HALFWAY TO 2030:

JAPAN SDG LOCAL AND REGIONAL REPORT 2023

United Nations Centre for Regional Development (UNCRD)
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Table of Contents

Introduction by the Editor

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The SDG Summit will be held in 2023, for the first time in four years. This year is being seen as the half-way point between 2015 when the SDGs were launched and the target year of 2030, so various initiatives are under way to review progress to date and explore directions for future efforts. One of these is the Global Sustainable Development Report 2023 (GSDR 2023), for which I am a contributor. This report by 15 experts appointed by the UN Secretary-General in early 2020 is being characterised as an "assessment of assessments" based on a variety of existing reports and research. They assessed progress to date, drew hints from scenarios analysing future development paths, and presented the essence of what is necessary for future transformation. It was already considered to be a difficult task to achieve the SDGs by the target year, but the triple challenges of the COVID-19 pandemic, the climate crisis, and the impacts of war, have made it even more difficult. Some progress has been slow, and it has also become clear that there has been some regression in efforts to achieve the goals since 2015.

On the other hand, the seeds of change to realise sustainable development are starting to show up everywhere. Awareness of the SDGs has increased, and we can now witness goal-setting at the national, local, and corporate levels. In some regions we can also see institutional progress being made. Examples of digital technologies being used to achieve goals rapidly are beginning to appear, albeit still on a small scale. How can we cultivate these seeds, expand actions, and help them become established in society? Accelerating change will be a crucial challenge going forward, and to that end we need to seek synergies.

The promotion of women's empowerment can improve work styles. This can reduce the consumption of energy, and the necessary energy can come from renewables. The energy generated by solar panels installed at home can be used in daily life, but it can also serve as a power source for electric vehicles. It could even provide energy in the event of a disaster.

A sound grasp of the current situation is the basis to bring about such changes. The SDGs provide a set of goals, but the rules for achieving them have not been prescribed globally or in detail. What is being done, however, is the checking and assessing of progress. When considering next steps, we can compensate for weaknesses and build on strengths.

At the world level, global indicators have been set and progress is being monitored. Such monitoring

is also happening in Japan, and there are attempts to measure progress at the local government level. However, there are trade-offs in the designs and types of indicators—between the universality need for measuring with comparable, unified indicators, versus the specificity needed for measuring the distance from targets while reflecting local characteristics. It is always a challenge to find ways to balance these trade-offs.

This report admirably takes on this difficult task and succeeds in showing the distance between reality and the SDGs in Japan in a clear and simple manner. About 90% of the Japanese population knows about the SDGs, a very high awareness level in the global context, but the percentage taking action in Japan is extremely low. This report can provide some hints about the driving factors and regional differences behind those numbers. It is my hope that this report will be utilised to accelerate local and national actions while also helping to assess the situation based on objective indicators.

Forging the Next Era
Follow-up and Review

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When "Transforming Our World: The 2030 Agenda for Sustainable Development" was adopted in September 2015, the Sustainable Development Goals (SDGs) were listed as goals to be achieved by 2030. Now that eight years have passed, we are at the half-way point.

To determine whether we can achieve our goals by 2030, it is important to carry out a follow-up and review to check in on what has been achieved so far, what challenges remain, and what is the road ahead. This process is an opportunity to re-examine the path forward to achieve the SDGs and to make whatever adjustments are needed going forward.

The key to follow-up and review is the use of the right indicators. These indicators make it possible to grasp the actual situation, identify issues, and consider actions to address them. It is no exaggeration to say that the development and effective use of appropriate indicators will significantly affect the achievement of the SDGs.

To protect our health and live long, we as humans have regular health checkups. If a problem is discovered, we can make improvements and adjust our lifestyles. The importance of implementing follow-up and review of local government initiatives is similar. A community's sustainability can be improved if the local government finds problems in what it is doing, is able to review plans and measures at that stage, and take corrective actions.

This report is a summary of a follow-up and review using indicators to examine local government efforts nationwide in Japan. With a view to achieving the SDGs by 2030, it shows where steady progress has been made as well as where there has been little progress, and clarifies what is necessary for efforts going forward. I sincerely hope that this report will be used by many stakeholders to make the second half of the period leading up to 2030 more impactful and to effectively advance efforts toward achieving the goals.

Introduction

Kazushige Endo

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The United Nations Centre for Regional Development (UNCRD) is based in Nagoya City, Aichi Prefecture, and belongs to the Division for Sustainable Development Goals (DSDG), which is responsible for the SDGs, under the Department of Economic and Social Affairs (UN DESA) at the UN Headquarters. To accelerate the achievement of the SDGs, we support the efforts of stakeholders in Japan (especially in the Chubu region) based on the latest developments from the UN Headquarters, and we also work to share information about Japan's SDG model with other countries in Asia and the rest of the world, as well as with the UN Headquarters in New York.

As many people know, the SDGs have become an indispensable framework for the management and operations of many actors, including local governments and companies. Notably, for local governments to tackle the SDGs, it is essential not only to promote locally-appropriate and innovative initiatives, but also to collect information to grasp the status of initiatives and challenges, monitor and assess them, and to disseminate information in user-friendly format.

Knowing th at frameworks are needed to visualize issues, progress, and results in achieving the goals, UNCRD launched the Research Group on SDG Monitoring for Local Governments in fiscal 2020 and has been working to develop "Handbooks for SDG Monitoring by Local Governments," in partnership with Nagoya City, Toyota City, Toppan Inc., Esri Japan Corporation, and Dia Nippon Engineering Consultants Co., Ltd. To date we have published Part A (Evaluating the Achievement of SDG Local Actions), Part B (Building Institutional Mechanisms and Managing Progress toward SDGs by Local Governments), and Part C (Efforts to Disseminate Information and Visualize Local SDGs). Using an online GIS system, we have published assessment results based on these frameworks for 47 prefectures, as well as 19 cities in the Chubu region (to be expanded in the future).

On this occasion, the Editorial Board decided to publish a report to look back at the progress made by local governments in Japan up 2023, the half-way point for the SDGs, aiming to provide an opportunity for each region to promote the SDGs more effectively in the second half of the target period. The report assesses and analyses the degree of achievement of the SDGs by local governments (47 prefectures and 1,741 municipalities) in Japan from 2015 to 2022, using the indicators developed.

I would like to express sincere appreciation to Professor Norichika Kanie of the Graduate School of Media and Governance, Keio University, and Professor Shun Kawakubo of the Faculty of Engineering and Design, Hosei University, for their valuable advice on the Research Group's activities.

I sincerely hope that the use of this report will further build momentum toward the achievement of the SDGs through the efforts of local governments in Japan and around the world that are engaged in monitoring and assessing the progress of SDG implementation and in the voluntary local reviews (VLRs) being recommended by the United Nations, that it will encourage consideration of SDG achievements, challenges, and further transformation, and that it will contribute to the effective promotion of SDG activities and projects.

Executive Summary

This report assesses and analyses the progress of local governments from 2015 to 2022 in Japan in achieving the Sustainable Development Goals (SDGs), covering the period from their adoption until halfway to 2030, the target year for the SDGs. It uses 56 objective indicators to assess local governments in Japan (47 prefectures and 1,741 municipalities) for SDG goals and targets, reviews the levels of achievement to the half-way point, and analyses achievement trends based on regional characteristics, as well as trends and changes for each goal.

The indicators used to assess SDG achievements in this report were developed in 2021 and 2022 by the Research Group on SDG Monitoring for Local Governments, led by the UNCRD. They are designed specifically to reflect the statistics and characteristics of local governments in Japan, with an emphasis on the following four points. First, to localise based on statistics relevant to Japanese regions and cities; second, to clarify the correlation with SDG targets; third, to focus only on outcome indicators; and fourth, to be based on international targets to the extent possible.

After determining 56 indicators based on these concepts, metrics were developed to represent the degree of achievement from 0 to 100 based on proposed international targets and assumed priorities in Japan and globally, and these were used as indicators for evaluation and visualization by calculating the geometric mean for each goal.

In 2022, Goal 9 had the highest level of achievement by local governments in Japan, followed by Goal 8, indicating high achievement levels relating to the economy and employment. On the other hand, achievement of Goals 2 and 5 was very low, a sign of stagnation or deterioration relative to 2015. Looking at changes since 2015, there have been improvements on 13 goals. Most of the improvements were by less than 10%, but at this rate it is clear that no goals are likely to be achieved by 2030. Major changes are needed to achieve any breakthroughs. Although Goals 7 and 17 showed significant improvements, it is a big concern that neither of them are likely to continue improving in the lead-up to 2030.

An even more important observation is that the trends vary significantly from region to region. Even if the achievement rate is high in terms of the national average, disparities among prefectures are high for many goals. For example, for Goal 9, more than half of the prefectures have achievement levels below 70%, and achievements are concentrated in just a subset of prefectures. For Goal 13, relating to climate change, there are large North-South disparities in Japan, and even if socioeconomic conditions in southwestern Japan do not change significantly, achievement of this goal is trending lower than in 2015 due to growing climate risks.

There are significant disparities between rural and urban areas, the latter having larger populations and economies. Prefectures with major urban centres show high levels of economic achievements (e.g., Goals 8 and 9) and health and education achievements (e.g., Goals 3 and 4), but the levels of environmental achievements (e.g., Goals 12, 13, 14, and 15) tend to be lower. On the other hand, rural areas show high achievement levels related to resource supply (e.g., Goals 2 and 7), and related to biodiversity (e.g., Goals 14 and 15). This trend is even more pronounced at the municipal level. For Japan as a whole to achieve the SDGs in the lead-up to 2030, it will be crucial not only to build on each city's strengths, but also to realise good urban/rural partnerships and collaboration.

Trends and changes for each goal are summarised below.

Goal 1:	Slight improvement. Urban areas tend to rank high, but regional disparities are declining due to large improvements in rural areas.
Goal 2:	Slight worsening. Declines in food self-sufficiency rate, agriculture and fisheries output. Declines in urban areas widened regional disparities.
Goal 3:	Levels of achievement are high nationwide, and regional disparities are small. However, disparities are widening slightly.
Goal 4:	No change. Fewer children are on childcare waitlists, but academic achievement is declining. Regional disparities are decreasing.
Goal 5:	Low achievement nationwide, and little change. Measures must be taken nationwide and in all sectors.
Goal 6:	No change. Achievements tend to be lower in downstream watersheds on the Pacific side of the country. Efforts are needed to improve water quality.
Goal 7:	Improving with expansion of renewable energy. Big improvements in rural areas have widened disparities.
Goal 8:	No change. Levels of achievement are high nationwide, regional disparities are small.
Goal 9:	Levels of achievement are high nationwide, but rural/urban disparities are very large.
Goal 10:	No change. Levels of achievement are low in some areas near large cities and in some rural areas.
Goal 11:	No change. Inter-regional disparities are small. Tokai and Kanto regions are on a downward trend and need to improve.
Goal 12:	Slight improvements, with a declining trend in waste volumes. Large inter-regional disparities in levels of achievement and trends.
Goal 13	Large fluctuations from year to year, but achievements are worsening. Biggest declines in achievement are in western Japan due increased prevalence of heat stroke.
Goal 14:	No change. Achievements tend to be lower in downstream watersheds on the Pacific side of the country. Large inter-regional disparities.
Goal 15:	Slight improvement. Regional disparities are also decreasing. Large disparities in changes between regions. Each region requires dedicated attention.
Goal 16:	Worsening trend due to increases in cases of child abuse counselling. However, increased access to counselling may affect numbers.
Goal 17:	Improving trend due to greater promotion of the SDGs. Regional disparities are widening, and there are large disparities in the status of efforts.

Based on these findings, for each region of Japan to achieve the goals leading up to 2030, it will be crucial to prioritise approaches to the goals where there has not yet been much improvement, broad regional and multi-sectoral partnerships, and precautionary approaches to address future risks including climate change and biodiversity, etc. To do so, it is crucial for each region to have a highly granular, data-based understanding of its own situation. It is hoped that this report will help each region of Japan as it tackles the SDGs from the half-way point until 2030.

1. Introduction and Context

1.1 SDGs at a Crossroad

Eight years have passed since the adoption of "The 2030 Agenda for Sustainable Development (2030 Agenda)" at the United Nations Summit on Sustainable Development in 2015 and it is about halfway to the target year. SDGs have been spread and promoted in different places of the world and they are becoming a major code of conduct for not only governments, but also companies, regions, and citizens.

However, the world is still in the midst of a predicament. The Sustainable Development Goals Report Special edition published by the United Nations in 2023 states that the progress in achieving the goals was significantly hampered by the climate crisis, the war in Ukraine, global economic downturn, and the COVID-19 pandemic. It was pointed out that the half of about evaluable 140 targets greatly deviated from the desirable track and more than 30% of these targets showed no progress while some targets showed regression from the baseline value of 2015. In addition, the Sustainable Development Report 2023 says that the effects of the COVID-19 pandemic on the unemployment rate and subjective well-being were small in high-income countries but very large in low-income countries, making the regional disparity greater. Compared with the situation in 2015 when SDGs were adopted, respective countries and regions have more diverse issues and it would be difficult to achieve the goals if the speed of progress stays at the same level in the first half period.

1.2 Local Actions Taken and Challenges in Japan

Active efforts have been made to achieve SDGs in Japan. After the government established the "SDGs Promotion Headquarters" chaired by the prime minister and composed of all ministers and the "SDGs Promotion Roundtable Meeting" composed of diverse stakeholders, and formulated the "SDGs Implementation Guiding Principles" in 2016, companies, citizens, and regions/municipalities started active involvement. In particular, local governments have been making various efforts since 2018 in relation to a program in which prefectures/municipalities taking outstanding initiatives to achieve SDGs by integrating three aspects of economy, society, and environment are selected as a "SDGs Future City". About 30 prefectures/municipalities are selected annually, and 182 have been selected up to 2023. Unselected prefectures/municipalities are also working actively, and about 60% of all 1,788 prefectures and municipalities says that they are promoting SDGs as of 2022, meaning that local actions are becoming a norm.

