

Influence of Jean Gottmann's thought on national development plans in Japan

The influence of Gottmann's thoughts on national land plans includes megalopolis in Japan, the importance of the natural environment in a metropolis, decentralization of business functions to sub-centers in metropolitan areas, and so on.

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Foreword

The Japanese government produced the first Comprehensive National Development Plan (CNDP) in 1962. At the same time, namely, in the 1960s, Japan entered into high economic growth after having drastically recovered from its physical and economic devastation since the Second World War. After following this plan, the national government has also drawn up four more CNDPs until now. The purpose of these CNDPs was gradually altered from socio-economic development, emphasizing not only high living standards but also high quality of life, to sustainable development, stressing environmental conservation in harmony with socio-economic development. More specifically, the first and second CNDPs in the high economic growth period chiefly addressed economic development. Consequently, the third CNDP, made in an economically stable period after the dollar crisis, introduced the viewpoint of the development of society into its plan after due consideration of the environmental pollution and deterioration that had occurred all over Japan in the 1950s and 1960s. In the fourth and fifth CNDPs, presented in the era of globalization of the economy and environmental problems since the 1980s, finally, we could observe thoughts of sustainable development considering environmental conservation in harmony with socio-economic development.

Introduction

Given the world situation before the Second World War, the Japanese Empire developed some CNDPs stressing national defence and intended to establish a self-sufficient nation with relation to the Great Powers of the world (ISHIKAWA, 1942; EZAWA, 1942). In sum, these plans were closely related to the policies of the bloc economy adopted by the Great Powers. After the Great Depression in 1929, the free trade system shrank, and then the Great Powers and other Western countries established customs bulwarks and bloc economic policies. In such global circumstances, the then Planning Agency of Japan drew up the National Plan Establishment Guidance (*Kokudo Keikaku Settei Youkou*) in 1940 to create a national defence system covering Japan, (south and north) Korea and Manchuria. In addition, the agency drew up the Central Plan Draft (*Chuo Keikaku Soan*) in 1941 to strengthen national defence along the lines of the aforementioned guidance (SUGAI, 1976).

After the end of the Second World War, Japan's CNDPs prioritized mostly economic restoration. More specifically, the government established the National Restoration Plan in 1949, and in 1953 it also released comprehensive regional development plans (CRDPs) modelled after the U.S. Tennessee Valley Authority under the New Deal policy. The CRDP including the Kitakami valley comprehensive development plan was chiefly based on the development of power sources, while constructing multipurpose dams. Japan was able to implement these development plans and restored its physical and economic conditions very rapidly due to the advantage provided by the international situation that followed. The Allied Powers signed the Bretton Woods Agreement in 1944 because they reflected on the bloc economy that had resulted indirectly in the Second World War. In the Bretton Woods system, the International Monetary Fund (IMF) and the World Bank were established in 1945, and then foreign exchange moved to the fixed exchange rate system. After the Japanese government had accepted the Bretton Woods system, it joined the World Bank in 1952, and then took a loan from the Bank, the biggest at that time, which helped the country to execute its National Restoration Plan. The United States established the

Marshall Plan for economic restoration in Western Europe in 1949, while the Soviet Union formed the Communist Economic Conference (COMECON) in the same year to compete with the Marshall Plan. After the establishment of the economic blocs by the liberal and communist camps, each camp established a security treaty, namely the Warsaw Treaty Organisation in 1949 and the North Atlantic Treaty Organisation (NATO) also in 1949. Thereafter, the cold war started. In such a Cold War structure, the Korean War broke out in 1950. Japan, incorporated in the liberal camp, got special procurements as a result of the Korean War. With the help of the cheap Yen (360 yen for a dollar) under the fixed exchange rate system, the procurements for the heavy chemical and textile industries brought an increasing amount of exports from Japan to the United States. In such a situation, Japan drastically recovered from postwar devastation.

In the years that followed and in response to the national and international situations, the Japanese government altered the contents of the CNDPs just like the aforementioned National Restoration Plan.

The present paper classifies the five CNDPs into three categories in accordance with three main streams of development theories (YAMASHITA, 2001), and then overviews their contents in due consideration of national and international situations, as follows (fig. 1):

- the first and second CNDPs, which were presented in the economic high growth period, chiefly addressed economic development;
- the third CNDP, which was implemented in a stable growth period, mainly aimed at social development;
- the fourth and fifth CNDPs emphasized the global economy, and globalization of environmental problems, respectively.

High economic growth period and national development plans: The first and second CNDPs

On the basis of the National Comprehensive Development Law enacted in 1950, the Japanese Cabinet adopted the first CNDP stressing regional economic development in 1964. Before this CNDP, the mining and manufacturing industrial output of Japan had exceeded the pre-war level in 1951, and Japan drastically restored its economy so that the Japanese economy entered a high economic growth period in the 1960s with an annual economic growth rate of approximately 10 percent as a result of the international and national situations.

