutual assistance)

For building the society of mutual assistance in a region, we should make the most of not only regional residents but also people in other regions, including those who return to a region during the Obon festival, year-end and new-year holidays, or every weekend for nursing care of their parents. The viewpoint of such interregional interaction is important in this respect. We should also build open local communities accepting urban residents' rural life experience in a bid to take advantage of the growing number of young people and women moving to rural regions for building the society of mutual assistance.

(Revitalizing and creating communities)

A community is the basic unit for local community building, inheriting local cultures and

traditions and fostering local resources and residents' local affection. Therefore, we will revitalize those local communities that have weakened in the course of urbanization and modernization. We will also create new communities in regions where human interaction has increased through frequent outflows and inflows of residents, immigration, dual habitation and dual working. These initiatives will promote intergenerational and interregional interaction to revive local bonds. Local communities will then be able to locally support childrearing and nursing care, contributing to decelerating the birthrate decline and the aging of population. Elderly people will pass on wisdom for living to young people, contributing to improving local communities' education capacity.

Various actors for building the society of mutual assistance may be used effectively for maintaining and improving some past functions of communities in the population-declining society.

(Developing environmental arrangements for childbirth and childrearing)

We will promote workstyle and career formation reforms and other environmental arrangements to allow people to harmonize work with childrearing irrespective of gender. It is important to develop various lifestyles and childrearing environments meeting family configurations. We must consider relevant measures through the eyes of children. We will also promote three generations living together or close to each other, workplaces close to residences, and teleworking.

Section 4 Cross-sectoral Perspective

(1) Setting deadlines

The above has clarified specific directions for realizing Chapter 2's basic national land concept of developing national land promoting interaction-led regional revitalization and the compact and networked structure as the national spatial or regional structure. However, we must comprehensively implement measures in various areas to realize this basic national land concept. The realization may be achieved not in a short term but in a medium to long term.

Therefore, we must clarify the extent of priority and deadlines for policy measures in a bid to efficiently and effectively realize the basic national land concept. Given that various actors including the central government, local governments, private sector business operators, universities and research organizations, non-profit organizations and residents are involved in national spatial or local community development, we must publish the priority degrees and schedules for sharing among these actors.

In setting the deadlines, we must first consider the urgency of challenges that Japan must tackle in the future, as cited in Chapter 1. We must also take into account the planned developments such as the 2020 Tokyo Olympics/Paralympics and baby-boomers' reaching their 80s in 2030 as well as outlooks regarding ICT development and other technological innovation progress. Then, we must clarify priority policy measures on schedule while considering the consistency between policy measures and implementation orders. In this respect, we must give consideration to the fact that existing challenges and details of policy measures differ from region to region.

(2) Introducing ICT and other innovations

It is important to positively introduce ICT advancement and other innovations in promoting the National Spatial Strategy. Technological and other innovations are expected to exert grave and wide-ranging impacts on national spatial development in the future as indicated below.

First, technological and other innovations can serve as the engine of Japan's economic growth and play a role in exploring the frontier of development. For example, the commercialization of cutting-edge technologies for regenerative medicine and other medical treatments and for renewable energy and other energy sources as well as the utilization of big or open data can improve industrial productivity and create growth industries and markets. In the future, methane hydrate development and other measures could improve Japan's energy self-sufficiency. Through these developments, Japan's industrial structure and economic system are expected to change.

Second, technological innovations could alter civic life as well as economic operations and social conditions. For example, robot technology development for the diffusion of robots for nursing care and their utilization at accident and disaster sites, and ICT development for the realization of telework, remote education and remote medical care, may improve the quality of national life and influence lifestyles.

Third, technological innovations will alter human life infrastructure and transform townscapes. For example, the realization of smart energy consumption and a hydrogen society will contribute to environmental conservation and greatly advance urban conditions including energy and transportation systems. The diffusion of automated driving and other intelligent transportation system technologies may not only mitigate traffic accidents and congestions but also reform logistics systems to greatly develop transportation systems throughout Japan.

Today, however, other countries as well have promoted innovations under national strategies, indicating a global innovation race. Therefore, environmental arrangements for inducing

science and technology innovations are required under national spatial policy to build the most suitable country for innovations. Environmental arrangements should also be made for the people to widely benefit from innovations and for society to accept innovations.

(3) Utilizing private sector vitality

As explained above, various actors including the central and local governments, private business operators, universities and research organizations, non-profit organizations and residents are required to participate in future national spatial or local community development.

Particularly, public-private partnership and private finance initiative (PPP/PFI) projects using private sector funds, technologies and know-how can contribute to the efficient, effective promotion of national spatial development measures and increase business opportunities in the private sector. Therefore, we will try to utilize private sector vitality through PPP/PFI projects for promoting the National Spatial Strategy. In this respect, we must give consideration to allowing the private sector to exercise its originality and ingenuity to the maximum extent.