On the other hand, it is not yet clear to what extent these local actions are contributing to the national or global goal achievement. When the efforts in Japan are looked from an international point of view

through the sustainable development score announced annually by Sustainable Development Solutions Network (SDNN), the overall progress is slightly improved every year but the international ranking is going down, falling behind the level of efforts by other countries. Actions are gradually promoted for many goals but the progress in Goals 13, 14 and 15 regarding climate crisis and biodiversity conservation are stagnant. The achievement level of Goal 5 is low internationally and has not reached the sufficient level.

The second voluntary national review (VNR) published in Japan in 2021 pointed out the challenges that people in a vulnerable potion due to COVID-19 tend to be affected more and "left behind"; that the roles of respective stakeholders are not well defined and therefore, political coordination is not enough for solving trade-offs and enforcing synergies; and that "tools to connect the efforts by local governments, companies, and organisations with the achievement of national and international goals are underdeveloped". Some local governments publish a voluntary local review (VLR) like other progressive cities and regions in the world to monitor their progress, but it is limited to a small number and far from full understanding of local potential for sustainability. It is a problem not only in Japan but also in many other countries.

There is no time to stop off to achieve SDGs by 2030 in Japan and in the world. All Japanese prefectures and municipalities should investigate the inhibitors of sustainable development as detailed as possible, come up with the measures to solve them promptly, and continue the actions.

1.3 Purpose and Structure of the Report

The purpose of the report is to objectively evaluate the progress in SDG achievement in 1,788 Japanese prefectures/municipalities using 56 indicators for SDG achievement correlated with the national and international goals/targets and clarify the changes, issues, and trends as the first step to accelerate local actions for the achievement of the 2030 Agenda. It will link the local actions with the national/ international issues and goal achievement, filling in the missing link which previous VNRs and VLRs could not fully cover.

The structure of the reports is as follows: Chapter 2 describes the method to evaluate the SDG achievement of Japanese prefectures/municipalities. The method used here was developed by the Research Group on SDGs Monitoring for Local Governments headed by UNCRD. Chapter 3 describes the SDG achievement of Japanese local governments in 2022 and the changes/trends between 2015 and 2022. In Chapter 4, a relationship between these changes and regional characteristics is analysed and described. Chapter 5 shows the data by goal. The last chapter describes the points for further actions in the latter half period and how to use the report.

2. SDG Achievement Indicators for Japanese Prefectures and Municipalities

2.1 Overview of Achievement Evaluation and Indicator Selection Process

Various institutions have developed indicators for quantitative evaluation of SDG achievement, but none of them was appropriate for evaluating the achievement level of prefectures and municipalities in Japan. SDSN and the Organisation for Economic Cooperation and Development (OECD) have developed indicators for countries and cities from a global point of view but these indicators are not suitable for statistical situation in Japan, therefore the data at the municipal level were not available and some of the indicators were missing. The Cabinet Office of Japan has also developed national indicators that correspond to the global indicators, but because the main aim is general management of policy progress, there are too many indicators and the indicators for evaluating efforts/process and those for evaluating the local situation are mixed. Some local governments set their own indicators but many of them focus on specific local issues or interests and their correlation with the global goals and targets is not clear.

The Research Group on SDG Monitoring for Local Governments developed indicators in 2021-2022 for evaluating SDG achievement for local governments in Japan. These indicators were designed with emphasis on the following 4 points: (1) localization that matches the statistical situations of regions and municipalities in Japan; (2) clear linkage with SDG targets; (3) narrowing down to outcomes; and (4) using the international goals as the standards whenever possible.

As shown in Figure 2.1, the first step of indicator selection is to identify the indicators that are relevant to prefectures/municipalities out of the 169 SDG targets (Step1). The SDG targets that are not suitable for local actions are eliminated to narrow down to 142 targets.

Then, outcome indicators corresponding to each SDG target are selected with reference to existing indicators (Step 2). These are further narrowed down to two to four representative indicators for each goal. (Step 3). Finally, the target value and the baseline value for each indicator are determined so that the achievement level of indicator can be expressed from 0% to 100% (Step 4).
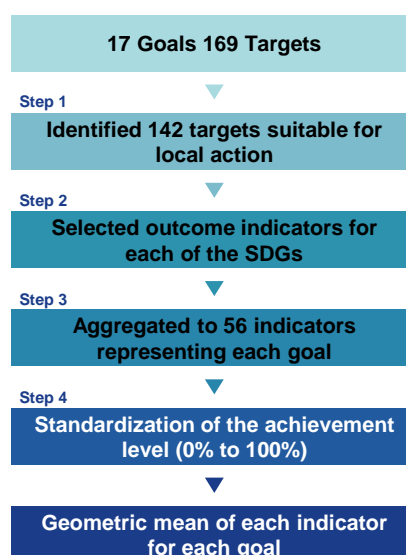

17 Goals 169 Targets

Step 1
Identified 142 targets suitable for local action

Step 2
Selected outcome indicators for each of the SDGs

Step 3
Aggregated to 56 indicators representing each goal

Step 4
Standardization of the achievement level (0% to 100%)

Geometric mean of each indicator for each goal

Figure 2.1 │ Selection Process of Indicators

9

2.2 Indicators for Evaluating SDG Achievement

A list of indicators for evaluating SDG achievement is shown in Figure2.2.

There are a total of 56 indicators and three to five indicators are allocated to each goal. Indicators relevant to multiple goals are accounted in each related goal. All the indicators have clear correspondence between the increase or decrease of the indicator and the good or bad result. As the nature of statistical data collected at the prefectural and municipal levels are different, the prefectural average may be used to evaluate municipal actions for some indicators. Localization to match the statistical situation in Japan makes it possible to include many indicators relevant to the challenges that Japan is now facing such as relative poverty rate (1), food self-sufficiency rate (7), installed renewable energy capacity (24), flood-prone areas (41), and heat stroke (42).

Figure 2.3 shows correlation between the 169 targets and the selected indicators. All of the identified 142 targets are represented by any of the selected 56 indicators, which enable comprehensive understanding of SDGs at the municipal and regional levels. It also clearly shows the relationships among the goals.

2.3 Normalisation of Indicators

To use these indicators for achievement evaluation, all indicators have been normalized into achievement levels from the baseline value of 0 (minimum) to the target value of 100, complying with the international standards as much as possible. In setting a target value, if a clear value is set for an SDG target (for example, "to reach zero" or "to decrease by half"), that value is used. If such a value is not indicated and the international statistical data are available, the top and bottom values are determined in reference to each country's data. If the statistical data are available only in Japan, the values are set based on the multiples of the national average. The statistical data to be used, and the identified baseline and target values are shown in Appendix.
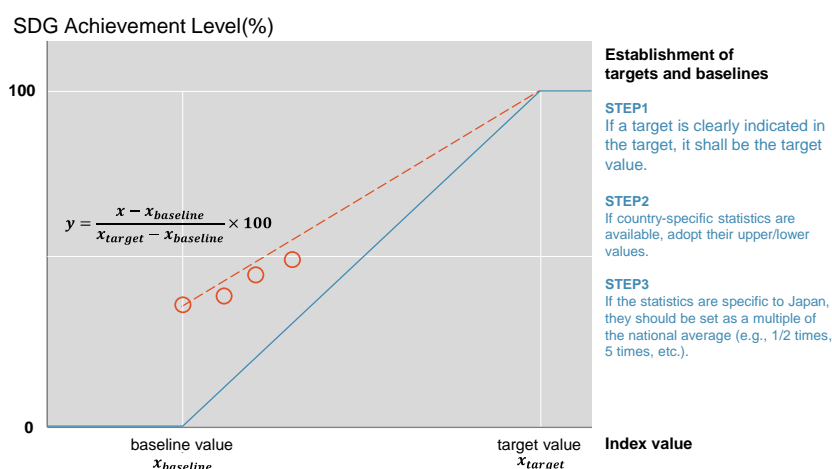

SDG Achievement Level(%)

$$y = \frac{x - x_{baseline}}{x_{target} - x_{baseline}} \times 100$$

Establishment of targets and baselines

STEP1
If a target is clearly indicated in the target, it shall be the target value.

STEP2
If country-specific statistics are available, adopt their upper/lower values.

STEP3
If the statistics are specific to Japan, they should be set as a multiple of the national average (e.g., 1/2 times, 5 times, etc.).

baseline value $x_{baseline}$ target value x_{target} Index value

Figure 2.4 │ Normalisation and How to Set the Target Value

No	SDG Local Achievement Index	Related goals			Direction	Municipal levels
1	Relative poverty rate	1	2	10	-	
2	Rate of households receiving livelihood protection	1			-	
3	Number of homeless per 100,000 population	1			-	*1
4	Number of deaths from malnutrition per 100,000 population	2			-	*2
5	Percentage of children with poor nutrition	2			-	*3
6	Agriculture and fisheries output per capita	2			+	
7	Food self-sufficiency rate (on a calorie basis)	2			+	*2
8	Neonatal mortality rate	3			-	
9	Number of youth deaths per 1,000 population	3			-	
10	Number of suicides per 100,000 population	3			-	
11	Healthy life expectancy	3			+	*2
12	Number of traffic deaths per 10,000 population	3			-	
13	Percentage of children on waiting lists for nursery schools and kindergartens	4			-	
14	Percentage of junior high school graduates who go on to higher education	4			+	
15	Gender Parity Index in college and university enrollment	4	5		N	
16	Average percentage of correct answers on academic assessments	4			+	*2
17	Number of confirmed sex crimes per 1,000 women	5			-	*3
18	Gender Parity Index for household workers	5			N	
19	Gender parity index for managerial occupations	5	10		N	
20	Water supply coverage	6	1	11	+	
21	Sewage treatment coverage	6			+	
22	Water consumption per capita (based on a withdrawal basis)	6			-	*2
23	Percentage of population with access to electricity	7			+	
24	Renewable energy installation capacity per capita	7			+	
25	Gross output per unit of final energy consumption	7			+	
26	Growth rate of gross city/prefectural product per capita	8			+	
27	Unemployment rate	8			-	
28	Percentage of population aged 15-24 not in employment, education or training (NEET)	8			-	
29	Manufactured value added per employee	9			+	
30	CO2 emissions per million-yen unit of added value	9	8		-	
31	Number of patent applications filed per 100,000 population	9			+	
32	Income growth rate of the lower 40% of income (Decrease rate of households with income of less than 3 million yen)	10			+	
33	Labour's share	10			+	
34	Unemployment rate of foreign workers	10	8		-	*3
35	Percentage of households that live in housing below the minimum living standard	11			-	
36	Public transportation coverage	11			+	
37	SPM (Suspended Particulate Matter) concentration	11			-	
38	Amount of business waste generated per gross city/prefectural product	12			-	
39	Hazardous waste disposal rate	12			+	
40	Recycling rate	12			+	
41	Number of residents in flood-prone areas per 100,000 population	13			-	
42	Number of people sent to hospital due to heat stroke per 100,000 population	13			-	*2
43	CO2 emissions per capita	13			-	
44	River BOD (Biochemical Oxygen Demand)	14	6		-	
45	Percentage change in sales value of fishery catches	14			+	
46	Number of arrests for violations of fishery-related laws per 100,000 population	14			-	
47	Net change rate of forest area	15			+	
48	Number of animals and plants poached or illegally traded per 100,000 population	15			-	*3
49	Number of confirmed alien invasive species per unit area	15			-	*2
50	Number of confirmed homicide cases per 100,000 population	16			-	*3
51	Number of child abuse consultations per 1,000 elementary school students	16			-	
52	Voter turnout	16			+	
53	Fiscal capability index (FCI)	17	10		+	
54	Internet penetration rate	17			+	
55	SDGs promotion index	17			+	
56	Number of sister cities per 100,000 population	17			+	

*1: Less than core city (municipalities with more than 200,000 people) is assumed to be 0.
*2: Use the prefectural average
*3: For municipalities without data, use the prefectural average