• Concerning **international situations**, Japan was incorporated in the western liberal camp in respect of national security after the conclusion of the US-Japan Security Treaty in 1951. The Vietnam War in 1954 brought Japan not only a large amount of special procurements but also a boom in its national economy. The fixed currency rate under the Bretton Woods system and the low price of crude oil were also in Japan's favor. In the 1960s, Japan changed its industrial structure to trade in "improvement," i.e. one which imports cheap raw materials and exports finished goods. Such international situations encouraged more economic growth for Japan.

• Regarding **national situations**, Japan experienced drastic changes in its industrial and energy structure in the 1960s. While the secondary industry grew, the primary industry, which employed about 45 percent of the population in 1955, declined rapidly after that year. Thereafter the country became one of the most industrialized nations. The Income Doubling Plan and Pacific Belt Area Plan presented in 1960 had a strong influence on such a change in the industrial structure.

– The main purposes of the Income Doubling Plan were the in-

crease of social capital and the improvement of industrial structure. Infrastructure, especially industry-oriented social capital, was emphatically upgraded as a result of this plan.

– The Pacific Belt Area Plan aimed at strengthening the existing four industrial districts, namely Tokyo-Yokohama, Nagoya, Osaka-Kyoto, and Kita-Kyushu districts, and constructing new industrial areas between the four industrial districts. Just like the industrial structure, industrial location also changed from inland regions, where natural resources like coal or iron ore were produced, to coastal regions, where finished goods are processed and exported using cheap imported raw materials.

At the same time, industry also changed from light industry, which had been the mainstream in Japan until then, to a heavy-chemical one. From the viewpoint of the national economy, Japan experienced remarkably high economic growth, chiefly in the urban areas because the heavy-chemical industry was located there. Conversely, non-urban regions had difficulty in receiving the benefits of rapid economic development because these areas mainly relied on primary industry. This resulted in expansion of income differential between urban and non-urban areas.

Energy structure has, on the other hand, depended heavily on oil since the high economic growth period. In 1960, the country relied on coal rather than oil. Thereafter, Japan changed its energy structure from utilization of high-priced domestic coal to import of cheap crude oil from the Middle East. The number of privately owned cars also rapidly increased in the 1960s because of growing average income, expansion of purchase of other durable goods, and mass production of low-priced cars by Japanese car makers. This indicates that Japan switched its socio-economic system to a mass production, consumption and disposal one of durable goods and fossil fuel in the high economic growth period.

The government decided on the first CNDP in response to such a change in 1962. The first CNDP had the following main objectives and goals (ECONOMIC PLANNING AGENCY, 1962). The main objectives include appropriate utilization of natural resources and suitable regional distribution of resources such as capital, labor and technology, while taking due consideration of prevention of excessive urbanization and reduction of regional differentials. On the basis of these objectives, a goal of the first CNDP was "balanced regional development." More specifically, a concrete purpose of the first CNDP was to solve comprehensively various problems regarding excessive urbanization and differences in regional productivity.

To achieve this goal, a development point method was adopted as a development method in the first CNDP. Considering prevailing conditions of regional development, the Economic Planning Agency classified Japan into the following three categories of area by the development point method:

- overpopulated areas,
- stimulated areas, and
- developing areas.

The government planned to establish new industries in both stimulated and developing areas as development points so as to decentralize industries concentrated in the three metropolitan areas to depopulated regions. Through construction of the development points, the first CNDP aimed at fostering industry and job creation in depopulated regions as well as income increase in these areas, which brings justification of income differentials (ITOH, 1972). The overpopulated areas are characterized as the region or adjoining regions where social problems such as various kinds of pollution, traffic congestion, and shortage of water occurred or were anticipated to occur because of over-accumulated industry and population.

• The **overpopulated areas** included the three metropolitan areas – Tokyo, Osaka and Nagoya – their adjoining areas,