Figure 2.2 │ Indicators for SDG Achievement

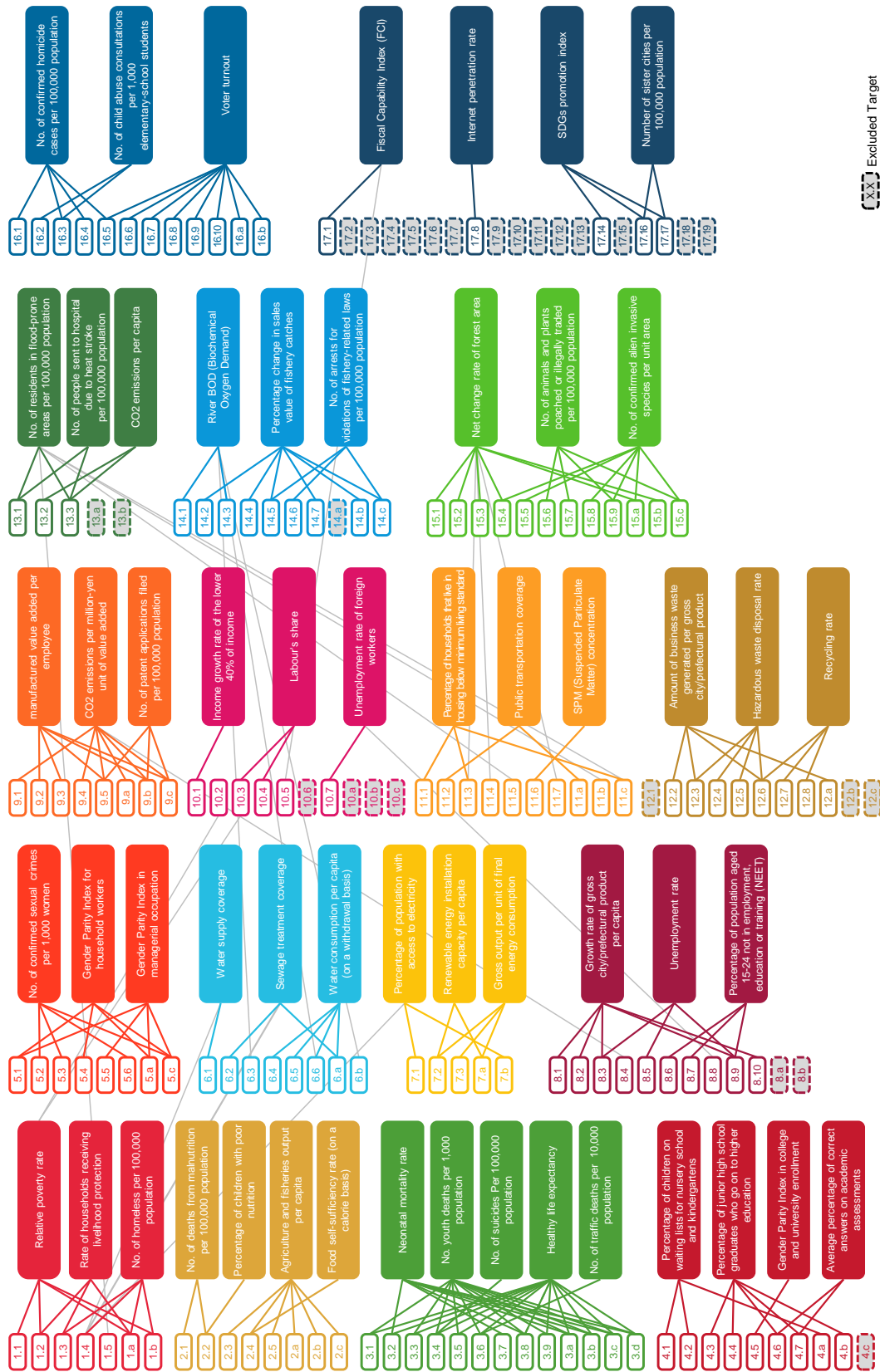**Figure 2.3** | Correlation between SDG Targets and Indicators

3. Progress of SDG Achievement in Japanese Prefectures and Municipalities 2015-2022

3.1 SDG Achievement Level in Prefectures (2022)

Figure 3.1 shows the average SDG achievement level for all prefectures in Japan in 2022 and the change between 2015 and 2022. Goal 9 shows the highest achievement level, followed by Goal 8 and Goal 15. On the other hand, the achievement levels of Goal 2 and Goal 5 are low at less than 50%. The low achievement level of Goal 2 is due to low food production in agriculture and other fields. The achievement level of Goal 5 slightly improved but the percentage is still low.

Looking at the changes since 2015, 13 goals show a trend of improvement but the rate of improvement is less than 10% in most of the goals. With this improvement rate, none of them will reach the target value in 2030. Goal 7 and Goal 17 show great increase in the improvement rate, which are attributed to installed renewable energy and SDG promotion in each region, respectively. The achievement level of Goal 16 decreased and is ranked lower.

Figure 3.2 shows the SDG achievement level in prefectures. Even though the national average of achievement level is high, there is a large variation among prefectures for some goals (for example, Goals 9, 6, and 17), indicating local strengths and weaknesses.
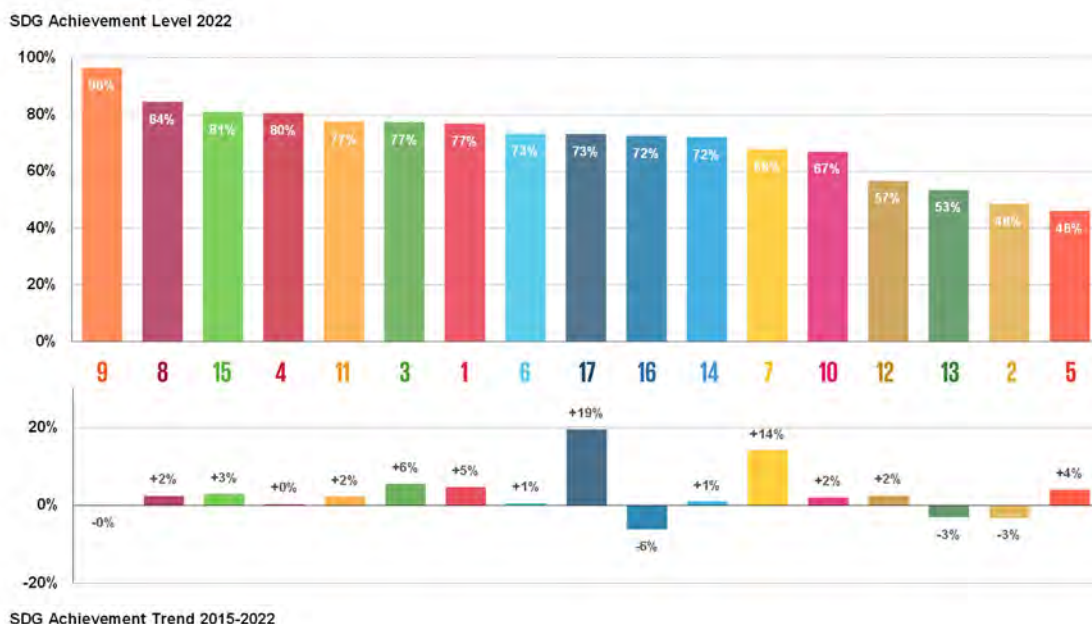
Figure 3.1 │ SDG Achievement Level in 2022 and Change between 2015 and 2022
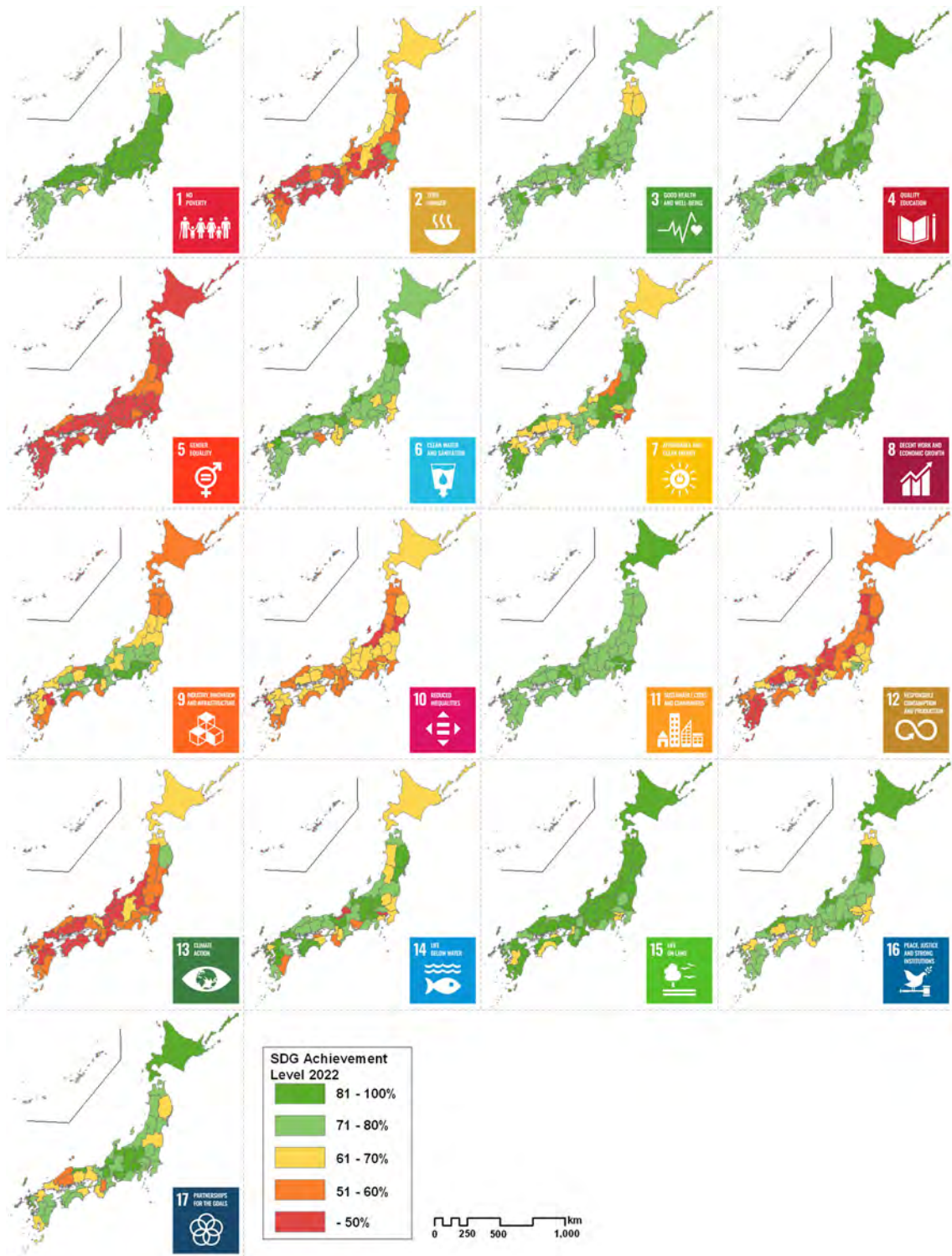
Figure 3.2 │ SDG Achievement Level in Prefectures (2022)

3.2 Change by Indicator and Correlation

The change in the indicator value between 2015 and 2022 is larger than the change in the achievement level of the goal. The achievement levels of Goal 7 and Goal 17 improved considerably because of great increases in installed renewable energy capacity and SDG promotion of local and regional governments, respectively.

The achievement levels of Goals 2, 13, and 16 decreased because the percentage of children with poor nutrition and the food self-sufficiency rate, the number of people sent to hospital due to heat stroke, and the number of child abuse consultations deteriorated, respectively. However, it should be noted that increase in the number of child abuse consultations may be a temporal phenomenon caused by a change in social norms, that is, consultations and notifications are becoming easier than before.

In addition, while there is no change as a whole, the indicator values may not be the same as in the case of Goal 4, where the percentage of children on waiting lists for nursery schools and kindergartens increased and the average percentage of correct answers on academic assessments decreased. Close look at each indicator enables to analyse which factor has improved or worsened for each goal and target, and it will provide useful knowledge for policy making.
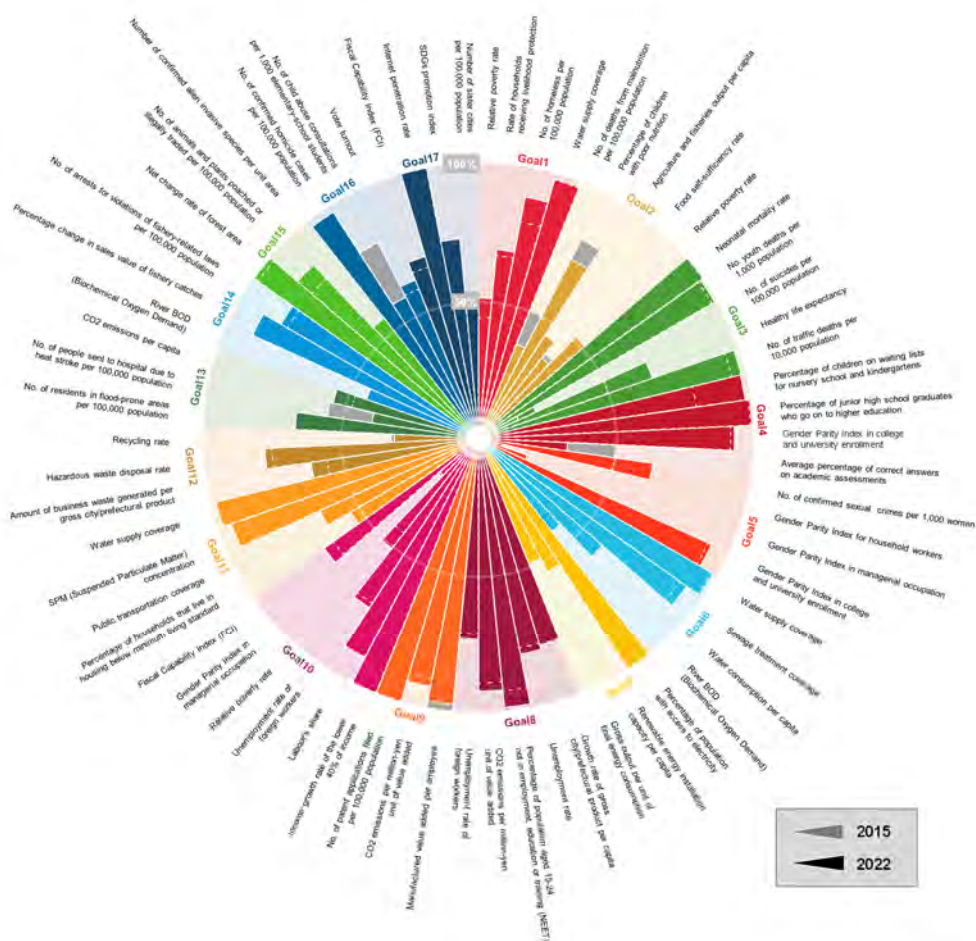
Figure 3.3 │ Indicator Values for SDG Achievement in 2022 and Their Changes (Prefectural Average)

15

Figure 3.4 shows correlations among the indicators. A correlation is found not only among directly related indicators such as CO_2 emissions per capita with CO_2 emissions per million-yen unit of added value and gross output per unit of final energy consumption but also among indicators with no apparent common points such as healthy life expectancy and the number of youth deaths per 1,000 population, and the relative poverty rate and fiscal capability index. In these cases, the indicators may influence each other or area characteristics (e.g., urban/rural), may indirectly influence both indicators.

The indicator that occupies longer length of the arc has a stronger correlation with other indicators and shows representative characteristics. In this case, fiscal capability index, agricultural and fishery output per capita, and installed renewable energy per capita are the indicators with high levels of correlations with other indicators.

Figure 3.4 | Correlations among the SDG Achievement Indicators (2022, Prefectural Average)

16

4. Level of SDG Achievement by Prefecture/Municipality Characteristics

4.1 Distribution of Achievement Level in Prefectures/Municipalities

Figure 4.1 shows the distribution of achievement level and contributing factors in prefectures and municipalities.

Looking at the achievement level distribution for respective goals in prefectures, some goals have a large variation among prefectures while other goals have a small variation. The achievement levels of Goals 3, 4, and 11 are generally high with smaller variations while there is a large variation among prefectures for Goals 9, 2, 12, and 13. The achievement level of Goal 5 is generally low, which means that it is a big challenge to be addressed nationwide.

The achievement level distribution in municipalities shows a similar tendency but the variation is larger than that of prefectures, therefore, it is important for respective municipalities to recognise their challenges and consider the actions for improvement.
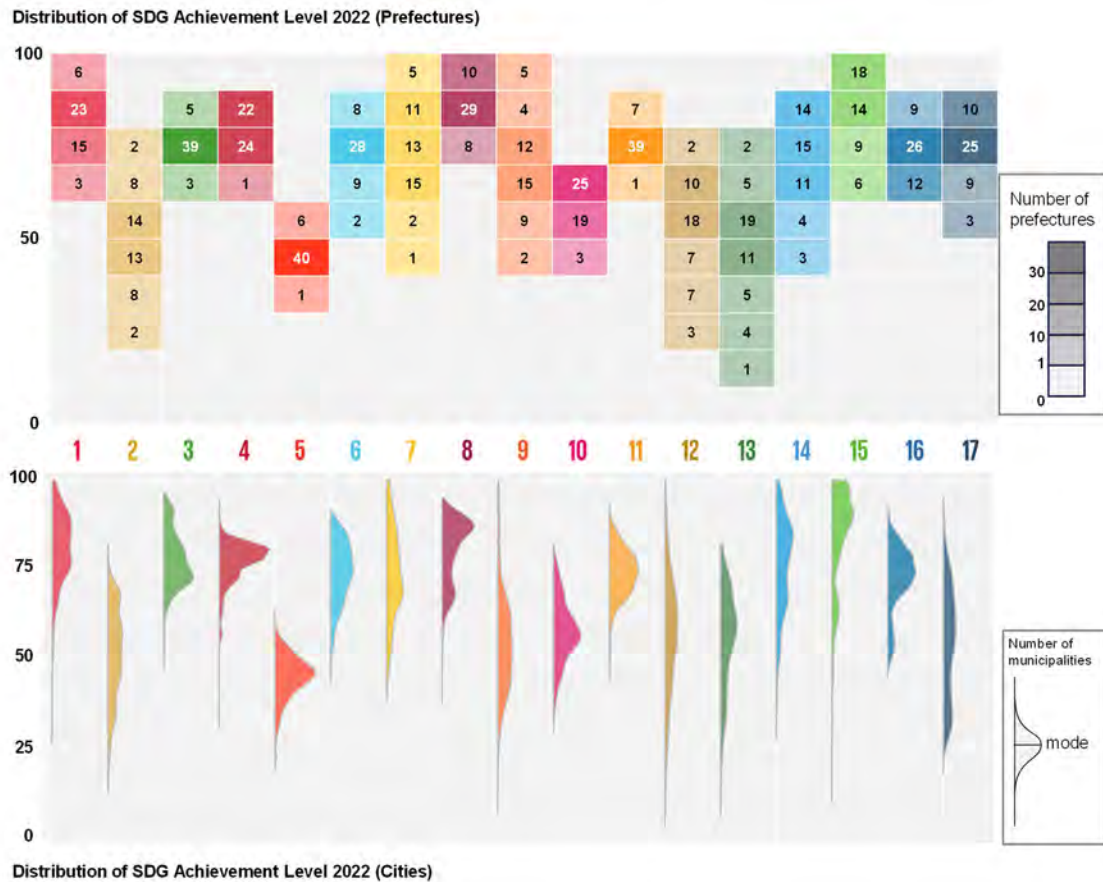
Figure 4.1 | Distribution of SDG Achievement Level in Prefectures and Municipalities (2022)

4.2 SDG Achievement by Regional and Municipal Category

Figure 4.1 shows the SDG achievement level in prefectures by region. It demonstrates regional characteristics and specific issues clearly. In the Hokkaido region at the northern end of Japan with vast nature and urban areas, the achievement levels of Goal 2 and Goal 15 are high on the back of natural resources. The achievement level of Goal 13 is also high because the region is not easily affected by climate change. However, as the region has medium- and small-sized municipalities in the vast land area, employment issues for Goal 9 are not well addressed. In the Kanto region where the capital Tokyo is located, while the achievement levels of Goal 3 and Goal 4 for educational and medical services are high, the achievement levels of Goals 7, 14, and 15 are low because the region depends on other regions in resource consumption.

Looking at the changes between 2015 and 2022, the achievement level of Goal 7 improved greatly thanks to increased renewable energy, especially in the Tohoku, Chugoku, and Shikoku regions. The achievement level of Goal 13 considerably decreased in the Kyushu, Chugoku, and Shikoku regions where the mean temperature is high and it is considered that increase in the number of people sent to the hospital due to heat stroke might have affected it. The achievement level of Goal 17 improved in the Kanto, Chubu, and Kinki regions that hold a metropolitan area.

Figure 4.2 │ SDG Achievement (2022) and Change (2015→2022) in Prefectures by Region

Differences in the SDG achievement level by municipal category are more obvious. As shown in Figure 4.3, when Japanese municipalities are divided into the following categories: a central municipality with a population of 50,000 or more and suburban municipalities in the metropolitan employment area; a central municipality with a population of less than 50,000 and suburban municipalities in the micropolitan employment area; and other municipalities, the achievement level of each goal considerably differs between the central municipality of the metropolitan employment area and other municipalities.

The achievement levels of Goals 8-11 representing mainly the economic aspects, and Goal 1 and Goal 17 tend to be higher in large municipalities. There is more than 20-point difference in the achievement level of Goal 9 between the central municipalities in the metropolitan areas and other municipalities. There was little difference for Goal 17 in 2015 but large municipalities had great improvement by 2022 with more than 10-point difference. Opposite tendency has been observed for Goal 2 and Goal 7 related to resource supply and for Goals 14-16 related to environmental aspects, that is, the achievement level is very high in local municipalities.

The same applies to the changes between 2015 and 2022. However, for Goal 13 related to environmental aspects, climate change has affected more in some municipalities and less in other municipalities regardless of its scale. Currently, the achievement level of large municipalities is lower but the change rate went down considerably in local municipalities. As small municipalities have limited capacity, the situation may deteriorate further.

Note that the effects of population size on the SDG achievement level are not large. Looking at the correlation between the population size of municipalities and the achievement level for each goal in Figure 4.4, there is a slightly positive correlation with the population size for Goals 9, 11, and 17 related to economy and partnership while there is a slightly negative correlation for Goal 2 and Goal 15, however, there is no clear correlation with the population size for other goals. For the above-mentioned goals with slight correlations, the correlation is not strong as seen in the figure and the achievement levels of municipalities with a similar population size differ considerably. The SDG achievement level would change greatly depending on the industrial features, social structure, and on-going policies of respective municipalities.

Figure 4.3 │ SDG Achievement Level (2022) and Its Change (2015→2022) in Municipalities by Category
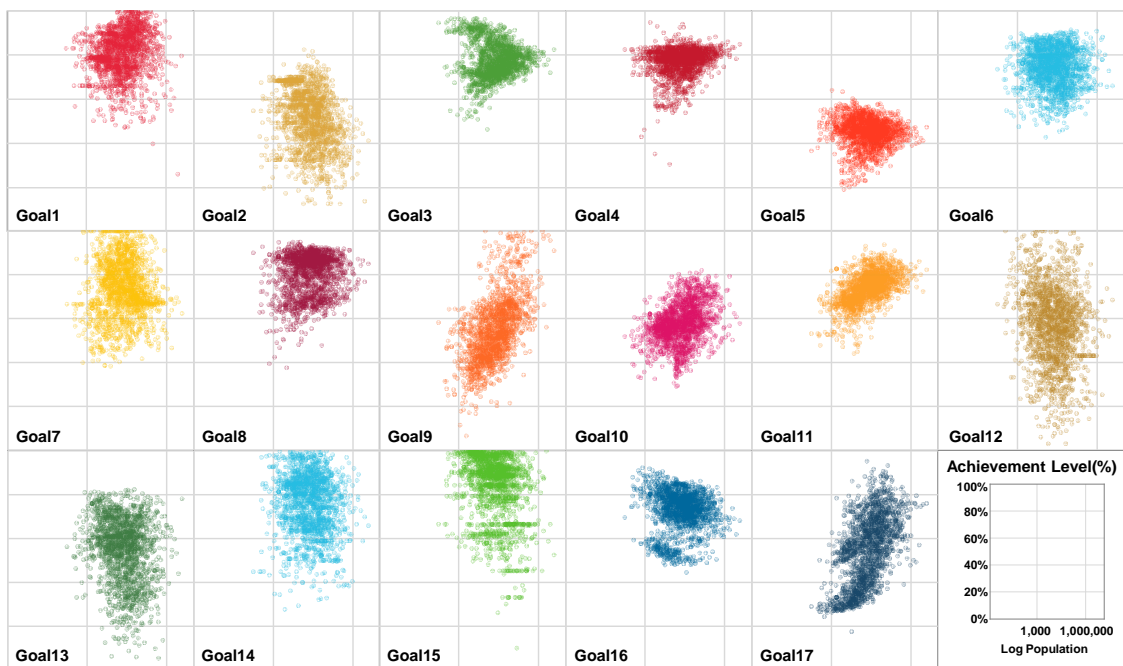
Figure 4.4 │ Correlation between SDG Achievement Level and Municipality Population (2022, Municipalities)

5. Analysis of SDG Achievement by Goal

Changes in respective goals widely differ chronologically and spatially, demonstrating specific situations. Even though the achievement level improved or deteriorated as a whole, the change and the composition of contributing factors for indicators may be different. Even if the achievement level improved nationwide, there may be stagnation or deterioration in some regions. Although the current level of achievement is high, if a sign of deterioration appears, countermeasures should be taken before it becomes too late.

  In this chapter, detailed analysis is conducted for the followings: the changes in the national average for 17 goals and the changes in respective indicators between 2015 and 2022, and distribution of the SDG achievement level in prefectures in 2022 with the change since 2015 and its factors.

  The indicator values for respective years used here may not be updated yearly, and the analysis is based on the latest available data, therefore, note that the indicator value of a specific year may not reflect the actual situation for the year.

Goal 1

・The achievement level of Goal 1 shows a trend of slight improvement between 2015 and 2022, and there is no change in the difference among prefectures.

・Factors contributing to improvement of the achievement level are decreases in the relative poverty rate and the number of homeless. The improvement was substantial, especially up to 2018, but the effects of the COVID-19 pandemic need attention from now on.

・Urban areas tend to have relatively high level of achievement; however, improvement was observed in western Japan such as Kyushu and Shikoku regions as well as Tokyo between 2015 and 2022, reducing the regional disparities slightly.

■Change and distribution of achievement level (2015→2022)
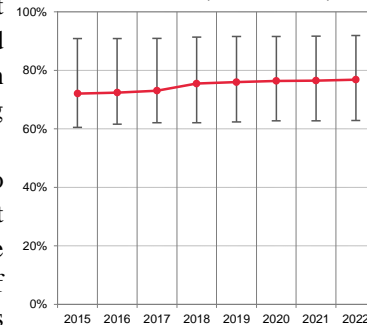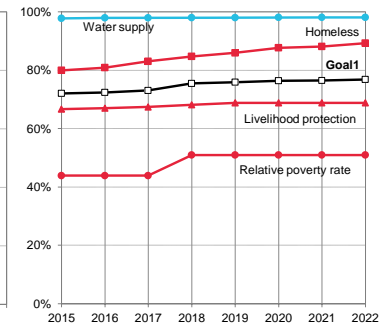
■Change by indicator (2015→2022)
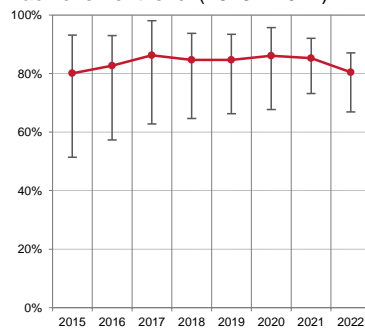

■Distribution of achievement level in prefectures (2022)
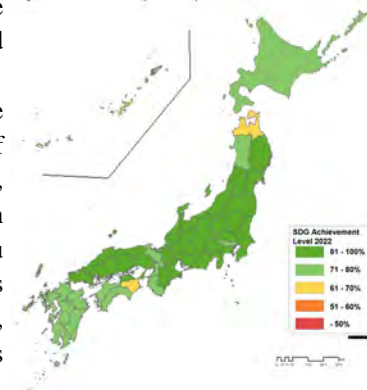
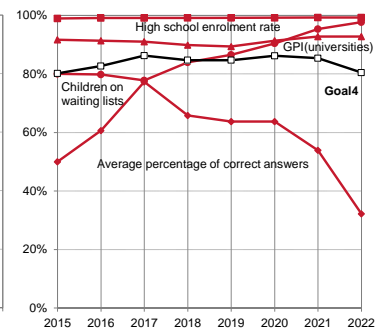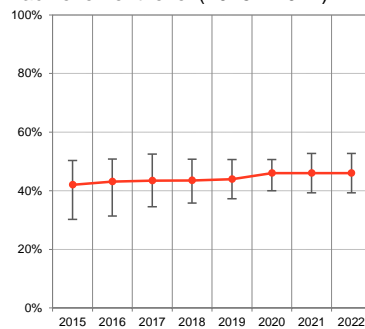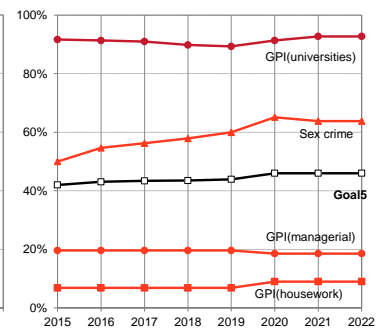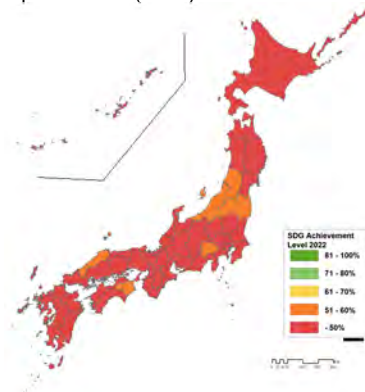■Distribution of change in achievement level in prefectures (2015→2022)
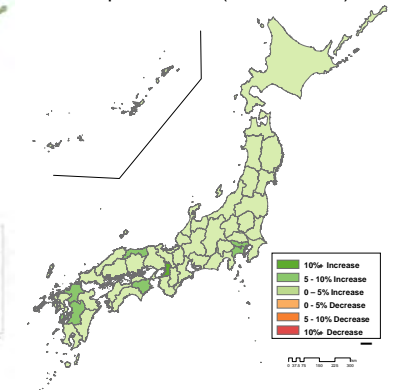
Goal 2

・The achievement level of Goal 2 shows a trend of deterioration between 2015 and 2022, and disparity among prefectures is expanding.