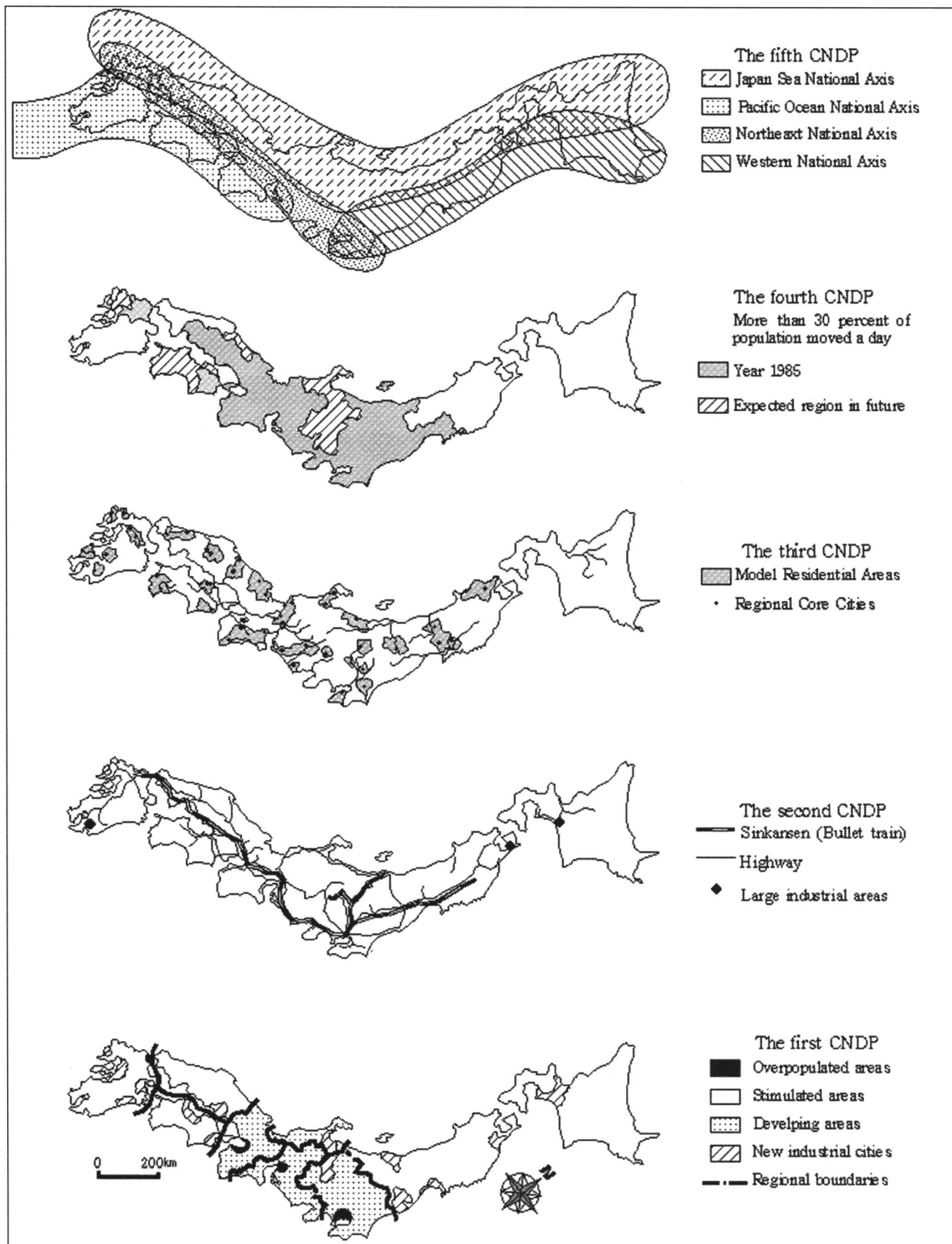


Fig. 1: Japan – Sketch maps of the five Comprehensive National Development Plans (CNDPs).

and the Kita-kyushu urban area.

- The **stimulated areas**, which enjoyed profits derived from industrial accumulation in the Tokyo, Osaka and Nagoya metropolitan areas, should be developed and stimulate industry decentralization. The stimulated areas corresponded to Kanto, Toukai, Kinki, and Hokuriku districts.
- In the **developing areas** the government intensively promoted regional development because these areas were less likely to receive the benefits of the accumulation in the three metropolitan areas. The developing areas included Hokkaido, Tohoku, Chugoku, Shikoku, and Kyushu districts.

As development points in the first CNDP, 15 new industrial cities were designated on the basis of the New Industrial City Construction Promotion Law in 1962, while six industry establishment special areas were assigned on the basis of the Industry Establishment Special Area Stimulation Promotion Law in 1964 (fig. 1).

As a result of the first CNDP, non-metropolitan areas, namely the stimulated and developing areas, grew economically. However, it is hard to identify whether the goal of "balanced regional development" among regions was implemented as planned in the first CNDP. Regarding regional population, except for some regions, population decreased drastically in non-metropolitan areas between 1960 and 1965, while, in the same period, the three metropolitan areas received a large number of people. The Tokyo metropolitan area, especially, received more than five million people, which caused population concentration in the area. Furthermore, environmental pollution frequently occurred everywhere in Japan in the 1960s as a negative economic externality resulting from regional economic development based on the heavy-chemical industry in the development points.

Examples of the negative impact of environmental pollution were:

- asthma caused by air pollution in Yokkaichi;
- Minamata diseases by organic mercury in Kumamoto and Niigata; and,
- chronic cadmium poisoning in Toyama.