・Multiple factors are contributing: increased children with poor nutrition, decreased agricultural and fishery output, and decreased food self-sufficiency rate. Countermeasures should be taken in both production and consumption aspects.

・The achievement level is low from the western Kanto to western Japan while it is relatively high in the Tohoku and the Hokkaido region.

・The change in the achievement level differs greatly depending on the region. Improvement is seen in the Kyushu, the Hokuriku, and some part of the Tohoku region.

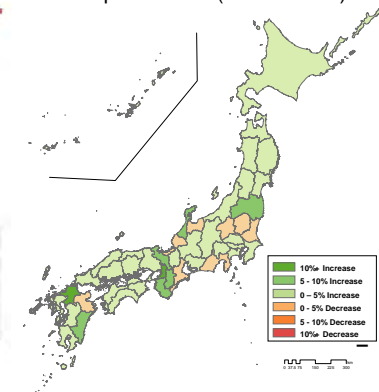■Change and distribution of achievement level (2015→2022)
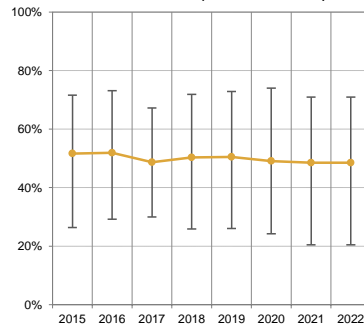
■Change by indicator (2015→2022)
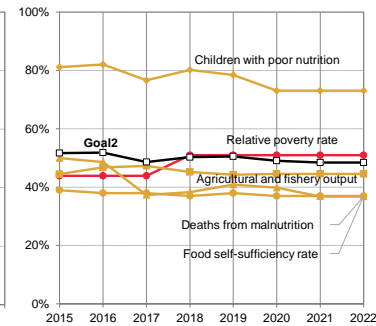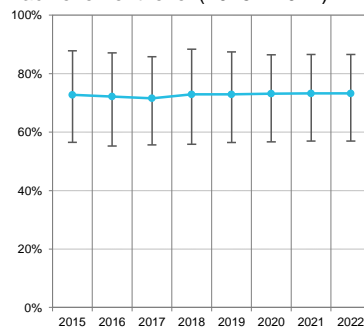

■Distribution of achievement level in prefectures (2022)
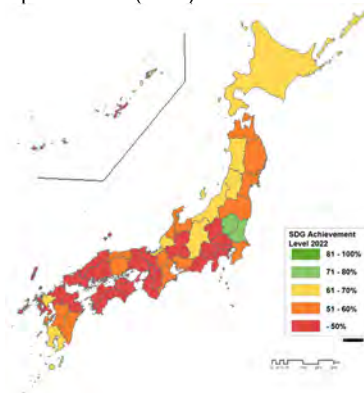
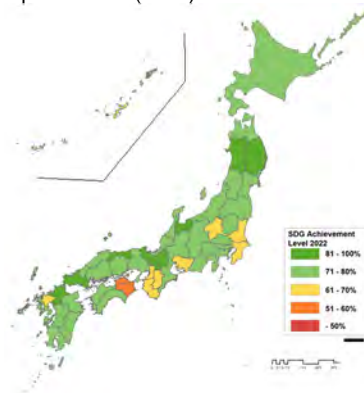■Distribution of change in achievement level in prefectures (2015→2022)
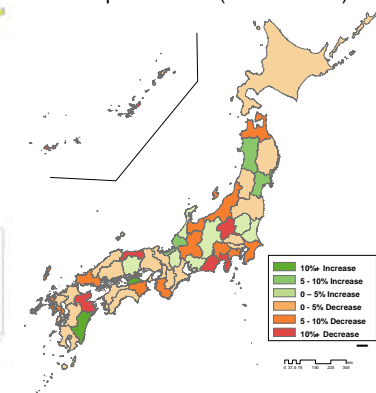
Goal 3

・The achievement level of Goal 3 showed a trend of improvement between 2015 and 2019, but started to slightly go down since 2020.

・Neonatal mortality rate, youth deaths, and traffic deaths had been very good, but increased number of suicides since 2019 lowered the achievement level.

・The achievement level is high nationwide with no regional disparity, but it is slightly low in some part of the Tohoku region.

・The change in the achievement level generally shows great or slight improvement. But deterioration is also seen in some areas, showing a slight sign of regional disparity expansion.

■Change and distribution of achievement level (2015→2022)
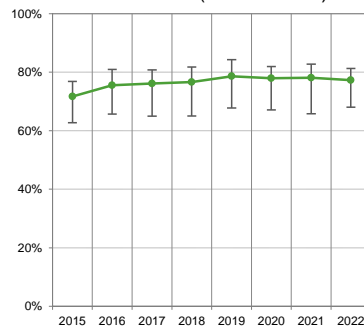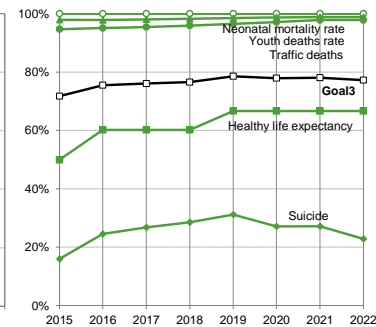
■Change by indicator (2015→2022)

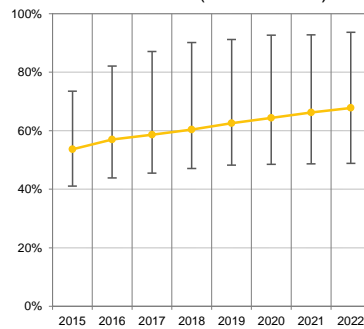■Distribution of achievement level in prefectures (2022)
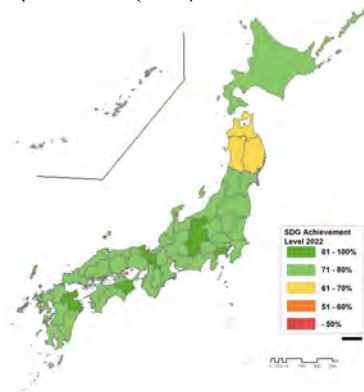
■Distribution of change in achievement level in prefectures (2015→2022)

22
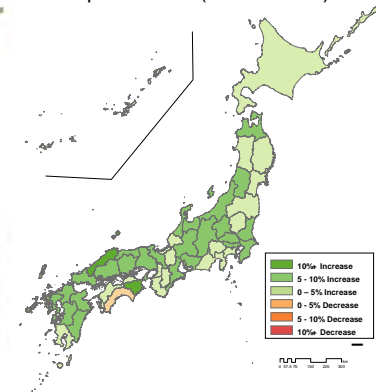
Goal 4

・The achievement level of Goal 4 stays almost the same between 2015 and 2022 with little change.

・For respective indicators, children on waiting lists for nursery schools and kindergartens greatly decreased while average percentage of correct answers on academic assessments has considerably decreased since 2020.

・There is not much difference in the achievement level in prefectures and it is one of the goals with very high achievement level nationwide.

・But looking at the change in the achievement level, the degree of deterioration is stronger in the prefectures on the Sea of Japan side, and countermeasures for improvement are needed in this region.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
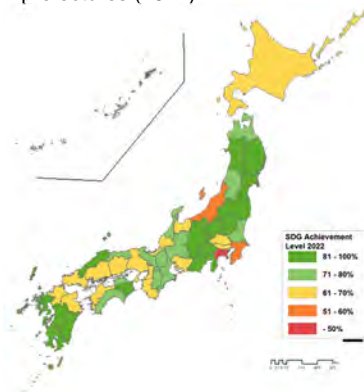

■Distribution of achievement level in prefectures (2022)

■Distribution of change in achievement level in prefectures (2015→2022)
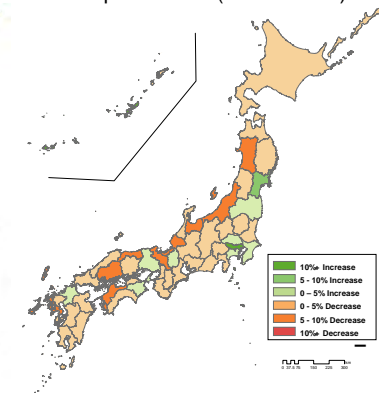
Goal 5

・The achievement level of Goal 5 is very low, and it is less than 50% even in 2022.

・The achievement level shows a trend of slight improvement. The contributing factor is decrease in the number of sex crime. There is almost no improvement in the gender parity index regarding managerial positions and housework.

・The difference among prefectures is small and it is one of the goals that should be addressed aggressively nationwide.

・The degree of improvement is higher in some places such as local urban areas of Fukuoka and Osaka.

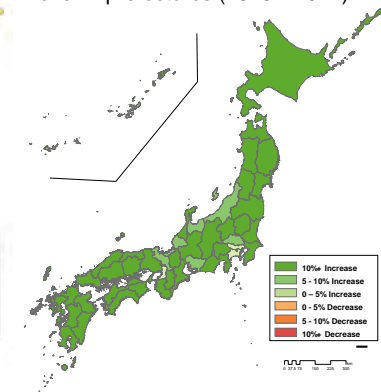■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)
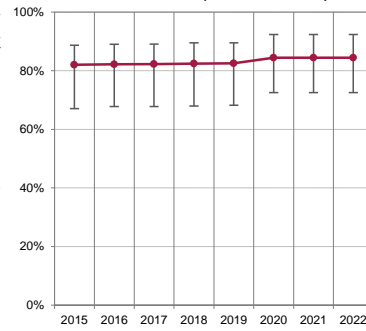

■Distribution of change in achievement level in prefectures (2015→2022)

Goal 6

・The achievement level of Goal 6 stays almost the same between 2015 and 2022 with little change.
・For the change by indicator, river water quality (BOD) and sewage treatment coverage improved and the goal achievement level slightly increased.
・The achievement level does not differ much among prefectures, but some areas with downstream basins of big rivers on the Pacific coast show lower achievement levels.
・The change in the achievement level differs depending on the region, but there are few regions with substantial improvement/deterioration.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)
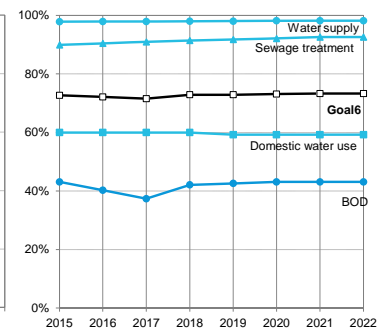
■Distribution of change in achievement level in prefectures (2015→2022)
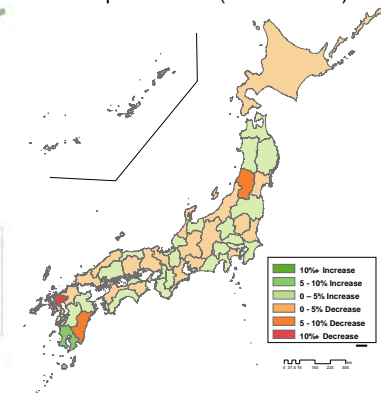
Goal 7

・The achievement level of Goal 7 shows a trend of improvement between 2015 and 2022 but the disparity among prefectures slightly increased.
・For the change by indicator, renewable energy has been promoted and the goal achievement level shows a trend of great improvement. Gross output per unit of final energy consumption has been slightly worsened since 2019.
・The achievement level is high in eastern Japan and the coastal regions while the achievement level is low in large urban areas and around Seto Inland Sea.
・The degree of improvement is generally high nationwide except some areas like Tokyo and Kanagawa where the degree of improvement is low.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)
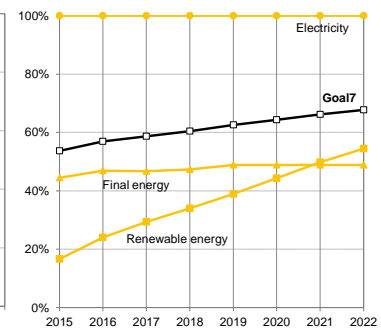
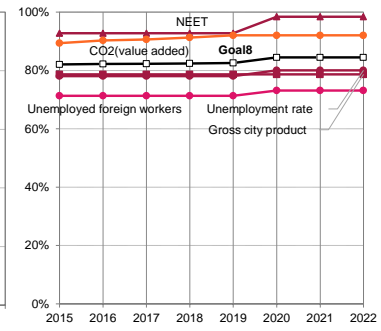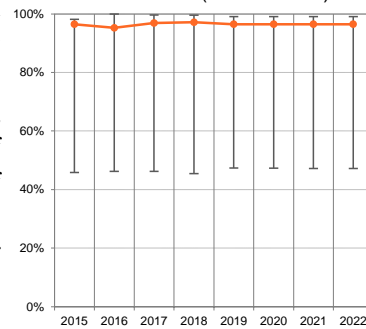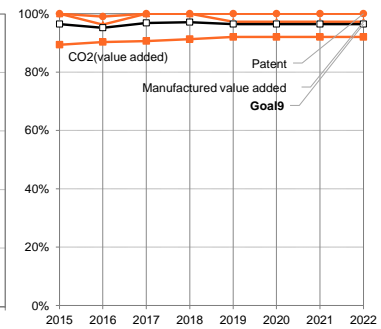■Distribution of change in achievement level in prefectures (2015→2022)

Goal 8

- The achievement level of Goal 8 stayed almost the same between 2015 and 2022 with slight increase between 2019 and 2020.
- For the change by indicator, the percentage of NEET and the unemployment rate of foreign workers slightly improved.
- There is no big difference in the achievement level among prefectures and it is one of the goals with high achievement level nationwide.
- Distribution of change in achievement level shows a positive trend in western Japan but some areas show negative trend and need actions for improvement.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)

■Distribution of change in achievement level in prefectures (2015→2022)
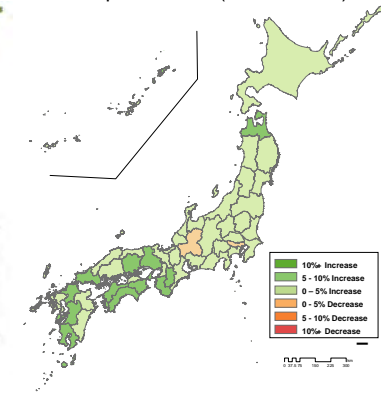
Goal 9

- The achievement level of Goal 9 is very high at 90% or more in Japan but the disparity among prefectures continues to be large.
- For the change by indicator, CO_2 emissions per million-yen unit of added value shows a trend of slight improvement while manufactured value added per employee is slightly worsened.
- The disparity among prefectures is large, with the high achievement level in metropolitan areas and the low achievement level in local areas such as Hokkaido, Tohoku, and Kyushu.
- The change in the achievement level shows a slightly positive trend nationwide but some areas show a negative trend.
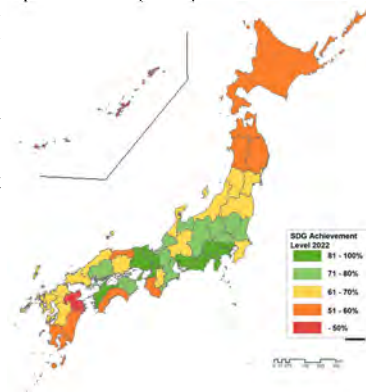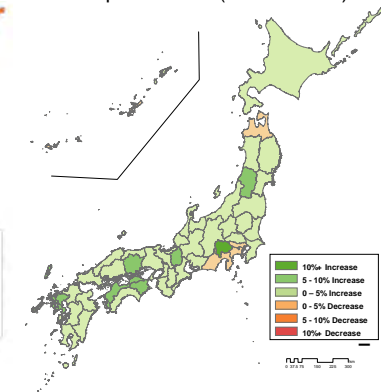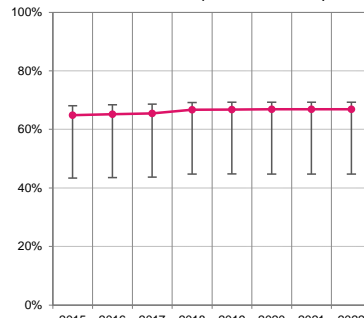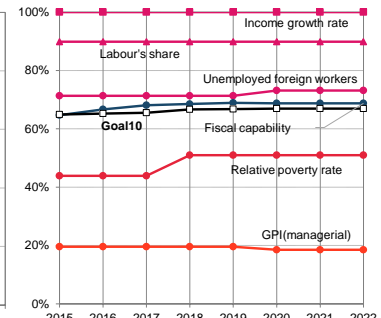
■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)

■Distribution of change in achievement level in prefectures (2015→2022)

25

Goal 10

・The achievement level of Goal 10 is about 70% with little change between 2015 and 2022.
・The change by indicator stays almost the same with little change.
・However, the disparity among prefectures is large and the achievement level is especially low in the rim of metropolitan areas and in the Tohoku region.
・The change in the achievement level up to 2022 differs depending on the region, but there are few regions with substantial improvement/deterioration.
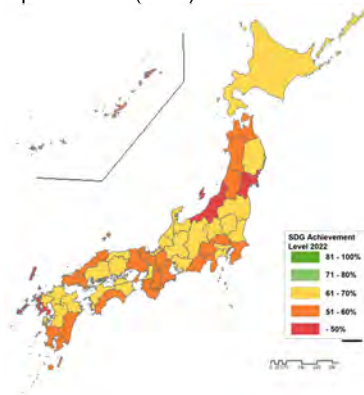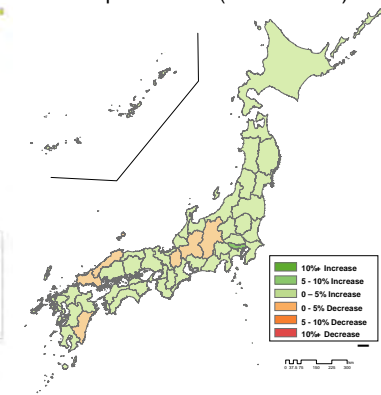
■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
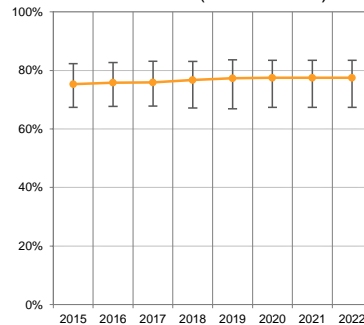

■Distribution of achievement level in prefectures (2022)

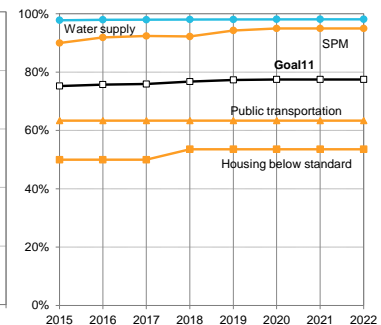■Distribution of change in achievement level in prefectures (2015→2022)

Goal 11

・The achievement level of Goal 11 stays at about 75% with little change between 2015 and 2022.
・For the change by indicator, the achievement level of SPM concentration is high and shows a trend of slight improvement. The percentage of households that live in housing below the minimum living standard slightly improved but the achievement level is still at around 50%.
・The achievement level among prefectures does not differ much and it is concentrated at around 70%-80% nationwide.
・The change in the achievement level shows deterioration in the Tokai region and in Tokyo. Identification of the causes and improvement are needed in these regions.
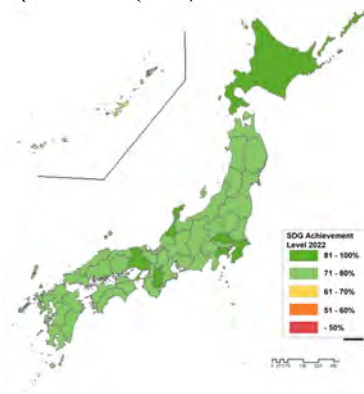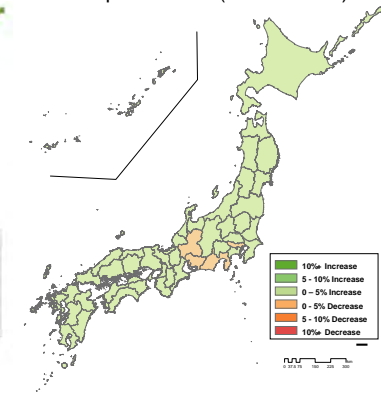
■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
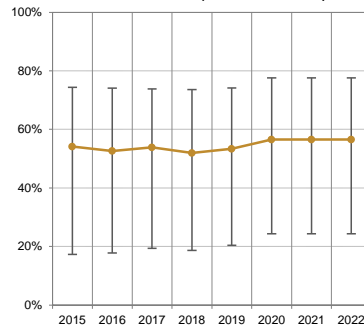

■Distribution of achievement level in prefectures (2022)

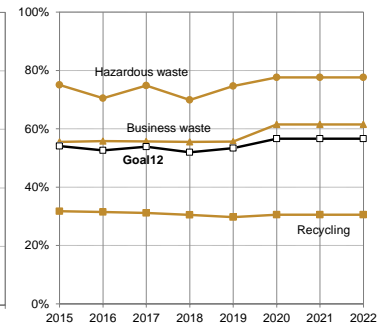■Distribution of change in achievement level in prefectures (2015→2022)

Goal 12

・The achievement level of Goal 12 had been stable or slightly decreased between 2015 and 2018 but started to show a trend of improvement since 2019.

・For the change by indicator, the hazardous waste disposal rate and the amount of business waste generated show a positive trend while the recycling rate has little change at around 50%.

・The disparity in the achievement level among prefectures is large with the higher achievement level in some part of the Kanto region and the lower achievement level less than 50% is seen sparsely.

・The change in the achievement level shows a trend of slight improvement in eastern Japan while some areas in western Japan show great improvement/deterioration.
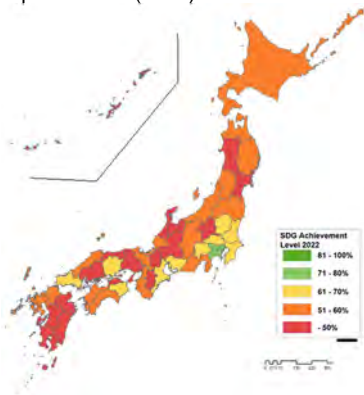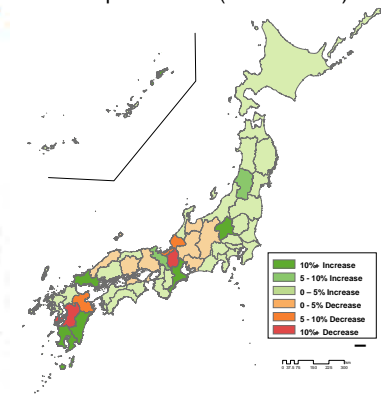
■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)

■Distribution of change in achievement level in prefectures (2015→2022)

Goal 13

・The achievement level of Goal 13 differs depending on the municipality, and the disparity among prefectures tend to be large.

・For the change by indicator, CO_2 emissions per capita had shown a positive trend up to 2019 but it stays almost the same since 2020. The number of people sent to hospital due to heat stroke greatly decreased/increased depending on the year.

・The achievement level is low in some areas in western Japan which are prone to flood damage and the effects of heat.

・The change in the achievement level shows a strong negative trend in many areas in western Japan and improvement in these areas are needed.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
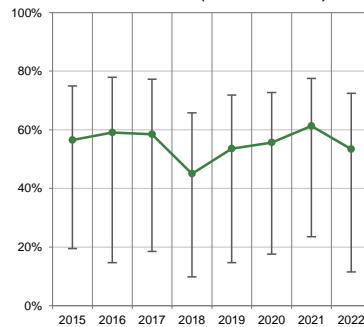

■Distribution of achievement level in prefectures (2022)

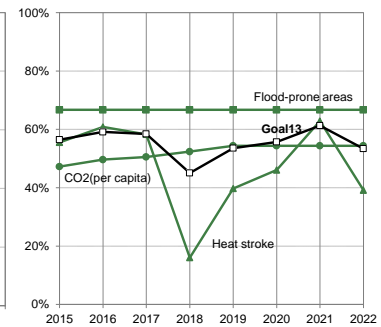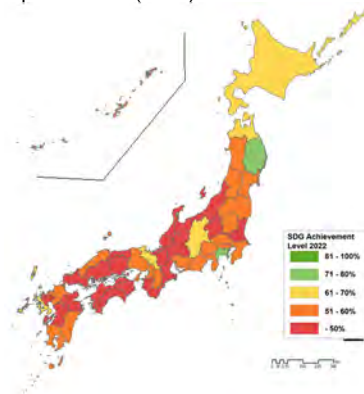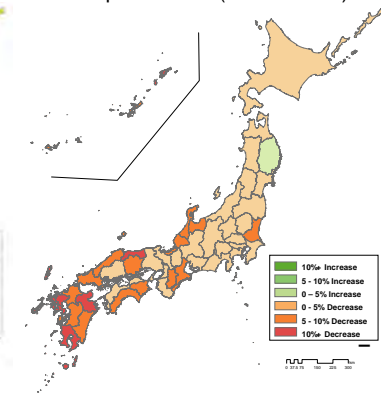■Distribution of change in achievement level in prefectures (2015→2022)

27

Goal 14

・The achievement level of Goal 14 was stable between 2015 and 2022 with little change.

・For the change by indicator, river water quality (BOD) and violations of fishery-related laws slightly improved.

・The achievement level does not differ much among prefectures, but some areas with downstream basins of big rivers on the Pacific coast show lower achievement levels.

・The change in the achievement level shows a great improvement in some areas on the Pacific coast but a strong negative trend in some areas on the Sea of Japan side, in the Tohoku region, and the Kyushu region.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)

■Distribution of achievement level in prefectures (2022)

■Distribution of change in achievement level in prefectures (2015→2022)

Goal 15

・The achievement level of Goal 15 slightly increased between 2015 and 2022, and the difference among prefectures is shrinking.