Lawsuits were filed for pollution in these four regions from 1967 to 1969. Finally, defendants won these lawsuits in the planning period of the second CNDP, namely from 1971 to 1973. Parallel to these lawsuits under trial, national and local governments made much progress in policy for pollution control. In 1967, for example, the national government enacted the Pollution Prevention Basic Law, while local governments established local anti-pollution regulations.

The Japanese wanted the first CNDP to result in economic development, which could bring high level living standards. This became its basic objective. They also wanted social development and improvement of the quality of life. This should be incorporated in the new CNDP.

On the basis of reflection of the first CNDP, the Cabinet decided on the second CNDP in 1969 (ECONOMIC PLANNING AGENCY, 1969). Although the second CNDP should have included an aspect of social development, in reality economic development was the central issue, just as in the first CNDP, because at the end of the 1960s, progress in information technology and technological innovation were still accelerating high economic growth, though concentration of population and industry in the metropolitan areas had caused a variety of social problems such as environmental pollution.

The four basic objectives of the second CNDP were very much economic in orientation:

- The **first** objective even addressed permanent environmental conservation in harmony of the human being with nature in reflection of the pollution that frequently occurred in the first CNDP, while

- the **fourth** objective referred to the necessity of improvement of the living environment because overpopulation had brought with it a lack of urban amenity;
- from the viewpoint of balanced development of national land, the **second** objective, which very much followed the thoughts of economic development in the first CNDP, was directed towards the expansion of possible development areas in the country as a whole, while the central and local governments developed requirements for regional economic development;
- the **third** objective focused on reorganization of, and effectiveness in, national land use, while keeping an eye on regional development based on regional characteristics.

While adjusting these four basic objectives, the goal of the second CNDP was set not only to create an advanced welfare society, but also "to establish wealthy environment" esteeming humanity, though it came to progress around the second objective.

To implement chiefly the second basic objectives in the second CNDP, the Cabinet adopted a "Big Project Plan" as a development method. Though promotion of big projects, like the construction of the bullet train (Shinkansen) and highway networks over the whole country, the Big Project Plan aimed to reduce uneven utilization of the national land, and solve problems of depopulation, overpopulation and regional income differential (SHIMOKOBE, 1994). On the basis of this plan, the government decided to extend the Tokaido Shinkansen, which had already been in operation since 1964, west- and eastward. As the Shinkansen was opened to traffic between Osaka and Okayama in 1972, and Okayama and Hakata in 1975, Japan partly implemented the Pacific Belt Plan to which we referred earlier.

Regarding highway networks, the Meishin highway connecting Osaka with Nagoya, which had been in operation since 1969, was extended eastward in 1965 and linked to the Meishin highway connecting Nagoya with Tokyo. Thereafter, the Tohoku highway (from Tokyo to Aomori), and the Kanetu highway (from Tokyo to Niigata) were also constructed and opened to traffic. These highways formulated a national highway network. Furthermore, it was decided to construct Kansai international airport in 1974, while the new Tokyo international airport was opened in 1978. Parallel to the construction of international airports, district airports were also newly established or renovated. Along with the increase in the number of international and domestic flight lines, these airports formed the national aviation network. While the government developed these traffic networks, the east-Tomakomai, Mutsu-Ogawara and Shibushi Bay regions were designated as large industrial districts so as to promote the industrial structure conversion from light to heavy chemical industry (fig. 1). The development methods changed drastically from point to network between the first and second CNDP: development points like new industry cities or industry-stimulated special areas were constructed in the first CNDP, while transport networks were formulated in the second CNDP.

At the beginning of the second CNDP, the high economic growth period was still continuing so that the process of social capital development like transport networks went smoothly, while land prices rose suddenly after 1971 because development areas expanded over the whole country. Land prices continued to rise steeply along with skyrocketing prices after the oil crisis brought about by the fourth Middle East War in 1973. Coping effectively with such soaring land prices, the government established the National Land Agency in 1974 so as to reinforce land policy. In the same year, Japan enacted the Land Use Planning Law to proclaim basic ideas for comprehensive national land use. Regarding the environment, further to the enactment of the Pollution Control Basic Law in the period of the first CNDP, Japan established the Environment

Agency in 1971 to strengthen pollution control measures and environmental conservation policies. Not only the establishment of environmental institutions, and the adoption of laws and regulations in central and local government, but also the appearance of energy-saving industry after the oil crisis, gradually decreased industry-originated pollution. Conversely, pollution derived from cities and people's everyday lives increased due to the rapid saturation of privately owned cars since the 1970s.

A national development plan in the stable economic growth period: The third CNDP

After the oil crisis, the government decided on the third CNDP, while the Japanese were experiencing stable economic growth, structural conversion of industry and energy, and a change in public opinion from standard of living to quality of life. The ordinary Japanese, who had already obtained durable goods such as cars and color television in the high economic growth period, had achieved a high standard of living. They were, therefore, very willing to enhance their mental wealth, namely progress in quality of life, rather than physical richness, when the country entered the stable growth period. Regarding the structural conversion of energy and industry, both the Bretton Woods and the fixed rate systems collapsed after the Dollar Shock in 1971. In turn, foreign exchange markets adopted a new floating rate system, which brought a strong yen. Against losses from the soaring yen, Japanese industry was required to make products with even higher added value. While industry was required to convert from a material to a high added value one because profits plunged due to the rise of production costs resulting from the oil crisis, the crisis also urged energy conversion of ordinary industry to an energy-saving one. This indicates that the Japanese realized that the promotion of high added value industry, such as the high technology industry, would be necessary in the stable growth period.

On the basis of such a socio-economic situation, the Cabinet approved the third CNDP in 1977 with the following basic objectives and goals (NATIONAL LAND AGENCY, 1977):

- to enhance the quality of life, **the first objective** was formulated for comprehensive reformation of the residential environment;
- from the viewpoint of resource conservation and energy saving, **the second objective** was also set for conservation and effective utilization of national land;
- finally, **the third objective** showed the necessity of a new correspondence of the Japanese economic society to the drastic changes in the world economy after the collapse of the Bretton Woods system.

Under these three basic objectives, the third CNDP also emphasized regional development based on regional characteristics, and social rights, especially the right to life. Accordingly, the basic goal of the third CNDP was "creation of whole environments related to human residence," namely, a comprehensive plan for healthy and cultural residential environments, with consideration of historic and traditional culture using regional resources. The third CNDP was evaluated as a national development plan stressing social development because of its emphasis on social rights.

To implement these three basic objectives, the Permanent Settlement Area Program was adopted as a development method in the third CNDP. The permanent settlement area was a regional planning area where residents actively commit themselves to its regional plan; they also comprehensively

manage, conserve and utilize both natural and living environments; establish and arrange public and private facilities and institutes around them. In this sense, the permanent settlement area was regarded as drainage area, integrated administrative region, or commuting area (HONMA, 1999). The purpose of the permanent settlement area program was to create a wealthy environment for human settlements; to control concentration of industry and population in the metropolitan areas through creation of such areas; also to encourage balanced development of national land by stimulating local economy. Finally, 40 model permanent settlement areas were designated over the whole country in 1979 (fig. 1).

As a result of the third CNDP addressing social development, new laws and regulations regarding social rights were established especially in urban areas where many environmental problems had arisen. For instance, the revised Architecture Standards Law came to include the sunshine-shade regulation. In the 1960s, a lawsuit concerning the right to sunlight was filed in the Tokyo district court. In 1972, this court ordered the construction of flats to be partly suspended. Thanks to this juridical precedent, the right to sunlight became part of the rights to life. This was why the sunshine-shade regulation was established. Thereafter, the right to sunshine was regarded as part of basic human rights in the urban area where high multi-storey buildings had often hindered daylight and TV and radio waves for small low-rise houses.

Furthermore, the revised Urban Planning Law included district plans by which a way for public participation was opened for conservation of the residential environment. The district plan was established to fill the gap between urban plans for designated regions, which are assigned appropriate land use under the urban planning law, and for pieces of cadastral land, which are regulated under the Architecture Standards Law. In other words, the district plan addressed intermediate districts that were ignored by the two old urban laws. Using this district plan, residents have their own planning initiative for conservation of their townscape and maintenance of their comfort within their residential environment.

In spite of the fact that social development was a main pillar of the third CNDP, the government was forced to change the direction of its national land policies from social to economic development because of the stagnation of the Japanese economy due to the sharp rise of oil prices after the second oil crisis that resulted from the Iranian revolution in 1979. Thereafter, the notion of technopolis was introduced so as to create high technology industry and take economic measures to boost demand. Construction of the technopolises originated from the Technopolis Program in 1980, and was based on the Development Promotion Law for Advanced Technology Industry Accumulation Areas (the technopolis law, for short) in 1983. The United States had experienced an accumulation of high technology industries, such as computer and aerospace industries, on which universities and other research institutes collaborated. While observing such situations in the US, the Japanese government decided on the construction of technology-based cities, namely technopolises, to vitalize regional economy, and to encourage collaboration between high technology industry and research institutes, while creating comfortable residential spaces. To vitalize regional economy through promotion of high technology industry, 26 regions were finally designated for technopolis areas in 1980.

National development plans in the globalization era: The fourth and fifth CNDPs

Globalization had a strong influence on the fourth and fifth

CNDPs which were decided on by the Cabinet in 1987 and 1998 (NATIONAL LAND AGENCY, 1987 and 1998). Globalization has two meanings. The first one, indicating globalization of the economy, was strongly present in the fourth CNDP, while the second one, meaning globalization from the viewpoint of humanity, was emphasized in the fifth CNDP.

Globalization of the economy is characterized by the liberalization of financing based on the liberalization of capital. An origin of globalization of the economy may be traced back to the beginning of the floating rate system, which started after the collapse of the Bretton Woods system as a result of the Dollar Shock in 1971. Contrarily, the term "globalization" in the humanitarian sense was first utilized in the Cold War period to express world peace. Thereafter, the term "globalization" has been used to indicate environmental problems, such as global warming and ozone layer destruction which have expanded at the world scale, and led to the 1992 UN Conference on Environment and Development in Rio de Janeiro.

● In the **fourth CNDP** period, between the Dollar Shock in 1971 and the 1990s, while the globalization of the economy was in progress, Japan experienced the following economic situations. As a result of the large amount of steel, cars, semi-conductors and television sets exported from Japan, the United States rapidly increased its trade deficit with Japan and its current balance deteriorated substantially in the 1970s and 1980s. The United States became a debtor nation in 1985. Although the United States moved to a high interest rate policy to defend its own economy, the Plaza Accord was concluded among the G5 countries in 1985 to take concerted intervention to correct the strong dollar (fig. 1).

Thereafter, the dollar went down, while the yen went up steeply. While pointing out the closed nature of Japanese agricultural and financial markets for foreign countries in 1979, the OECD recommended that Japan promote further its deregulation policies including more openness of its markets. Regarding deregulation, Japan entered a deregulation era after it had concluded an agricultural agreement in the Uruguay Round in 1993. In this round, Japan reached a consensus on lowering tariffs on agricultural products and imposing a tariff on rice, which was protected before the round. To respond to the demand for opening the Japanese market to foreign countries, on the other hand, the Maekawa report was issued in 1985. This report showed some concrete guidelines for reducing the Japanese trade surplus, especially with the United States. For example, Japan should convert its economic structure from trade-oriented to a domestic demand-oriented one, while internationally long working hours should be substantially shortened so as to enhance the quality of life of the Japanese. Concerning working hours, Japan aimed at creating more leisure hours, and changing itself from an economic to a living power. As a result, the government drew up the Five Year Plan for a Living Power in 1992. The objectives of this plan included reduction of relatively long working hours, establishment and improvement of leisure facilities, and a price cut in the internationally high domestic aviation fares. In such progress in terms of economic globalization, population and other functions were concentrated in Tokyo, which in the 1980s had the locational advantage of international organizations like the foreign stock exchange and many multinational enterprises. On the other hand, local areas other than Tokyo had a serious employment problem because their industrial structure was not converted from heavy-chemical to high technology industries.

Under such situations, the following two objectives were emphasized in the fourth CNDP:

- the first objective in the process of globalization of the economy, especially globalization of finance, was set for redeveloping Tokyo in order to establish there a world city, which could

be equivalent to New York and London where various global functions were accumulated;

- the second objective, which was much related to various problems in local areas, aimed at vitalizing these areas through improvement of everyday life, and lessening regional income differential, based on concentration in Tokyo, through permanent settlement in these areas and interchange with urban areas.

One of the goals of the fourth CNDP was to construct the Dispersed Multi-poles Country Program (YADA, 1998). This program referred not only to strengthening existing international functions in Tokyo, but also to reinforcing other regional functions in local areas. The program indicated a country where regions mutually contact and cooperate with each other through national and international interchanges in order to create many core areas with characteristic functions, and to redistribute evenly population, and economic and administrative functions over the whole country.

The interchange network method was adopted as a development method to build the dispersed multi-poles country in the fourth CNDP (fig. 1). First, the central government attempted to establish some poles that could become nodes of the interchange network on the basis of their regional characteristics. Thereafter, the government attempted to connect these poles with each other using transportation and information networks over Japan. Consequently, the government intended not only to avoid concentration of population and other functions in Tokyo, but also to deepen regional cooperation outside the Tokyo Metropolitan Area through various interchanges on these networks (YAMASAKI, 1999). Transportation and information networks, therefore, were developed in the fourth CNDP.

Regarding the transportation network, Kansai international airport was constructed to strengthen international interchanges, while national transportation networks such as highways, the bullet train (Shinkansen) and district airports were also developed as main national transportation networks under the One Day Trip Area Program.

Concerning the information network, for example, the nationwide integrated services digital network (ISDN) and local Community Antenna Television (CATV) networks were established in the fourth CNDP period.

Regarding the conversion of Tokyo into a world city, Chiba, Urawa and Oomiya, Yokohama and other cities were redeveloped as Business Core Cities under the Fourth Metropolitan Area Basis Plan in 1986. In this plan, Tokyo decentralized some of its concentrated business functions to these business core cities, while these cities shared these functions with each other in the Tokyo Metropolitan Area.

Concerning response to deregulation, for which foreign countries were longing, the Japanese government corrected its closed construction market, and permitted foreign enterprises to develop its land, especially in urban areas. After the Temporary Law of Promoting Construction of Special Public Facilities Using Private Sector (the Private Sector Stimulation Law, for short) enacted in 1986, the private sector was actively utilized for urban renewal, especially redevelopment of central parts of Tokyo. Such deregulation was also accelerated in both the Urban Planning Law and the Architecture Standards Law, that were revised in 1992. Along with these revised laws, central parts of metropolitan areas like Tokyo were heavily redeveloped using chiefly the private sector in the late 1980s and early 1990s.

Regarding regional development in non-metropolitan areas, on the other hand, the Comprehensive Resort Area Construction Law (the Resort Law, for short) was enacted in 1987 because the government was very willing to encourage the Japanese people to take more leisure hours as mentioned in the

Maekawa report (ISHII, 1988). The purposes of this law were to create more jobs and to convert their industrial structure to the tertiary industry in the non-metropolitan areas by developing resort areas in these areas. Just like redevelopment in the urban areas, non-metropolitan areas were developed everywhere to construct resort areas using the private sector under the Resort Law. Not a few resort areas had some environmental problems like natural destruction and regional conflicts between residents and developers because the Resort Law does not provide environmental conservation regulations for resort developments. However, the only exception might be the Nagasaki Exotic Resort, which was constructed from the aspect of long-term environmental conservation and differed from many other resort areas causing environmental problems. From the viewpoint of long-term environmental conservation, the Huis Ten Bosch centered in the Nagasaki Exotic Resort tackled creatively the establishment of a healthy resort in harmony with the environment (YAMASHITA, 1999). To formulate an environmental system, the Huis Ten Bosch utilized original environmental cohabitation technology such as a garbage composting system, a sewage recycling system, and a district cooling and heating system based on cogeneration using liquid natural gas, which is less likely to emit global warming gas.

Urban renewal in metropolitan areas and in resort development and non-metropolitan areas both based on utilization of the private sector brought a sharp rise in land prices over the whole country in the fourth CNDP period. At the same time, land speculation in both areas also gave birth to a bubble economy. In 1989, the government established the Land Basic Law to deal with the steep rise in land prices since the second CNDP. This law clearly states principles for land use, such as importance of public welfare, necessity of land planning, and evenly shared social costs for development. However, this law does not include any clause or article to regulate individual laws regarding regional development because of its characteristics as a basic law. On the other hand, the Environment Assessment Law was established in 1997 to prevent environmental degradation because environmental problems occurred everywhere in resort areas in relation to resort development. Since then, environmental impact assessments have come to be requested from developers.

● The **fifth CNDP** was decided as a national land plan in an era of globalization of environmental problems such as ozone layer depletion, global warming, and desertification (MIYAKAWA, 1997). After ozone holes were observed on the global scale, the Vienna treaty for ozone layer depletion was concluded in 1985 to regulate substances causing depletion of the ozone layer, and the concrete reduction plan was shown in the Montreal protocol in 1987. The United Nations Framework Convention on Climate Change was adopted to prevent global warming, and began to be signed after the UN Conference on Environment and Development in 1992. Thereafter a concrete reduction plan for global warming gases was discussed for inclusion in a protocol, which was adopted at the Kyoto Conference on Global Warming (the third conference of parties, COP3 for short) in 1997. By this protocol, Japan, the United States and the EU agreed to implement a cut of global warming gases by 6, 7 and 8 percent each from 2008 to 2012, while 5.2 percent will be cut as a whole in all developed countries. The International Convention to Combat Desertification, that includes such measures as financial and technical support for forestation and irrigation projects, was adopted in 1994, and went into effect in 1996 because of the expansion of the Sahara desert and, in turn, the occurrence of drought and death by starvation on a large scale. While international institutes tackled such global environmental problems, the Japanese

Government adopted its own Agenda 21 that presented national mission statements for turning Japan towards sustainable development in 1993 because the government intended to respond to Agenda 21 adopted at the 1992 UN Conference on Environment and Development. In the same year, Japan also enacted the Environment Basic Law that states basic guidelines for environments, while it established the Environment Basic Plan that addresses concrete policies of environmental conservation based on the Environment Basic Act. Japan has both internationally and nationally come to pay much attention to these global environmental problems in the 1990s. This seems to be closely related to a metamorphosis in the global socio-economic system, which chiefly stands on mass production, consumption and disposal, and flows of goods, people, and information on a global scale.

To solve such global environmental problems, one of the basic objectives in the fifth CNDP was set for enjoyment of natural wealth and its continuation. To respond to globalization of the economy since the fourth CNDP, another basic objective aimed at construction on national land to be open to the world. It is worth noting that the fifth CNDP emphasized regional development by local governments and inhabitants instead of by the national government, which had taken the main part since the first CNDP. On the basis of such objectives, a fundamental goal of the fifth CNDP was the creation of national land formulation on multi-axes (fig. 1) to reorganize the mono-pole national land structure that was concentrated in the existing Pacific Belt Area (the western Japan axis in the fifth CNDP). More specifically, the multi-axes national land structure consists of the following three new axes along with the western Japan axis:

- The first one, called the northeast Japan axis, ranges from the central highlands through the northern part of the Kanto region to the Pacific side of the Tohoku and Hokkaido regions (fig. 1).
- The second one, termed the Japan Sea axis, runs from the northern part of the Kyushu region through the Japan seaside of Honshu island to the Japan seaside of the Hokkaido region.
- The third one, named the Pacific new axis, reaches from Okinawa island by way of the central and southern parts of the Kyushu region and Shikoku island to the Kii Peninsula on Honshu island.

To formulate the multi-axes national land structure, the government adopted "participation and coordination" as the development method in the fifth CNDP. More specifically, the Large International Interchange Area was directed towards globalization of the economy, while the Multi-Natural Residential Area addressed the globalization of environmental problems. To improve the rural areas, the government intended to turn these areas into Multi-Natural Residential Areas. The Japanese changed their sense of values, and came to have a better impression of these small cities, towns and villages than before. This is because urban areas have experienced so-called combined serious urban problems such as high land prices, long-distance commuting, air pollution, and shortage of water and garbage disposal sites. To respond to such change in terms of values, and to maximize the benefits deriving from the natural wealth in rural areas, the fifth CNDP encouraged the counter-movement of urban residents to these rural areas by means of industrial development, job creation and construction of living-oriented social capitals in the rural areas. Regarding the Large International Interchange Areas, on the other hand, Japan developed airports and harbors as gateways for Asia and other parts of the world because parallel with globalization of the economy international interchange must become more active than ever. To improve access to these airports and harbors, the government promoted construction policies for transporta-

tion networks like highways and high-speed railway networks. Especially, the One Day Traffic Area Program presented in the fourth CNDP was expanded to the One Day Traffic Area in East Asia in the fifth CNDP because interchanges of goods and people are expected to drastically increase in the East.

The fifth CNDP seems to be concerned with both globalization of environmental problems and the economy. Because it is still under way, and should be implemented by 2010-2015, we can expect it to reorganize national land structure in Japan in the near future in response to globalization.

Concluding remarks

Although the Japanese socio-economic system originally revolved around local industry that utilized local resources and circulated its products in a region, the system moved to a mass production, consumption and disposal one with the conversion of industrial and regional structures in the 1960s. After the 1980s, the system more deeply depended upon mass production, consumption and disposal due to the globalization of the economy, and in turn such a socio-economic system brought globalization of environmental problems (KITAMURA, 1999).

In the course of implementation of the five national development plans, the Japanese government intended to absorb three elements of sustainable development, namely economic growth, social development, and environment conservation. In the fifth CNDP, Japan showed an orientation towards sustainable development by means of the valley coordination axis, which is the minimum unit of a regional coordination axis, and an independent region with its own production, consumption and disposal system under a limit of environmental capacity (YAMASHITA, 1999). This suggests that it is necessary for Japan to alter its land planning to an ecological one from the point of view of sustainable development which harmonizes socio-economic development with environmental conservation. In the context of urban planning, this also indicates the creation of sustainable cities within the broader urban area, which seems to be a microcosmos of land planning (YAMASHITA, 2000). We expect, therefore, the construction of a sustainable landform from the viewpoint of both ecology and socio-economic development.

The influence of Jean Gottmann's thought on the Comprehensive National Development Plans is obvious. In the first and second CNDPs, the Tokaido megalopolis was established by implementation of the Pacific Belt Area Program (GOTTMANN, 1981). Tokyo, which was and still is a core of the Tokaido megalopolis, planned to be a world city (GOTTMANN, 1979a) like New York or London, in the fourth CNDP. In the fifth Development Plan for Tokyo Metropolitan Area, Business Core Cities (GOTTMANN, 1979b), like Yokohama, Saitama or Chiba city, were built within the Tokyo metropolitan area to decentralize some functions from Tokyo. The importance of the natural environment in urban space, which Gottmann (1961) emphasized, was observed in various aspects of the National Land Plan in Japan after the formulation of the Tokaido megalopolis. This indicates that Gottmann's thought presented approximately 40 years ago will be realized in the fifth CNDP from now on.

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