・The change by indicator shows that forests are conserved and the number of animals and plants poached has improved.

・Many areas have the achievement level of 80% or more while Tokyo, Osaka, and some areas in the Shikoku and the Kyushu regions show relatively low achievement levels.

・The change in the achievement level differs depending on the area and the disparity is getting larger between improved and deteriorated areas.

■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
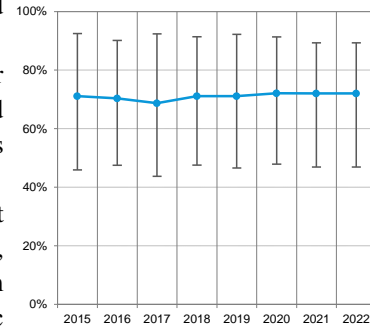

■Distribution of achievement level in prefectures (2022)

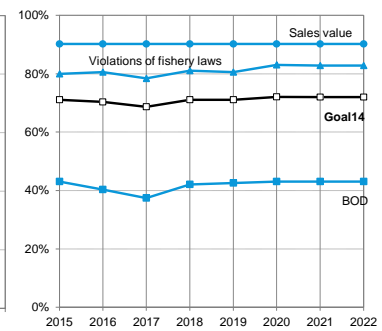■Distribution of change in achievement level in prefectures (2015→2022)

28

Goal 16

・The achievement level of Goal 16 shows a trend of deterioration between 2015 and 2022.

・For the change by indicator, the number of child abuse consultations had greatly deteriorated between 2015 and 2021. However, with the spread of the consultation counters, the negative trend stopped in 2022, therefore, further observation is needed.

・The achievement level does not differ much among prefectures, but it is relatively low in some areas around Tokyo, Osaka, Hiroshima, and Fukuoka.

・The change in the achievement level shows slight improvement in some areas but it tends to deteriorate nationwide and some areas show substantial deterioration.
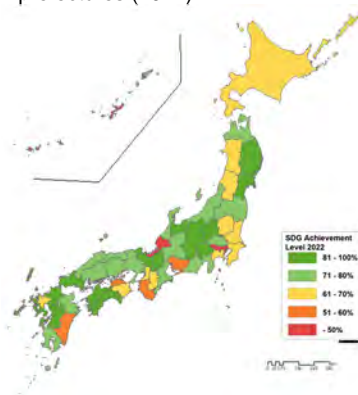
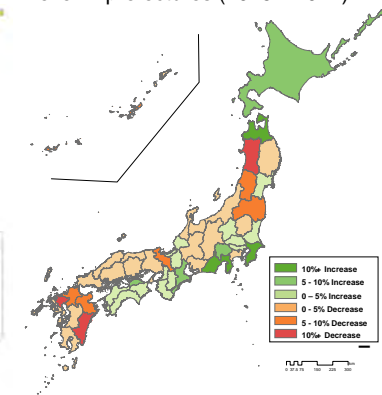■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
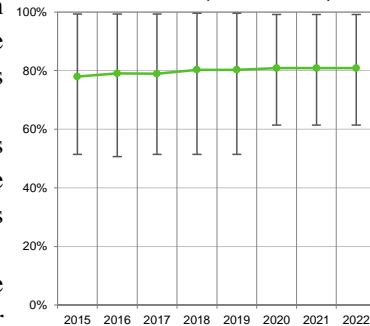

■Distribution of achievement level in prefectures (2022)

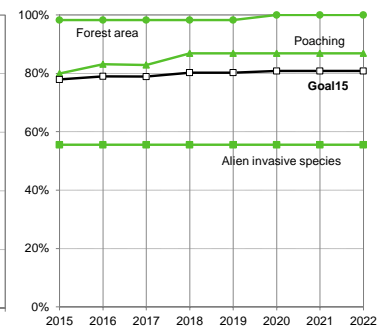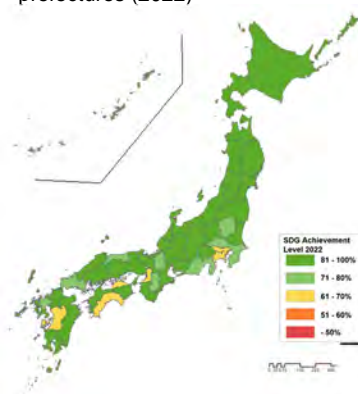■Distribution of change in achievement level in prefectures (2015→2022)
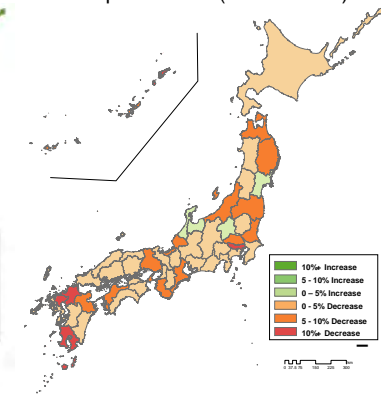
Goal 17

・The achievement level of Goal 17 improved significantly between 2015 and 2020.

・For the change by indicator, SDG promotion of local and regional governments considerably increased in 2019 (Data management was improved in 2019). Fiscal capability index had slightly increased up to 2019 but has slightly decreased since 2020.

・The achievement level does not differ much among prefectures but it is low in some areas in the Tohoku, the Kinki, and the Chugoku regions.

・The change in the achievement level greatly improved nationwide.

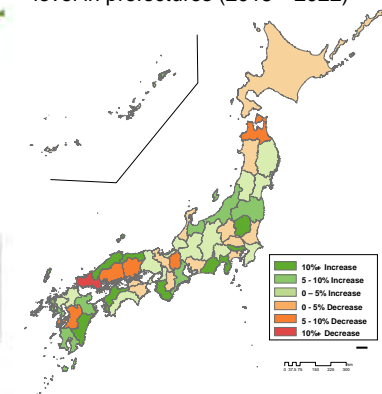■Change and distribution of achievement level (2015→2022)

■Change by indicator (2015→2022)
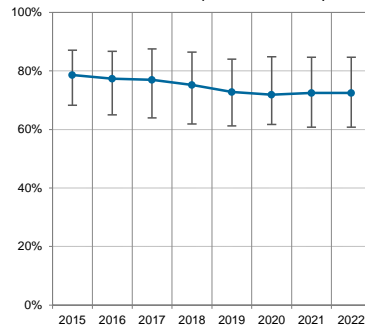

■Distribution of achievement level in prefectures (2022)

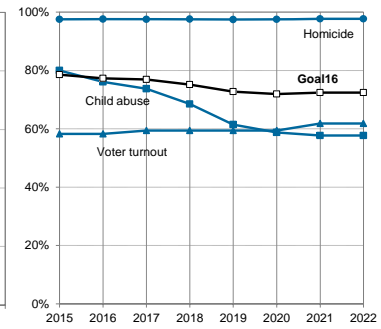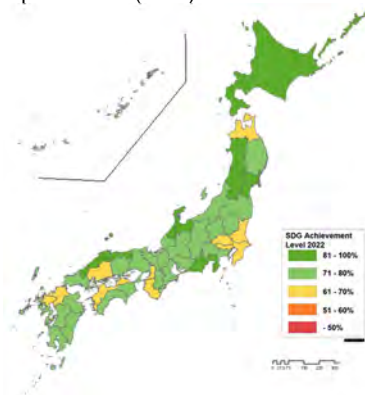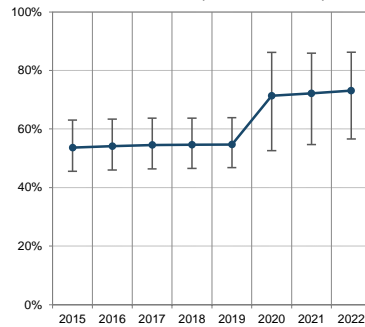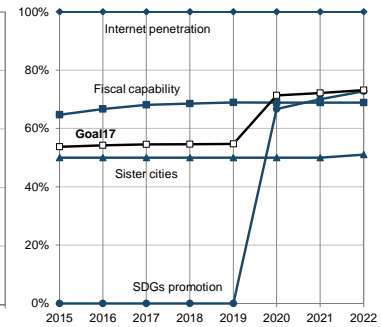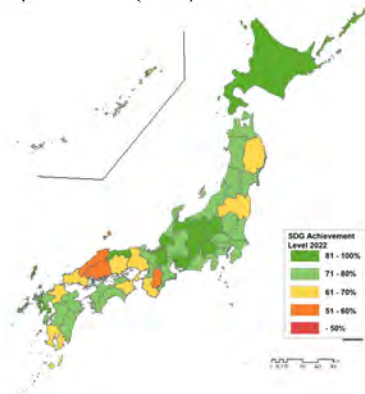■Distribution of change in achievement level in prefectures (2015→2022)
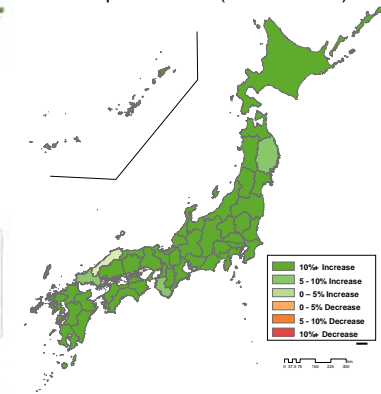
6. Toward the Second Half until 2030

Previous chapters in the report described the SDG achievement and its change between 2015 and 2022 in Japanese prefectures and municipalities based on the SDG achievement indicators.

Japanese prefectures and municipalities have taken initiatives in addressing challenges and the government provided support in many ways. In spite of various hardships including COVID-19, many SDGs showed improvement, making a sure step toward the future which SDGs aim at. However, if asked, the current rate of improvement is not fast enough to make the 2030 Agenda a reality.

Acceleration of efforts toward SDG achievement is needed in the latter half period, making the most of the framework, partnership, and system which each region set up. Now that the first half period has passed, respective regions should review their situation and start the actions more strategically and comprehensively to make a great transformation.

Note that the indicators and the data used in the report are considered the best at this moment and may be supplemented or changed depending on international or social circumstances.

Analyse Local Challenges Based on the Data

Various factors affect improvement and deterioration in the SDG achievement level, which differs greatly depending on regional characteristics. Even for Goal 9 with the high achievement level nationwide, some municipalities face outflow of job and small gross production while other municipalities have sufficient gross production but lack an industrial foundation such as research and development to produce future employment. To take really needed measures for respective municipalities, comparison of the achievement level by goal is not enough; it is important to fully analyse the affecting factors and identify the challenges.

In this report, the analysis was performed using the data that have been maintained nationwide; it was possible because the data exist. Various institutions are now developing/improving the data and tools for analysis of challenges. Make full use of these data and tools, and try to further obtain and maintain necessary data in respective regions. The data used in the report will also be available in the near future.

Pay Attention to the Targets without Apparent Change

Even for the goals with the high achievement level (for example, Goals 4, 8, and 9), do not satisfy with the current outcome and look at the indicators without change. The average percentage of correct answers on academic assessment (Goal 4) and unemployed foreign workers (Goal 8) are examples of indicators with more room for improvement. The same applies to the SDGs which considerably improved in the first half period. SDG promotion contributed to rapid improvement of Goal 17 but it will not increase as much as it did, so other indicators should be improved (such as fiscal capability index) to push the achievement level higher. Attention should also be paid to the targets without change to see if there is any possibility or necessity for improvement.

Build Wide-Area and Cross-Sectional Partnership

In the central part of a metropolitan area, although the achievement level of the goals related to economic aspects are relatively high, it is now difficult to address challenges related to natural resources and resource production in the limited area. On the other hand, in the municipalities with diverse natural resources, it would be difficult to create sufficient economic and employment opportunities at once. In order for respective prefectures and municipalities to take comprehensive actions for SDG achievement under these circumstances in the limited time frame, wide-area partnership should be promoted so that they can take advantage of their strengths and cover their weaknesses.

Efforts by a local government only are now reaching the limits; effective intersectoral partnership is also important to make a dramatic progress. In Japan, many municipalities have promoted partnership with companies and various organizations in the first half period. It is expected that this framework is efficiently utilised to promote more effective actions.

Foresee the Climate Crisis and Biodiversity Risk and Take Actions

Unlike other goals among the 17 goals, climate change-related Goal 13 and biodiversity-related Goal 14 and Goal 15 may be affected by the global-level factors. In the report, the achievement level of these goals is getting worse in some places even though the socioeconomic situation is not changed, and it will further deteriorate if no countermeasure is taken. For these environmental issues, it is important to foresee the possible risks and consider not issue-specific but rather comprehensive countermeasures while the change is still small.

For climate change and biodiversity, some advanced countries and regions have already started cross-sectional, comprehensive efforts. Referring to these activities, more active efforts are expected.

Act Beyond the Border in the Latter Half Period

This report describes the results of analysis with focus on the regional situation of SDG achievement. However, SDGs are not for just one region or country. They are important international goals to be achieved through cooperation of all countries. The world is still in the midst of a predicament, and developed countries, through production and consumption, are giving burdens to other countries. Low-income countries were wounded a lot by COVID-19 and most of them are far from recovering.

In the latter half period, it is expected that each region will look at not only the own issues but also issues outside, and start actions for partnership and cooperation to achieve SDGs in various regions of the country and the world. As the first step, national-level countermeasures should be strengthened. The recommendations by the "SDGs Promotion Roundtable Meeting" include enactment of basic laws for SDG promotion and development of national-level targets. In accordance with the recommendations, Japan is now expected to set an example of achieving transformation required for SDGs.

The above-mentioned region-based approach for SDG achievement analysis is effective in most countries as well as Japan. There may be an issue in a specific region even when the goal achievement level nationwide is high, or a breakthrough for a national challenge may be found in one of the regions in the country. A nationwide analysis may elucidate a correlation with demographic and other socioeconomic characteristics which are not easily identified by single-region analysis, and sometimes includes many facts that are not found easily by using international statistics only.

Data with high spatial resolution will make the above-mentioned analysis possible. It is important that the data related to each category and indicator are collected and examined as much as possible and that the data are kept on a cross-sectional platform beyond the categories. As in Target 17.18 or Target 17.19, capacity building and system reinforcement for statistics and data are important in respective countries, and developed countries including Japan are expected to proactively make related technologies and systems available to the world.

References

The Government of Japan. "Voluntary National Review 2021 Report on the implementation of 2030 Agenda -Toward achieving the SDGs in the post-COVID19 era-" 2021.

SDGs Promotion Headquarters, Japan. "SDGs Implementation Guiding Principles Revised Edition", 2019.

Sachs, J.D., Lafortune, G., Fuller, G., Drumm, E. "Implementing the SDG Stimulus. Sustainable Development Report 2023" Paris: SDSN, Dublin: Dublin University Press, 2023.

UNCRD Research Group on SDG Monitoring for Local Governments. "Handbook for SDG Monitoring by Local Governments, Part A: Evaluating the Achievement of SDG Local Actions, Second Edition" Nagoya: UNCRD, 2022.

United Nations. "The Sustainable Development Goals Report 2023: Special Edition", 2023.

Appendix A. Overview of Japan and Local Autonomy

Japan is located in the east of the Eurasian continent and an archipelagic state in the area called Northeast Asia (or East Asia). Major islands of Japan are, from the north, Hokkaido, Honshu, Shikoku, Kyushu, and Okinawa islands. The easternmost island, Minamitorishima is located at 153° 59' 12" E; the westernmost island, Yonagunijima at 122° 55' 57" E; the southernmost island Okinotorishima at 20° 25' 31" N; and the northernmost island, Etorofujima at 45° 33' 26" N. Most part of Japan belong to the humid subtropical climate zone and has four distinct seasons. The country stretches up to 3,500 kilometres and because of the effects of the latitudinal difference from the north to the south and the oceans, regional characteristics differ: for example, Okinawa in the south belongs to the subtropic zone and Hokkaido in the north belongs to the subarctic zone.

The total area of Japan is about 378,000 square kilometres. Honshu occupies the largest area of about 228,000 square kilometres, which makes it the seventh largest island in the world. Japan is mountainous and the two-thirds of the land area is covered by forests. As the country is undulating, population is concentrated in the flat coastal area.

The population of Japan is 123.30 million, which is the twelfth largest in the world (UNFPA, 2023), but it is decreasing due to low birth rate and aging society. What is prominent is the high rate of elderly people and low rate of youths. Japan is one of the world's economic superpowers and its GDP in 2023 was about 4.4 trillion dollars, ranked in the third place in the world (IMF, 2023). The GDP growth rate is 1.4%. The GDP per capita is about 34,000 dollars and ranked in the 31st place in the world.

Japan is a unitary state and the local government system takes a two-tiered approach: prefecture as wide-area autonomous unit, and municipality as a basic autonomous unit. Any part of the Japanese land belongs to one of the municipalities, and any of the municipalities belongs to one of the prefectures. Therefore, all Japanese nationals belong to one of the prefectures and one of the municipalities.

A prefecture is a wide-area autonomous unit that includes municipalities within it and currently there are 47 prefectures in Japan. Tokyo, the capital of Japan, has a system different from other prefectures.

A municipality is a basic local autonomous unit that handles administrative work closely related to the daily life of local residents. There are 1,718 municipalities (792 cities, 743 towns, and 183 villages) in Japan as of 2023. A city should have a population of 50,000 or more (now the requirement is reduced to 30,000) and a structure appropriate as a city. Compared with a village, a town has a more city-like structure and more residents work in commerce and industry as in a city but the coverage of their administrative work is similar.

A prefecture and a municipality are independent local governments and there is no institutional hierarchy between them in the system. However, a prefecture is a wide-area autonomous unit that include municipalities while a municipality is a basic local autonomous unit that are closely related to the daily life of local residents. Based on their different nature, they handle different types of administrative work. Being a wide-area autonomous unit, a prefecture gives a municipality various guidance and advice in various fields, and sometimes give a permission/license. Municipalities are categorised into ordinance-designated city, core city, and special ordinance city according to the population size, and are entitled an authority equivalent to a prefecture in some of the administrative work.
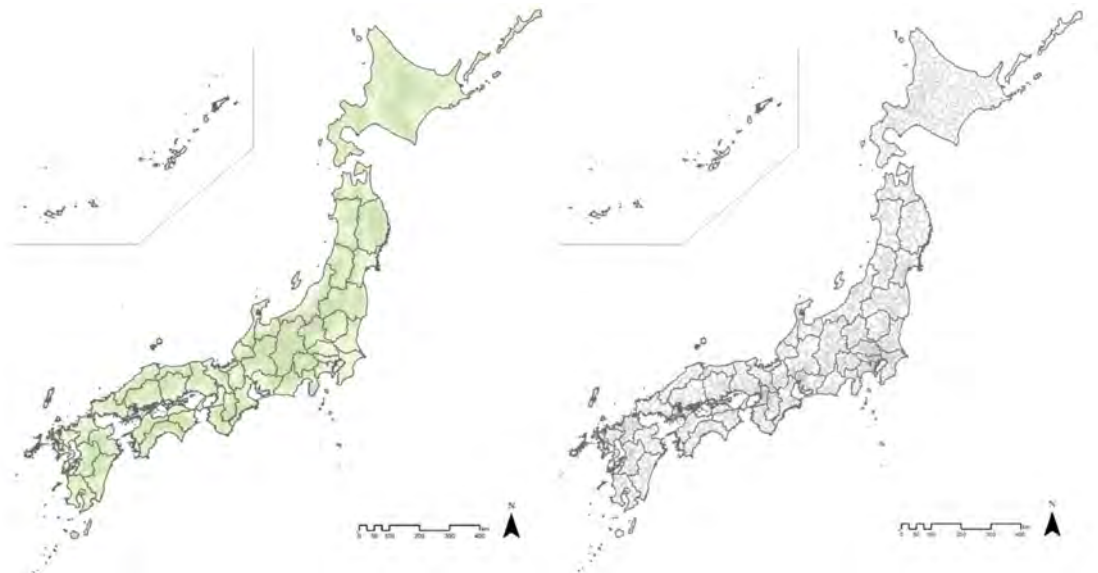

Figure A.1 ⎪ Prefectures (Left) and Municipalities (Right) in Japan

References

CLAIR. "Council of Local Authorities for International Relations Local Government in Japan 2020 (2021 Revised Edition)", 2021.

UNEFPA. "8 Billion Lives, Infinite Possibilities: the case for rights and choices. State of World Population report 2023", NY, 2023.

IMF. "World Economic Outlook", 2023.

Appendix B. Setting Target and Baseline Values for Each Indicator

The data sources for the SDG achievement indicators and the baseline and targe values for each indicator are given below. If a value of the indicator is below the basement value, the level of achievement is 0; it is above the target value, the level of achievement is 100.

No.	SDG Local Achievement Index	Target Value（2030）		Baseline Value	
		Target Value	See Also	Baseline Value	See Also
1	Relative poverty rate	9.6	SDG Target 1/2 times the national average(2013)	26.7	World's bottom 5th percentile value（corrected value）
2	Rate of households receiving livelihood protection	1.4	SDG Target 1/2 times the national average(2015)	5.8	Twice the national average(2015)
3	Number of homeless per 100,000 population	0.0	SDG Target leave no one behind	25.5	5 times the national average(2015)
4	Number of deaths from malnutrition per 100,000 population	0.0	SDG Target leave no one behind	3.3	Twice the national average(2015)
5	Percentage of children with poor nutrition	0.0	SDG Target leave no one behind	1.1	World's bottom 5th percentile value（corrected value）
6	Agriculture and fisheries output per capita	16.5	SDG Target Twice the national average(2015)	1.6	1/5 times the national average（2015）
7	Food self-sufficiency rate (on a calorie basis)	100.0	SDG Target	0.0	
8	Neonatal mortality rate	12.0	SDG Target	34.8	World's bottom 5th percentile value
9	Number of youth deaths per 1,000 population	1.2	SDG Target 2/3 times the national average(2015)	28.6	World's bottom 5th percentile value
10	Number of suicides per 100,000 population	2.6	World's top 5th percentile value	21.6	World's bottom 5th percentile value
11	Healthy life expectancy	84.0	Country average +3 years（2013）	78.0	Country average -3 years（2013）
12	Number of traffic deaths per 10,000 population	0.16	SDG Target 1/2 times the national average(2015)	3.11	World's bottom 5th percentile value
13	Percentage of children on waiting lists for nursery schools and kindergartens	0.0	SDG Target leave no one behind	5.6	5 times the national average(2015)
14	Percentage of junior high school graduates who go on to higher education	100.0	SDG Target leave no one behind	0.0	
15	Gender Parity Index in college and university enrollment	1.00	SDG Target	0.0	
16	Average percentage of correct answers on academic assessments	70.1	Country average ＋10%（2015）	50.1	Country average -10%（2015）
17	Number of confirmed sex crimes per 1,000 women	0.0	SDG Target leave no one behind	0.25	Twice the national average(2015)
18	Gender Parity Index for household workers	1.00	SDG Target	0.00	
19	Gender parity index for managerial occupations	1.00	SDG Target	0.00	
20	Water supply coverage	100.0	SDG Target leave no one behind	0.0	
21	Sewage treatment coverage	100.0	SDG Target leave no one behind	0.0	
22	Water consumption per capita (based on a withdrawal basis)	53.2	OECD top 5th percentile value	208.3	World's bottom 5th percentile value
23	Percentage of population with access to electricity	100.0	SDG Target leave no one behind	0.0	
24	Renewable energy installation capacity per capita	1.1	5 times the national average(2015)	0.0	1/5 times the national average(2015)
25	Gross output per unit of final energy consumption	81.9	Twice the national average(2015)	8.2	1/5 times the national average(2015)
26	Growth rate of gross city/prefectural product per capita	5.4	OECD top 5th percentile value	-2.0	World's bottom 5th percentile value（corrected value）
27	Unemployment rate	0.0	SDG Target leave no one behind	19.32	World's bottom 5th percentile value
28	Percentage of population aged 15-24 not in employment, education or training (NEET)	2.6	World's top 5th percentile value（corrected value）	8.51	World's bottom 5th percentile value（corrected value）

No.	SDG Local Achievement Index	Target Value（2030）		Baseline Value	
		Target Value	See Also	Baseline Value	See Also
29	Manufactured value added per employee	13.4	World's top 5th percentile value (corrected value)	0.1	World's bottom 5th percentile value (corrected value)
30	CO2 emissions per million-yen unit of added value	1.8	World's top 5th percentile value (corrected value)	21.99	World's bottom 5th percentile value corrected value
31	Number of patent applications filed per 100,000 population	2086.5	World's top 5th percentile value (corrected value)	9.49	World's bottom 5th percentile value (corrected value)
32	Income growth rate of the lower 40% of income (Decrease rate of households with income of less than 3 million yen)	1.6	Country average(2018)	0.0	
33	Labour's share	74.3	World's top 5th percentile value (corrected value)	28.2	World's bottom 5th percentile value (corrected value)
34	Unemployment rate of foreign workers	0.0	SDG Target leave no one behind	18.90	World's bottom 5th percentile value
35	Percentage of households that live in housing below the minimum living standard	0.0	SDG Target leave no one behind	14.2	Twice the national average(2016)
36	Public transportation coverage	100.0	SDG Target leave no one behind	0.0	
37	SPM (Suspended Particulate Matter) concentration	9.5	World's top 5th percentile value (corrected value)	100.0	Environmental standard
38	Amount of business waste generated per gross city/prefectural product	4,849	1/5 times the national average(2015)	48494.0	Twice the national average(2015)
39	Hazardous waste disposal rate	100.0		0.0	
40	Recycling rate	47.8	World's top 5th percentile value	7.67	World's bottom 5th percentile value
41	Number of residents in flood-prone areas per 100,000 population	20,419	1/2 times the national average(2020)	81674.6	Twice the national average(2020)
42	Number of people sent to hospital due to heat stroke per 100,000 population	8.7	1/5 times the national average(2015)	87.1	Twice the national average(2015)
43	CO2 emissions per capita	0.2	World's top 5th percentile value	16.75	World's bottom 5th percentile value
44	River BOD (Biochemical Oxygen Demand)	0.5	Environmental standard （AA）	2.6	Environmental standard （E）
45	Percentage change in sales value of fishery catches	1.0		0.0	
46	Number of arrests for violations of fishery-related laws per 100,000 population	0.0	SDG Target	9.7	5 times the national average(2015)
47	Net change rate of forest area	0.0	SDG Target leave no one behind	-1.4	World's bottom 5th percentile value
48	Number of animals and plants poached or illegally traded per 100,000 population	0.0	SDG Target	1.0	5 times the national average(2015)
49	Number of confirmed alien invasive species per unit area	9.9	1/5 times the national average(2015)	98.9	Twice the national average(2015)
50	Number of confirmed homicide cases per 100,000 population	0.0	SDG Target leave no one behind	29.4	World's bottom 5th percentile value
51	Number of child abuse consultations per 1,000 elementary school students	0.0	SDG Target leave no one behind	78.9	5 times the national average(2015)
52	Voter turnout	90.4	World's top 5th percentile value	0.0	
53	Fiscal capability index (FCI)	1.0	Criteria for allocation of local allocation tax	0.0	
54	Internet penetration rate	100.0	SDG Target	0.0	
55	SDGs promotion index	100.0	SDG Target	0.0	
56	Number of sister cities per 100,000 population	2.8	Twice the national average(2020)	0.0	

HALFWAY TO 2030: