

Measuring National Well-Being
— Proposed Well-being Indicators —

5th December, 2011

The Commission on Measuring Well-being, Japan

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Acronyms

ADL	Activity of Daily Living
BDI	Beck Depression Inventory
CES-D	The Center for Epidemiologic Studies Depression Scale
CSC	Clinical Significance Criterion
ESRI	The Economic and Social Research Institute
ESS	The European Social Survey
EQLS	The European Quality of Life Survey
EU-SILC	The EU-Statistics on Income and Living Conditions
FaHCSIA	The Department of Families, Housing, Community Services and Indigenous Affairs
GDP	Gross Domestic Product
GNH	Gross National Happiness
HDI	Human Development Index
HHS	The U.S. Department of Health and Human Services
IADL	Instrumental Activity of Daily Living
JSTAR	Japanese Study of Aging and Retirement
LRI	The Life Reform Index
MDGs	Millenium Development Goals
MIC	The Ministry of Internal Affairs and Communications (Japan)
NCEA	The National Center on Elderly Abuse
NSLP	The National Survey of Lifestyle Preference
MSTI	The Main Science and Technology Indicators (OECD)
NEET	Not in Employment, Education or Training
NIBUD	Nationaal Instituut voor Budgetvoorlichting (Netherlands National Institute for Family Finance)
NLSY-CS	The National Longitudinal Survey of Youth-Child Supplement (the U.S.)
NSI	The New Social Indicators
OECD	The Organisation for Economic Co-operation and Development
PLI	The People's Life Indicators
PISA	The Program for International Student Assessment
RIETI	The Research Institute of Economy, Trade and Industry
SI	The Social Indicators
SDS	The Zung Self-Rating Depression Scale
SHARE	The Survey of Health, Ageing and Retirement in Europe
SHRM	The Society for Human Resource Management
UNDP	The United Nations Development Programme
UNEP	The United Nations Environment Programme
WHO	The World Health Organization
WWF	The World Wildlife Fund

Members of the Commission on Well-being Studies

Yukiko UCHIDA

Associate Professor, KOKORO Research Center, Kyoto University

Fumio OHTAKE

Professor, Institute of Social and Economic Research, Osaka University.

Kohei KOMAMURA

Professor, Faculty of Economics, Keio University

Yoshinori HIROI

Professor, Faculty of Law and Economics, Chiba University

Yoshihiro MAKINO

Professor, Department of Management, Shizuoka Sangyo University

Michiko MIYAMOTO

Professor, The Open University of Japan

Naoto YAMAUCHI (chair)

Professor, Osaka School of International Public Policy, Osaka University

Masahiro YAMADA

Faculty of Letters, Chuo University

Meeting Schedule

1 st Meeting: 22th December, 2010

2 nd Meeting: 16th February, 2011

3 rd Meeting: 18th May, 2011

4 th Meeting: 29th August, 2011

1. Introduction

Introduction to non-Japanese readers

This report was released to the public on 5th December 2011, after a year of intensive research and discussions by a study group that consisted of leading researchers of Happiness Studies in Japan. This research was conducted to address a new government initiative to create a better society that provides with the people not only economic wealth, but also overall well-being. During our works, Japan experienced the greatest natural disaster in its history which has affected thousands of people's lives, and even influenced many people's perception towards their life and on the concept of happiness. This report proposes well-being indicators for Japan as a starting point to initiate wider discussions about our own well-being.

Firstly, it will address the background and the significance of the proposed well-being indicators. Section 2 will discuss the basic ideas and the framework of the well-being indicators. The framework shows three domains of our life that considered to be the greatest contributors towards our own well-being; socio-economic situation, health and relatedness; however, the individual subjective well-being plays central role for the overall assessment of well-being. Section 3 will present actual indicators of well-being. These indicators were selected based on a careful review of previous studies conducted both in Japan and other countries, as well as a preliminary survey carried out for this study.¹

Throughout this report, we make a clear distinction between the term "happiness" and "well-being". The term "happiness" will be used when describing a state of contented pleasantness which is categorized as an emotion in response to events that occur on a daily basis, while "well-being" will be used to capture how well people are doing in all aspects of their life, or in other words, how happy they are in the overall evaluation of their life.

¹ This preliminary survey was conducted in collaboration with the Economic and Social Research Institute (ESRI) between 2010 and 2011. For technical information, see Annotation 1.

(1) The background and significance of proposed well-being indicators

Parents hope their children will have a happy life when the child is born. Fundamentally, the purpose of government is to create a society, so its citizens can live their lives happily. It has been believed that real income per capita does increase the happiness of people. Nevertheless, in the 1970s, several empirical analyses discovered that significant economic growth did not actually correspond to an equivalent increase in people's happiness, and this "paradox of happiness" has led to the development of Happiness Studies in the field of economics, sociology, and psychology. Happiness Studies has been demonstrating that people's well-being is primarily a subjective phenomenon, which cannot be understood when only objective indicators such as Gross Domestic Product (GDP) per capita, income, literacy rate, or longevity are concerned. Rather, it is important to observe a subjective evaluation of well-being, which reflects an individual's own appraisal towards their life.

In reality, Japan also suffers from the "paradox of happiness", particularly after the Japanese post-war economic miracle (Figure 1), and it is reported that Japanese people are less happy in comparison to other developed countries. For instance, the number of 15 year old Japanese students who feel "out of place and uncomfortable at school" is the largest among developed countries (UNICEF Innocenti Research Centre, 2007). Additionally, suicide is the most common cause of death among males in their 20s to early 40s, and among females in their late teens to early 30s (Ministry of Health, Labor and Welfare, 2010). Our preliminary survey also discovered that one in three people in their 20s and 30s have reported that they have seriously considered committing suicide in their past. A significant number of people are believed to suffer from an excessive amount of stress and depression, and they find it difficult to have hope for their future. Furthermore, the elderly are reported to suffer most from unhappiness in Japan despite the international trend that the aged population has a higher level of happiness (Cabinet Office, 2009).

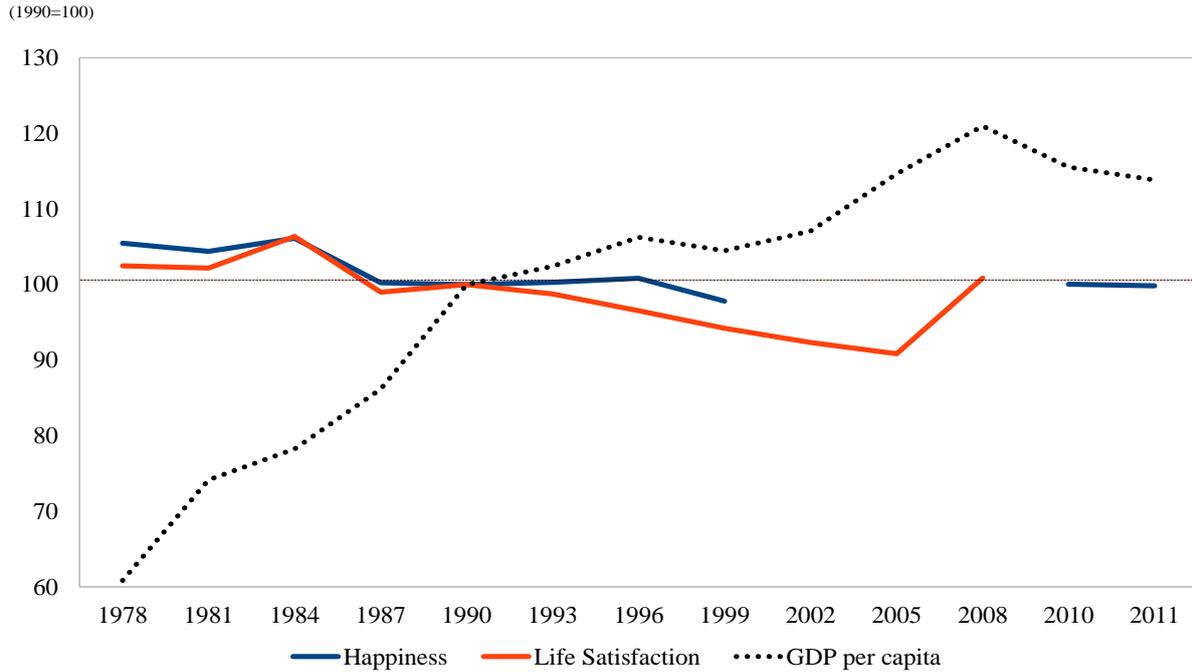


Figure 1. Trends of well-being in Japan

(average score of happiness, average score of life satisfaction, GDP per capita)

(Note 1). The data of “happiness” and “life satisfaction” are extracted from the National Survey of Lifestyle Preference (NSLP) from fiscal year 1978 to 2011. (1990=100)

(Note2) GDP per capita is calculated by using the System of National Accounts, and the GDP Quarterly Report, and the Population Forecast. (1990=100)

Therefore, the questions arise “Does economic growth mean happiness?”, and “Is GDP synonymous to happiness?” We now need the indicators of well-being to provide us with a fuller information of how Japan is doing and where we are heading to in real terms. Then we have to redefine the objective of the nation to create a healthy society. These well-being indicators are constituted of various factors including subjective individual happiness that contribute to overall well-being, and these are a tool to analyze regional differences and changes over time.² Creating these indicators is significant because it will shed light on “happiness” and the individuals’ “feeling” in policy discussion. More precisely, indicators of well-being will enable us to:

1. Investigate factors affecting individuals’ well-being, and to identify societal advantages and disadvantages which may affect the level of well-being. As well as to observe what aspects of society are improving and what aspects of society are deteriorating.

² With increases number of research, politicians have begun to focus on well-being of the nation. For instance, in Asia, Bhutan set the aim to higher the Gross National Happiness (GNH), and Thailand is implementing the Green and Happiness Index. In Europe, the Government of France established the Commission on the Measurement of Economic Performance and Social Progress (the Stiglitz Commission), chaired by Nobel Prize winner Joseph E. Stiglitz with chair adviser, another Nobel Prize winner Amartya Sen, and coordinator Jean-Paul Fitoussi. The French government then has published its proposal in 2009. In the U.K., led by the prime minister, they are currently in the process of establishing well-being indicators.

2. Provide the opportunity for people to obtain a deeper understanding of where society is heading for a wider discussion, and to give individuals some clues on what are the necessary actions needed to facilitate not only an individuals' well-being but also national well-being.

Also, by comparing Japan with other countries, we can re-evaluate aspects of our own society which are conventional to us, so that we do not consider these things as advantageous or disadvantageous to our society. For example, Japanese people generally remain calm and moralistic at a time of crisis, and cities are spotless because people are very unlikely to litter. These are evaluated as advantages to Japanese society which enhance well-being of people.

Additionally, the indicators will help policy makers to evaluate existing policy and prioritize or improve them. As well as to suggest public policy to be initiated in the future based on the evidence shown by the indicators.³

(2) Relation to the Great East Japan Earthquake

Almost eight months have passed since the Great East Japan Earthquake hit the Northern Japan. Despite an unchanged spectacular view of the coast line, the destroyed villages are still left untouched showing how devastating the earthquake, tsunami and nuclear power plant accident was. Deserted villages and uninhabited houses remain abandoned with little hope of people to return. The sorrow of losing family members, friends, houses, and jobs all at once has been unbearable.

The Great East Japan Earthquake not only caused physical and psychological damage to Northern Japan, but also affected the nation as a whole by causing great anxiety among the population. Many people have claimed that their perspective on life and their concept of happiness have changed. This is probably because people have realized in the space of a moment their entire life could be destroyed and this could occur anytime, anywhere (Figure2).

³ In Bhutan, the government stated that indicators determine policies, hence it is necessary to establish well-being indicators.

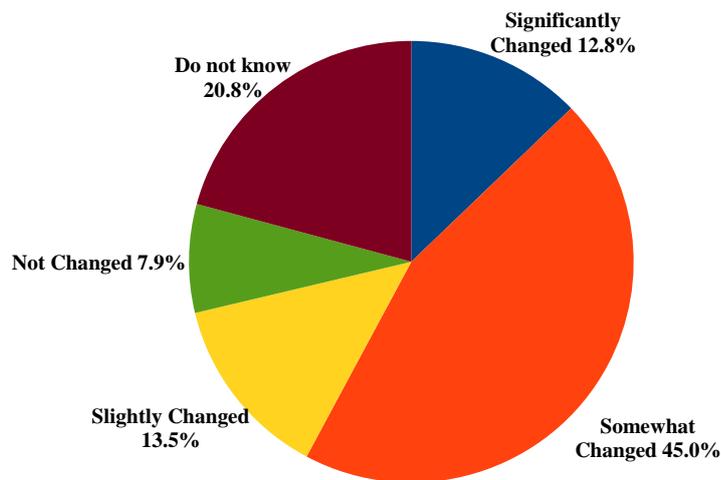


Figure2 Changes in the perspective of their life and the concept of happiness

(Note1) The data was extracted from the preliminary survey
(ESRI (2011) The Survey of Level of Happiness of Young People).

This catastrophe has reminded people how important it is to have a “bond between people (*kizuna*)”, and has enhanced their sense of unity. For example, many people have eagerly participated voluntarily to help in the recovery and reconstruction of the affected area. Also, a large amount of money was donated from people all across Japan. This demonstrated the strong solidarity of the Japanese people and their potential to come together in a time of crisis. On the other hand, this disaster raised the question of “how strong is Japanese solidarity in ordinary times”. In reality, the number of people who are considered socially excluded has been increasing in recent years, and their situation remains unchanged by the process.

As mentioned earlier, the earthquake happened during our research while we are constructing the well-being indicators. The disaster is by no means welcome, yet with this undesired catastrophe, we were given another opportunity to re-evaluate what matters to us the most in our life. It made us realize the existence of a considerable number of people who have a low level of well-being in ordinary times. The disaster also set an even clearer mission to create the country with high level of well-being, which also many researchers promised to themselves when the leading professor of happiness studies, Philip Brickman, took his own life in 1982. We genuinely hope that the proposed indicators of well-being, and the idea of well-being will be utilized to formulate or evaluate public policy to create a progressive society for the victims of the catastrophe as well as ones who suffer from ill-being with no relation to the earthquake.

(3) The proposed well-being indicators as a starting point

The proposed well-being indicators in this report are produced taking previous studies into consideration. As it will be noted later, the evaluation of well-being is based on 3 domains; socio-economic conditions, health and relatedness, and each domain contain both subjective and objective indicators.⁴ Those subjective and objective indicators are measuring factors affecting people's well-being. Nevertheless, it is necessary to examine whether those factors are socially recommendable. For example, people who live in a deprived condition will gradually accept their positions in society, and start to undermine his or her own ideal (Sen, 1992). This may bring about happiness to the ones who have accepted their position, yet it does not necessarily mean that condition does not need to be improved, nor is equal to well-being. Furthermore, the factors which are currently influencing our sense of happiness may not be the same in the future. Therefore, it is crucial, not to establish a set of concrete indicators, but to constantly address and review the indicators from different perspectives to capture well-being as precisely as possible.

The aim of this report is not to propose a perfect set of indicators to measure well-being, but it is to generate a wider discussion on what the ideal society is. Hence, this is the starting point, and continuous international and national discussions are required to develop even better well-being indicators. In general, Japanese people hold a negative image of Japanese society. They think things like “people tend to be irresponsible”, “people are too busy to relax”, or “some people are self-centered”.⁵ This negative feeling has existed for a while and it is not just a recent trend. Now is the time that we have to move forward from this negativity. Through the discussion of well-being, we can address future perspectives, the philosophy of happiness, and the power of the nation. Those discussions will show us the road to walk away from the state of ill-being which this society by and large suffers from. Furthermore, a deeper discussion of well-being focusing on individuals, family members, and society as a whole will probably make people to become more altruistic, and create a society which people can feel more comfortable to live in.

4 Studies on happiness and well-being in Japan is reported by Ohtake, Shiroi, and Tsutsui (2010) etc.

5 Those results are from “A Poll on People's Social Awareness” conducted by the Cabinet Office every year (Cabinet Office 2011).

2. The basic ideas behind the proposed well-being indicators

This section will present the framework for measuring well-being. There are six important characteristics of this framework.

1. This framework tries to explain how every aspect of our life can contribute towards “well-being”. There is a set of indicators that will be evaluated separately, rather than being combined into one collective score. This keeps its multidimensionality and it means that we are able to see what aspect of society needs to be focused on or improved upon more to further promote well-being.
2. This framework includes both subjective and objective indicators.
3. We consider well-being as a subjective phenomenon, hence, in this framework, subjective well-being plays a central role in the overall assessment of well-being.
4. It groups various aspects of life into three domains: socio-economic situation, health and relatedness.
5. Different stages of life are taken into account. Hence some indicators are aimed at particular age groups.
6. Sustainability is included as a more conceptual domain. While existing research does not conclude that sustainability affects the well-being of current generation, sustainability may influence the well-being of future generation.

This section firstly will explain the basic idea of the three domains. Secondly, it will address issues of the changes in the perception of happiness through the course of one’s life. Thirdly, it will look into the possibility of an international comparison. Fourthly, it will discuss the use of indicators to identify which groups in the population are at high risk of falling into ill-being. Finally, it will compare these proposed well-being indicators with previous indicators.

(1) Three main domains

Regardless which institution tries to propose well-being indicators, whether it is a national government, international organizations, or private research institutions, the first course of action is to discuss what constitute to national well-being. It is generally agreed with that subjective well-being is the central indicator for most frameworks, but there are a wide range of opinions of what to include as indicators to contribute to subjective well-being that reflect the multi-dimensionality and subjectivity of the issue. To decide what domains to include in these proposed well-being indicators, the National Survey on Lifestyle Preferences (NSLP) was utilized as a reference. The survey comprises of 12 factors that influence well-being: health, family, household budget, mental relaxation, friends, employment, free time, motivation of life, leisure, job satisfaction, working environment, community environment

and others. The survey conducted in the fiscal year 2009 and 2010 revealed that family, health, household budget, and mental relaxation were factors that have a strong influence on people's well-being. (Figure3)

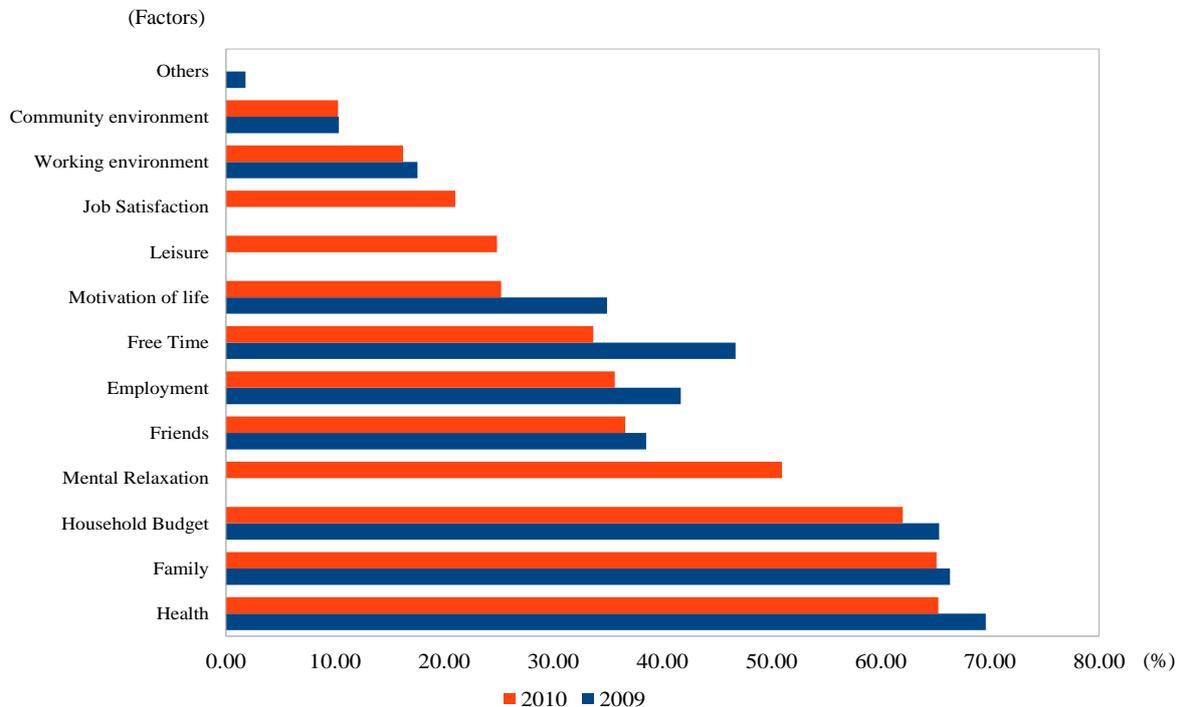


Figure 3 Factors that are considered as important to determine happiness

(Percentage of people who chose each factor as important in relation to well-being)

(Note) Results are from the NSLP fiscal year 2009 and 2010, and some choices were revised and changed in the fiscal year 2010.

Based on the results of the NSLP and other international discussions, this report suggests three domains as being the most important. These domains include above mentioned 12 factors as well as other various important factors in order to reach every aspect of people's life that affects well-being. These three domains are: socio-economic conditions, health and relatedness. Each domain contains several indicators, which will be explained in the next section in detail.

It has to be noted that sustainability is not included as main domains, but it is included as a conceptual domain. While existing research does not conclude that sustainability affects the well-being of current generation, sustainability may influence the well-being of future generation.

Taking above discussion into account, Figure 4 presents the framework of these well-being indicators Japan.

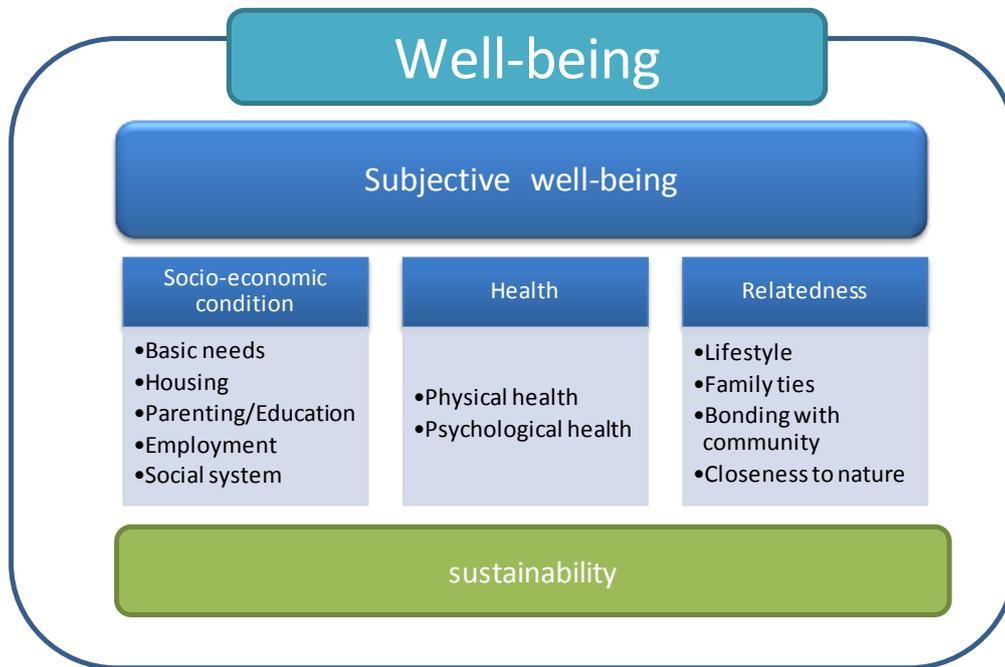


Figure 4: A framework for measuring well-being

(2) Life-stage differences

The level of influence of each factor differs among the population according to what stage they are in of their life they are in. Therefore, it is important to give some consideration to this issue when establishing the framework.

In the case of Japan, for instance, males in their late teens and early 20s list “friends” as the most important factor, and “mental relaxation” as the third most important factor that affecting their level of well-being. On the other hand, “household budget” or “family” is listed on the top of the list for males in their late 20s to early 50s, but “health” is considered the most for males older than 55. As well as teenage boys, teenage girls also listed “friends” as the most important factor, and “mental relaxation” as the third most important factor. However, as age goes up, different factors became more influential for female. “Family” is listed on the top of the list for females in their early 20s to late 30s. “Health” is considered as the most influential for the females older than 40. No female in any group listed “household budget” on the top of their list while males did so.

Sex	Top 5	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	(Age) 75-79
Male	1	Friends	Friends	Household Budget	Family	Household Budget	Household Budget	Household Budget	Household Budget	Health	Health	Health	Health	Health
	2	Free Time	Family	Family	Household Budget	Family	Health	Health	Health	Household Budget	Family	Household Budget	Family	Family
	3	Mental Relaxation	Motivation of life	Employment	Health	Mental Relaxation	Family	Family	Family	Family	Household Budget	Family	Household Budget	Household Budget
	4	Family	Mental Relaxation	Mental Relaxation	Mental Relaxation	Health	Mental Relaxation	Employment	Mental Relaxation					
	5	Motivation of life	Household Budget	Health	Employment	Employment	Employment	Mental Relaxation	Employment	Employment	Employment	Employment	Free Time	Free Time
Female	1	Friends	Family	Family	Family	Family	Health							
	2	Family	Mental Relaxation	Household Budget	Household Budget	Household Budget	Family	Family	Family	Household Budget	Family	Family	Family	Family
	3	Mental Relaxation	Friends	Friends	Health	Health	Household Budget	Household Budget	Household Budget	Family	Household Budget	Household Budget	Household Budget	Free Time
	4	Free Time	Health	Mental Relaxation	Free Time	Free Time	Friends							
	5	Health	Household Budget	Health	Friends	Employment	Employment	Employment	Employment	Employment	Employment	Free Time	Mental Relaxation	Mental Relaxation

Figure5 Top five factors that are considered as important in determining happiness
(by gender & by age)

(Note) The data was extracted from the NSLP fiscal year 2010
conducted by the Cabinet Office

Because different events happen throughout our life from birth to death including schooling, working, marrying, parenting, and so on, it is totally natural that people’s perception changes towards well-being. In our framework, we have divided one’s life into four stages of life: childhood and youth, adulthood, late adulthood before aged 80, and late adulthood after aged 80.

(3) Possibility of international comparisons

While the concept of well-being may differ from country to country as it is significantly influenced by culture and beliefs, it is useful if we are able to make an international comparison. In practice, there are common factors that are considered to be important across all countries. For instance, a wide variety of indicators for well-being have been by governments overseas, and some have already started the data collection based on these indicators (see Appendix2). Among them, there are several indicators that are considered to be important in Japan as well. Therefore, in constructing the indicators, we have paid attention to the studies in other countries, and employed indicators considered to be important for Japanese people where it is possible. By doing so, these proposed well-being indicators become more comparable, and it enables us to learn from the comparisons.

(4) The identification of the high-risk population

From each indicator of well-being, it is possible and it is essential to identify the number of

households or individuals who are facing multiple risks such as being socially excluded in poor socio-economic conditions with ill-health. Understanding the relationship between the high-risk population and formal or informal support they are receiving leads us to discover: to what extent potential risks spread to society, what types of people mainly fall into the category of the high-risk group and how other factors such as poverty influence these risks. These findings can better inform public policy decisions by targeting the most at risk population, and create a more socially included society.

(5) Comparisons with other indicators

With the growing recognition that GDP and other economic indicators alone cannot portray the actual level of welfare of the people living in a country, the Japanese government has introduced four indicators: the Social Indicators (SI), the New Social Indicators (NSI), the People's Life Indicators (PLI), and the Life Reform Index (LRI).⁶ The intention of producing those indicators and these well-being indicators share the common purpose of creating a better society based on The New Growth Strategy, Cabinet Decision, June 18, 2010 (Government of Japan, 2010). However, there are few important differences.

The characteristics of the previous 4 indicators are:

1. Their frameworks were established with more focus on individual life domains.
2. Indicators were chosen from existing statistics, and no new survey was conducted.
3. Subjective indicators were included in the NSI and the LRI, but the indicators did not aim to measure the level of well-being or the satisfaction of their life.
4. Based on the percentage change, all indicators were standardized, and they have produced a single composite indicator.

In comparison, the current proposed well-being indicators have the following characteristics:

1. The framework has been established by putting a great deal of emphasis on subjective well-being.
2. All necessary indicators are included to encompass national well-being regardless of their existence in the survey data.
3. They attempt to identify indicators which may overlap with other indicators.
4. They do not produce a single composite indicator.

Regarding the fourth point above, we considered that constructing a single composite indicator would prevent us from finding important characteristics in each domain. As stated earlier, one of the significances of producing well-being indicators is to investigate the factors affecting individuals' well-being, and to identify societal advantages and disadvantages as well as to

⁶ These discussions were reported in the Quality of Life Council (1974).

observe what aspects of society are improving and what aspects of society are deteriorating over time. Hence, it is preferable not to combine all indicators together to create one single indicator, but to evaluate each indicator.⁷

⁷ The Stiglitz Commission also suggests not to combine all indicators to create one single indicator because of various reasons such as a single indicator does not allow us to see which fields are deteriorating in society, it requires weighting, it needs to have additional explanation when there are changes of indicators, and it is not suitable for international comparisons because of different values that exist in each country (Stiglitz, Sen, and Fitoussi, 2009).

3. Lists of the proposed well-being indicators

As section 2 explained, these proposed well-being indicators consist of 3 domains: socio-economic condition, health and relatedness, and subjective well-being as the most important indicator because well-being is a subjective phenomenon. Subjective well-being, socio-economic condition, health and relatedness have several indicators, and this section will present those indicators, available data, and the results of some preliminary analysis for its validity.

(1) Subjective well-being

As stated earlier, well-being is multidimensional, but as many prior studies show that we consider subjective well-being to play a central role in measuring well-being. There have been various proposed indicators to capture subjective well-being. This report takes all possible indicators into consideration, and proposes 6 indicators: current level of subjective happiness, expected level of happiness in the future, ideal level of happiness, relativeness, affective experience and happiness gap within the household. At the present, an existing indicator in Japan is the indicator of current level of happiness. This indicator, however, informs us of the general happiness level in Japan, and gives us some clues to add other indicators.

The current level of subjective happiness is most frequently used in international surveys to measure subjective well-being. It is the indicator used to obtain the present level of happiness. For instance, the respondents are asked to choose the score from 0 points (very unhappy) to 10 points (very happy), or to choose a number between 1 (very happy) and 5 (very unhappy).⁸

In Japan, the current level of happiness has been measured in the NSLP conducted since 1978 by asking individuals to score their happiness between 0 and 10. As Figure 6 demonstrates, there is a general trend throughout survey years that the largest portion of the population has chosen 5 (I am neither happy nor unhappy) followed by 7 and 8.

⁸ There are other ways of measuring subjective well-being such as asking the satisfaction of overall life, or asking general satisfaction of life by using escalated scale. However, they are more related to income and reflect only the life of themselves. The happiness level, on the other hand, reflects their health and family relations. For these proposed well-being indicators, we use the happiness level of people as a subjective measurement because the purpose of the measurement is to understand people's well-being which includes more than income and individual life.

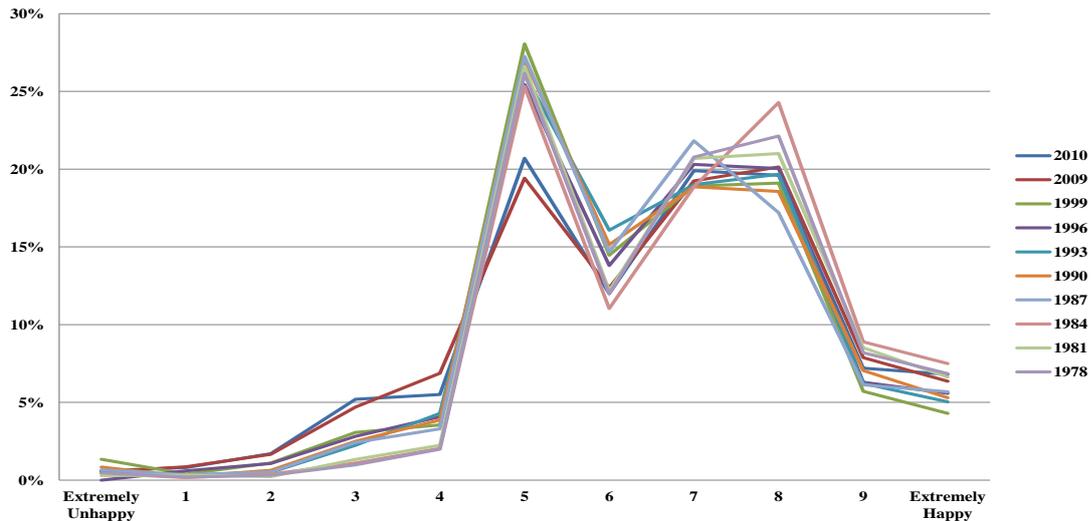


Figure 6 The distribution of happiness scores
 (Note) The data was extracted from the NSLP (years are all fiscal years) conducted by the Cabinet Office.

When compared to other countries, two characteristics became apparent. Firstly, the lined graph of Japan has two distinctive peaks at 5 and around 7 to 8. For example, the lined graphs of Denmark and the U.K. show the highest peak at 8, and it has asymmetric distribution. Secondly, in comparison to countries with a high average score of well-being such as Portugal and Bulgaria, Japan has a smaller population scoring below 4 (Figure7).

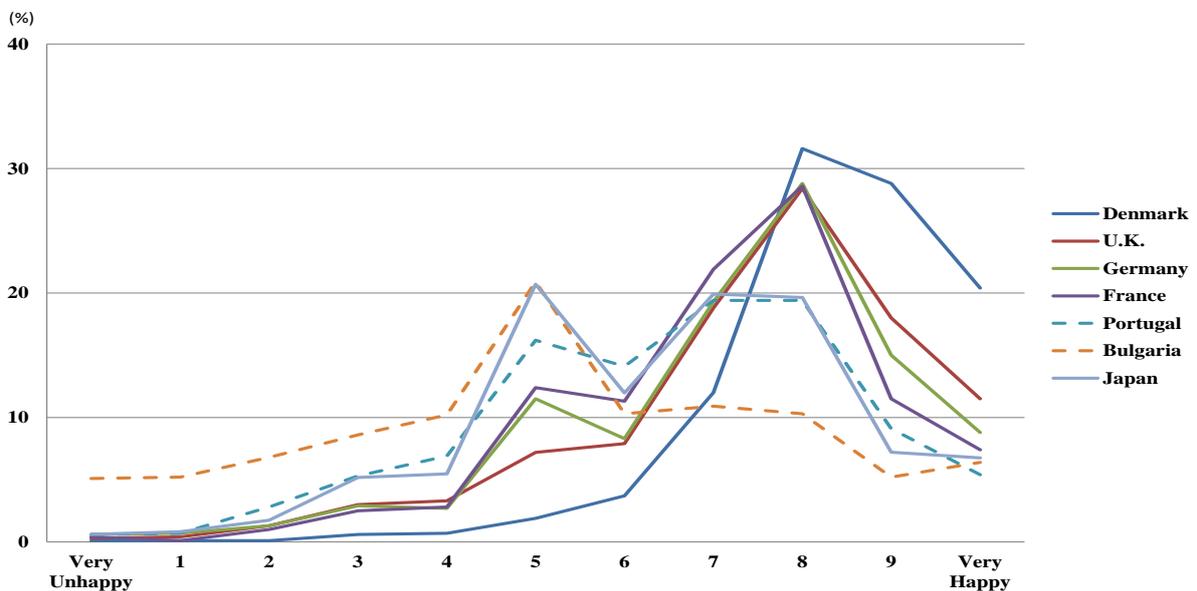


Figure7. Distribution of happiness scores in comparison with some European countries
 (Note) The data was extracted from the NSLP fiscal year 2010 conducted by the Cabinet Office, and European Social Survey for European countries(2008)

Another important distinctive feature of Japanese people’s well-being is that as they get older their happiness level does not increase. According to previous studies conducted in overseas, there is a general agreement that the relationship between age and well-being follows the U shaped curve. In other words, as people get older, people become happier. It is hypothesized this thing happens due to the changes in people’s way of thinking as they get older. When people reach middle age, they realize the fact that they have to give up their dream or ambition they have been pursuing since their youth because of many other social restrictions. With the struggle of accepting this reality, middle aged people feel unhappy. Yet, once they reach old age, people are likely to change their way of thinking, and try to enjoy the rest of their life (Bruno and Stutzer, 2001). However, the results of Japanese surveys show that people’s happiness does not increase with age as much as other countries (Figure 8).

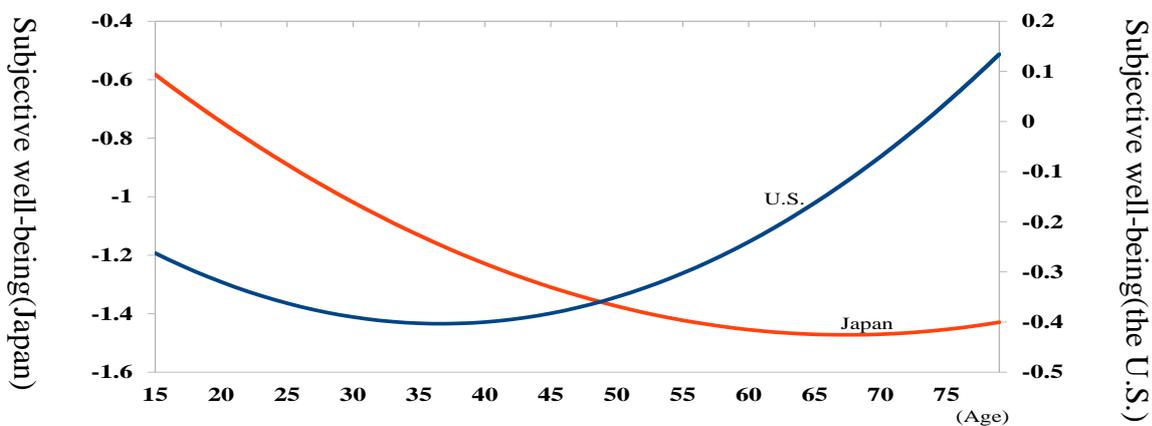


Figure8 Subjective happiness by age in comparison with the U.S.
 (Note) The data was extracted from Cabinet Office (2009)

From these findings, we observe following implications. Firstly, the existing subjective indicator of current level of happiness should be included, but the phrasing of the question could be improved. According to Figure 7, it is suggested that the evaluation of well-being by using the average score is not sufficient. It is important to see the proportion of people who evaluated their life to be very unhappy in order to observe happiness disparities.⁹

In addition to the indicator of the current level of happiness, there are three important aspects that are specific to Japan. Those three are: 1) the gap between the ideal state of happiness and the real state of happiness, 2) expected level of happiness in the future 3) relative achievements in comparison with others. The first aspect is crucial considering the societal context of Japan. Japanese people are said to have a tendency to choose the middle number when given escalated odd numbers to choose from. The result of current level of happiness

⁹ When everyone has the same level of happiness, and when some have a very high level of happiness while others have a very low level of happiness, the average score would be the same. Nonetheless, the former is probably better in considering national well-being.

indicator follows this tendency. Therefore, when we are measuring the ideal state of people’s happiness, people are unlikely to give the numbers at either end of the scale, and we do not get the actual representation of people’s feeling. Additionally, the second aspect is essential for us to measure. As shown above, in Japan, elderly people are the least happy members of the population unlike other countries.¹⁰ The third aspect reflects Japanese culture. It is said that Asians happiness level increases in relation to others, such as appreciation towards others and harmony with nature,¹¹ which is very different from the western concept of happiness which appears to increase with the satisfaction of own ego. This will be a particularly important indicator in understanding what cultural factors affect Japanese people’s sense of happiness, and to identify cultural differences.

In order to see if those three aspects are actually corresponding to subjective well-being, our group has implemented preliminary research of young people with the collaboration with the ESRI. Firstly, we have explored the Japanese-perceived ideal state of mind by carrying out the survey. From this survey, we found that the majority of Japanese people think the ideal state of mind is “feeling happiness for 70-80% of their time” or “feeling happiness for 50% of their time” (Figure 9). However, those who feel very unhappy (scored 0) are more likely to say their ideal state of mind is “feeling happiness for 100% of their time”. This suggests that the low average score of happiness in Japan is not a great problem because the Japanese-perceived ideal state of mind is not being happy all the time.

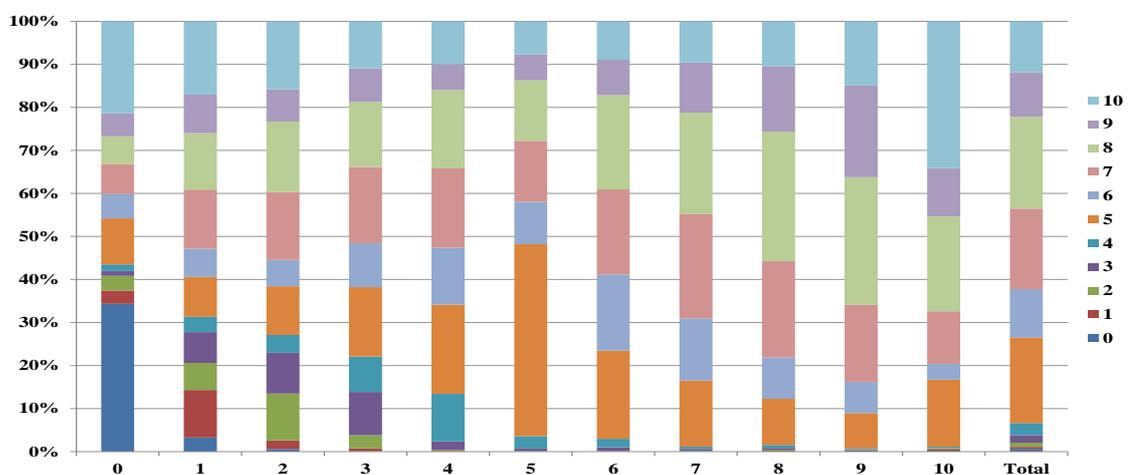


Figure9 The current level of happiness and the ideal state of happiness

(Note 1) The data was extracted from the preliminary survey

(ESRI (2011) Survey of Level of Happiness of Young People)

(Note2) X-axis describes the current level of happiness, and Y-axis represents the ideal level of happiness.

10 Expected level of happiness in the future does affect the current level of happiness. Particularly in a country where there is a large aged population who feels unhappy, many youth would expect their future to be the same by looking at those unhappy elderly people.

11 For the cultural differences in Happiness Studies, see Uchida, Norasakkunkit and Kitayama (2004), Uchida and Kitayama (2009), Kan, Karasawa and Kitayama (2009) etc.

Secondly, we have investigated expected level of future happiness, whether people feel are the sense of progress towards a state of happiness in the future. There are correlations between the current level of happiness and the expected level of future happiness. Although only 12% of young people have shown anxiety that their level of happiness would lower in the following year, they are the ones who currently feels very unhappy. Forty percent of people who scored less than 2 expected to have lower level of happiness in the future. On the other hand, ones who scored their happiness level as very high (score 10) believed their happiness level would increase even more in the future.

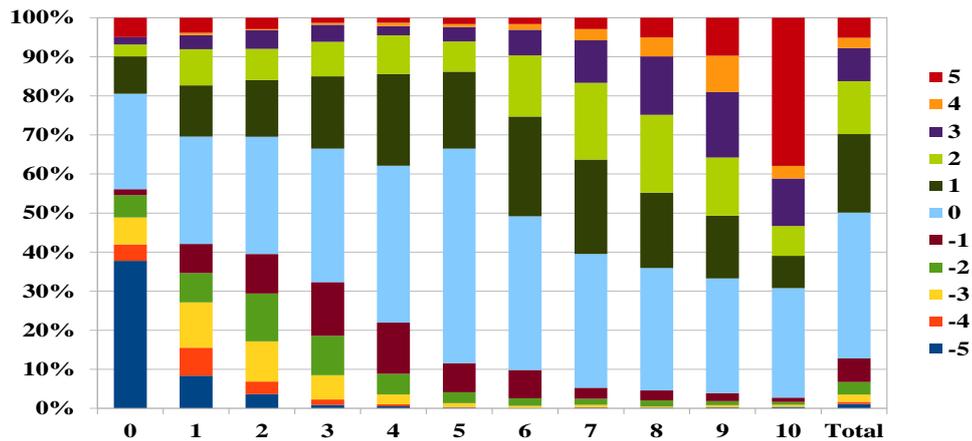


Figure 10 Comparison between the current level of happiness and the expected level of happiness in the future.

(Note 1) The data was extracted from the preliminary survey (ESRI (2011) The Survey of Level of Happiness of Young People)

(Note 2) X-axis describes the current level of happiness, and Y-axis represents the expected level of happiness in the future.

Thirdly, we have carried out a statistical analysis to understand the current level of happiness and relativeness by using this survey. The result shows a high correlation between the two. Nevertheless, this indicator is very much culturally dependent; hence the relationship between the two could change over time. From this preliminary analysis, we conclude those three aspects all relates to the current level of subjective well-being, therefore they are valid.

Referring to “relativeness”, this proposed well-being indicator would include the happiness gaps among the family members as family members are the closest actors in society and normally shares basic background such as material wealth and values. By looking at trends of happiness within the family, if everyone has a similar level of happiness and a similar perception towards one’s own happiness in the future, or if there are wide gaps between each member’s perceptions, important implication can be obtained. For instance, if each member’s subjective happiness and future perception are different within the same family, it is necessary to investigate reasons causing these gaps and to aid public policy implications.

In addition to all the above, the indicator of affective experience will be included into this domain. The Gallup World Poll, and Bhutan’s Gross National Happiness (GNH) employ this indicator. The affective experience, which are life experiences that force us to feel some emotions, forms general appraisal for our lives. Some even argue that this dominates subjective overall appraisal of life. Because pleasantness or unpleasantness is very much contextually dependent, this indicator will include emotion such as shame or guilt, which characterizes Japanese culture.

Taking above discussions into consideration, the table below summarized 6 proposed indicators.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	current level of subjective happiness	•NSLP (Cabinet Office)	There is a need to consider the phrasing of the question. Life satisfaction, and escalated indicator of satisfaction might be useful to compliment this indicator.	•ESS
individual	all age group	ideal level of happiness	•Preliminary survey of young people		
individual	all age group	expected level of happiness in the future	•Preliminary survey of young people (asking: expected level of happiness in the next year and the time they will die)	There is a question of how to define "future(How many years later will be future happiness?)".	•Gallup World Poll (asking: expected life satisfaction in 5 years)
individual	all age group	relativeness	•Preliminary survey of young people (using Interdependent Happiness Scale)		
individual	all age group	affective experience	•Preliminary survey of young people (same questionnaire as the Gallup World Poll)	It is better to employ the method of Bhutan, and include typical Japanese emotion such as embarrassment and guilt.	•Gallup World Poll •Bhutan GNH
household	all age group	happiness gap within the household	none	It will be necessary to have data for whole household.	•ESS

(2) Socio-economic condition

Socio-economic condition is an important domain. This domain comprises of aspects of basic needs, housing, parenting and education, employment and social system. Each aspect will have various subjective and objective indicators, and the following text will explain those indicators.

1. Basic needs

Lack of fulfillment of basic needs implies no foundation to conduct everyday life. Although “paradox of happiness” shows that an increase in income does not bring about an appreciable increase in happiness, basic needs fulfillment do matter particularly to ones living in deprived conditions. Previous research conducted overseas clarified that GDP alone cannot show the reality of unsatisfied basic needs because GDP is a macro statistic, and increase in income may vary from region to region, industry to industry, and occupation to occupation. In other words, we can neither standardize nor measure basic needs fulfillment by one indicator. Therefore, 14 indicators will be proposed here to encompass basic needs fulfillment. Among

them, 4 indicators will capture the state of individuals in all age group: poverty rate, material deprivation rate, relative poverty gap and food safety. Two indicators are directed at households: relative poverty rate and the proportion of households that are unable to pay for rents, mortgages or public utility bills. Unsatisfied basic needs at community level will be measured by 2 indicators: consumer fraud and subjective evaluation towards material wealth. In addition, child poverty rate will be used to analyze the well-being of children. Bankruptcy rate will be employed to evaluate the well-being of adults. For the aged population, 4 indicators will aid the evaluation: suicide rate, lonely death rate, ratio of people who fear lonely death and anxiety for life expenses in later life.

In the NSLP, in relation to basic needs, people value household budget as one of the most important factors. Nevertheless, the ones who care about household budget over other factors tend to have a lower level of well-being (Figure 11). Statistically, this proves that they have a negative correlation. This is probably because for those who have lived in a deprived condition, household budget (income/consumption) appears to be more important. But for the ones living without money worries, household budget is unlikely to be such an important factor. Therefore, material deprivation and poverty rate need to be measured.¹² Also, the child poverty rate is important to understand because child poverty often leads to life-long poverty, and causes a poverty spiral.¹³

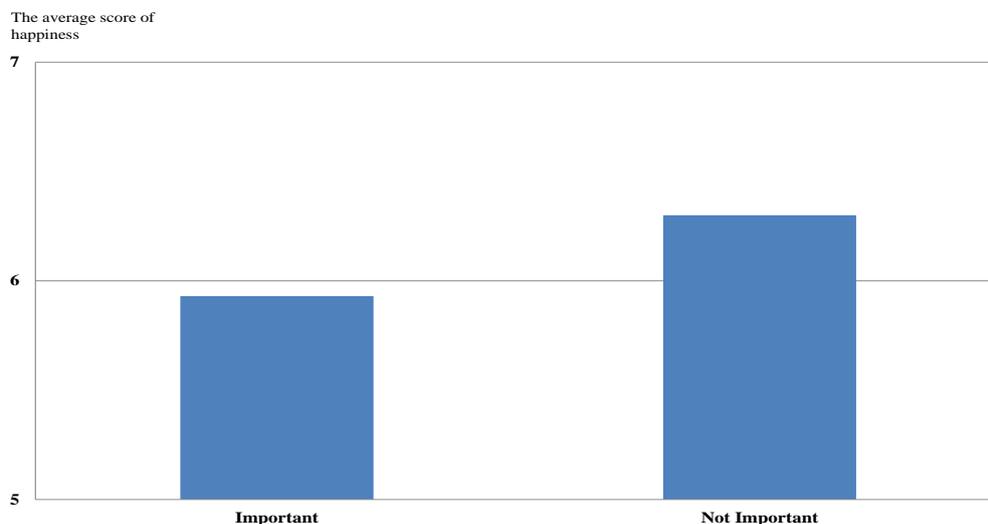


Figure 11 Relationship between people who value household budget (income and consumption) and their average score of happiness

(Note) The data was extracted from the NSLP fiscal year 2010 conducted by the Cabinet Office

As well as understanding relative poverty, absolute poverty is also necessary to grasp. This is because, for instance the relative poverty rate is: 1) a difficult concept to be understood among the public, 2) the relative poverty line differs greatly between countries, hence, it

¹² There are many research papers point out the relations between happiness and poverty (see Clark, 2007).

¹³ For instance, Bradshaw, Hoelscher and Richardson (2006) shows the relationship between the two.

could be inappropriate for international comparisons, 3) in the country where people sustain a high average income, the population below the relative poverty line does not necessarily feel deprived (European Commission, 2011). As an absolute indicator, European countries are using the material deprivation rate or the number of unemployed people in the household to measure poverty. Also, there is a method of measuring absolute poverty by using the Basic Needs Basket, which focuses on minimum income.¹⁴

Moreover, as a modern societal problem in Japan, there is large number of elderly people dies alone. Lonely death means that no one realizes when someone, mainly the aged, passed away, and the body has been left undiscovered for considerable amount of time. Society with problem of lonely death can be characterized as an unhappy society.¹⁵ Lonely death is caused mainly due to social exclusion, which might be done deliberately. Some research claims that approximately 80 % of those who end their life alone suffer from the state of self-neglect when one rejects every relation to society.¹⁶ In this aged society, it is crucial to have an indicator of social exclusion or old age poverty.

In addition to those considerations, it needs to measure how capable community is to fulfill the basic needs of people to live there. To measure this, governments in foreign countries suggest the amount of consumer fraud as well as the amount and the extent of damage as indicators. It is important to see the extent of damage because the victim could lose trust towards the market due to the psychological damage (Cabinet Office, 2009), which will affect community as a whole.

Taking into account above considerations, basic needs will be measured by the following indicators.

14 The discussions on relative poverty and absolute poverty are found in Komaura et.al (2008). In Holland, those studies have been a main stream in the academic institutions, and Netherlands National Institute for Family Finance (NIBUD: Nationaal Instituut voor Budgetvoorlichting) has presented NIBUD budget standard. Also the European Commission has presented the budget standard threshold for of the countries in the E.U. In Japan, Abe (2010) has researched the validity of the UK Minimum Income Standard .

15 Although there are no research done to investigate the relationship between the anxiety towards lonely death and the low level of happiness, our preliminary analysis has proved that those relationships are statistically significant in case of youth after the control of sex, income, educational attainment, and marital status.

16 The survey conducted in 2012 by the ESRI also found that 91.4% of the local authority recognizes that the problem of old age self-neglect is severe.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	poverty rate (under the minimum income line)	•The National Institute of Population and Social Security Research (Japan) has been developing the indicator.	Howto set the absolute poverty line. How do we consider assets.	•OECD •EU-SILC •NIBUD •FaHCSIA
individual	all age group	material deprivation rate (people who have more than 3 yes out of 9)	•Preliminary survey of young people	Whether Japan should use the same indicator as Europe. The European Commission suggests adding 4 more indicators on the current indicator.	•EU-SILC
individual	all age group	relative poverty gap	•Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)	The rate has not been published.	•EU-SILC
individual	all age group	food safety	•Food Safety Monitoring Survey (128 monitors: the relative anxiety towards safety of food in comparison to other safety issues such as natural disaster, environment, crime and traffic accident) (Commission on Food Safety) •Monitoring Survey on Living Condition of the People(1,810 monitors: there are 7 questions related to the issue of food safety) (Cabinet Office)	This is the one-shot survey.	•Euro barometer 2005, 2010 (comparing with economic crisis, pollution, crime, traffic accident, and health)
household	all age group	relative poverty rate	•Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare) •Survey on the Situation of Consumption (MIC)	How to calculate equivalent disposal income over generation.	•OECD •EU-SILC
household	all age group	proportion of households that are unable to pay for rents, mortgages or public utility bills	•Preliminary survey of young people	How do we define public bills.	•EU-SILC (asking: how frequent they could not pay for the rent in the past year/ if they had experience of not being able to pay for the public bills/ if they had times not being able to pay for the loan.)
community/ society	all age group	consumer fraud (1. the amount of consumer fraud, 2. reported cases of illegal activates against commercial law, 3. the number of consumer affairs consultation)	•White Paper on the Life of the Nation Fiscal Year 2008 (Cabinet Office) •The number of reported offences related to commercial activities (National Police Agency) •Annual Report on Consumer Affairs (National Consumer Affairs Center of Japan)	It requires large survey.	•the U.K. Office of Fair Trading •Netherland Consumer Protection Agency
community/ society	all age group	subjective evaluation towards material wealth (the rate of households who think having difficulties in financing)	•Preliminary survey of young people		•OECD •EU-SILC
individual	children	child poverty rate	•Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)		•OECD •EU-SILC
individual	adult	bankruptcy rate (per million)	•The Supreme Court has statistics on civil proceedings and administration, which offers bankruptcy rate.	It cannot differentiate people based on age, sex, types of households, and household income.	•None, but the Eurostat is considering the index to understand the situation of debt.
individual	elderly	suicide rate	•The Cabinet Office publishes the estimated numbers		•The Report by NCEA (1998)
individual	elderly	lonely death rate	•The statistics of lonely death over 65 years of age has been published by the Tokyo Medical Examiner's Office.	The definition is not clear. As a statistics, there is only the number of people who died from hunger, illness, suicide and murder, and no one knows who he/she is. Nissei Research Institute estimates the number of people who face lonely death amount to 15,000 per year.	none
individual	elderly	ratio of people who fear lonely death	•Survey on the Social Life of the Elderly Fiscal Year 2009 (Cabinet Office)	It is only one-shot survey. It may be needed to ask other age group. (The preliminary survey only included young people)	none
individual	elderly	anxiety for the life expenses in their later life	•Survey on Social Security Fiscal Year 2007 (Japan Institute of Life Insurance)	There is no official government survey on this issue.	•SHARE (asking: how often they feel the future will be great/ if they have hope in the future).

2. Housing

Housing is also essential to have a decent life. It is difficult for people to conduct their daily chores and to have family life without house. Therefore, this is important aspect to note for the understanding of well-being. We suggest using the following 9 measurements: the number of homeless people, the number of households feel the rent or mortgage is too much, degree of satisfaction for own habitation, indicator of deprived housing, cleanness of the community, environmental degradation in the surrounding areas, safety of the community, indicator of near-by surroundings (whether there are parks, hospitals and commercial centers) and number of children who have no adult supervision after school.

Various study concluded that housing environment affects the level of well-being. In particular, the degree of satisfaction towards their own housing, types of habitation (own/rental, mansion/apartment), the quality of habitation such as sufficient space and tranquility and the burden of the payment for housing are reported as important factors affecting people's well-being (Doman'ski, et al., 2006).¹⁷ Also, the quality of housing is believed to produce a positive attitude towards one's own life including a feeling of happiness (Evans, Kantrowitz and Eshelman, 2001).

As in other studies, our preliminary survey of young people also shows that satisfaction of own housing and the burden of rental or mortgage are contributing to the level of subjective well-being. Satisfaction is influenced by the quality of their living environment such as tranquility and sanitation (Figure12).

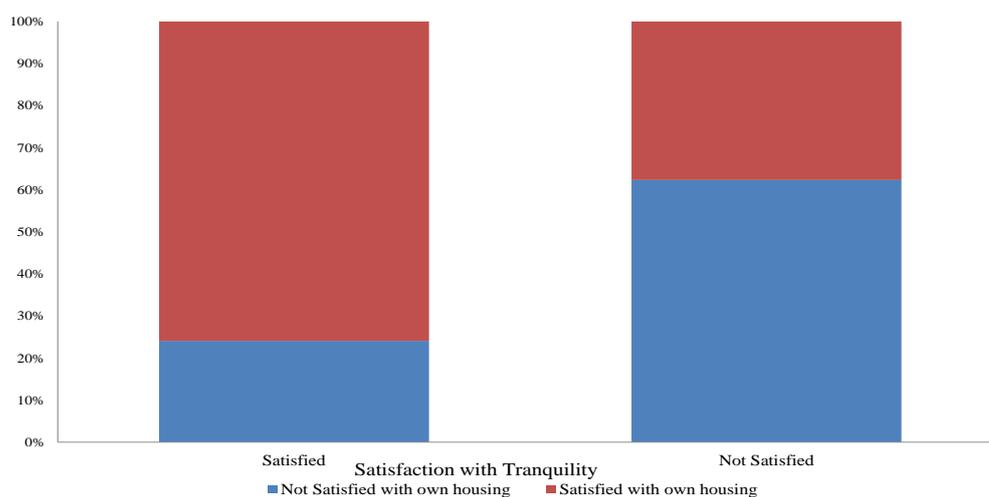


Figure12 Relationship between satisfaction of own housing and the quality of living environment

(Note) The data was extracted from the preliminary survey (ESRI (2011) The Survey of Level of Happiness of Young People).

¹⁷ Bratt (2002) says that the density of households affects mental condition of the habitants.

To sum up, indicators to measure housing are suggested as below.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	the number of homeless people	• National Survey on the Actual Conditions of the Homeless (Ministry of Health, Labor and Welfare)	The definition of "homeless " in Japan is different from other countries.	• OECD • EC (2007)
household	all age group	the number of households feel the rent or mortgage is too much	• Preliminary survey of young people		• EU-SILC
household	all age group	degree of satisfaction for own habitation	• Preliminary survey of young people		• Gallup World Poll
household	all age group	indicator of deprived housing (density, noise, sunlight, etc.)	• Statistics on Housing and Land (density, and sanitation) (Ministry of Internal Affairs and Communications, Statistical Bureau) • Preliminary survey of young people (noises and lightning)	Statistics on Housing and Land has been conducted only every 5 years. How do we set the standard of "the sufficient space".	• EU-SILC
community/ society	all age group	cleanness of the community	• Preliminary survey of young people		• EU-SILC
community/ society	all age group	environmental degradation in the surrounding areas (water pollution and air pollution)	• Preliminary survey of young people	It needs to include anxiety for radiation level.	• Social Survey (South Korean Government Statistic Bureau) • Gallup World Poll
community/ society	all age group	safety of the community (people can walk alone at night)	• Preliminary survey of young people		• Social Survey (South Korean Government Statistic Bureau) (asking: if there are places they feel unsafe to walk at night/ what they do to for the danger) • Gallup World Poll (asking: if they feel safe to walk around their neighborhood at night)
community/ society	all age group	indicator of near-by surroundings (whether there are parks, hospitals, and commercial centers)	• Preliminary survey of young people		• EQLS (asking about afforestation)
individual	children	number of children who has no adult supervision after school	none		

3. Parenting and Education

Parenting and education largely affect well-being. Despite the reward of parenting, some struggle to bring up children. Depending on the situation of parenting support, parenting could be more of a burden than be enjoyable. Hence, the environment for childbearing can increase or decrease the level of well-being. Education is said to have a great influence on every aspect of life by providing people with both are general and intellectual ability. There are 13 suggested indicators. As for parenting, 6 indicators are proposed: regional disparities of gynecologist and obstetrician, satisfaction of parenting, participation rate of male partners, the number of children on the waiting list for nursing school or kindergarten, satisfaction towards parenting support and the rate of people who have childcare leave. As for education, 7 indicators are suggested: educational attainment, attainment of life skills, child satisfaction of school environment, experiences during the childhood whether they had close communication with parents or not, reported cases of bullying, high school dropout rate and the number of young people who cannot study at high school or university due to economic reasons.

According to the NSLP carried out in the fiscal year 2011, households with children have different needs from those without children. Also, age of children influences parents' needs as Figure 13 shows. As it can be easily expected, households with children under 6 years old strongly hope for a community that focuses on childbearing. In comparison with others, their hope is considerably higher. In order to evaluate the situation of parenting, it is necessary to know how satisfied parents are while bringing up children and the factors that affect their degree of satisfaction. Various studies have pointed out that the level of satisfaction is often influenced by the environment. For instance, when parents cannot send their children to nursing school or kindergartens even if they want to, their level of satisfaction would lower. Community service, both physical and psychological support from the partner and parents, and support from work are also considered to affect parents' satisfaction towards childbearing (Sumita and Nakata, 1999; Nakamura, 2007; Watanabe and Higai, 2004). Additionally, there is evidence that the degree of dedication of parents in childbearing influences not only well-being during childhood, but also well-being in the later life of the child. Hence, the indicator to capture how much communication parents had with their children will also be necessary (Flouri, 2004).

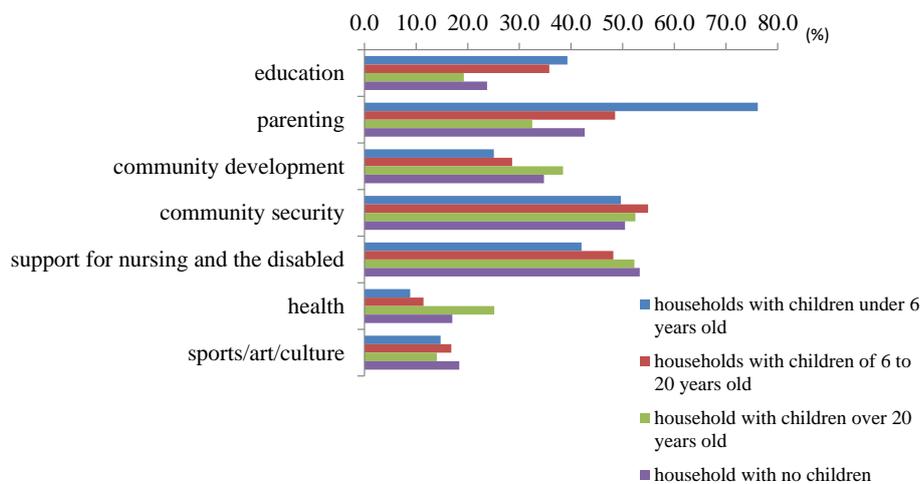


Figure13 The parents' needs

(Note) The data was extracted from the NSLP fiscal year 2010 conducted by the Cabinet Office

Education will affect people's life. It has a significantly large influence on the achievements one would make in their life. At work, people with education are likely to have the ability to conduct more tasks than ones without education, which will contribute to a higher life time income. In daily life, education becomes useful to manage our own health, and quality of education decides moral standards. Hence, it is crucial to have indicators to measure educational attainment and quality of education. Particularly, noncognitive skills are recognized as essential by the government in Japan, and the government is currently making

an effort to increase the quality of education. Quality of education cannot be measured by the assessment such as the Program for International Student Assessment (PISA), the OECD measurement for children’s understandings of basic subject. Rather, it is more important to evaluate noncognitive abilities including how many children have personal skills, and how well they are able to solve problems they would come across.¹⁸ Also, the accumulation of research brings about not only innovation, but also research development with the purpose of increasing the quality of life in the region.

In addition, it is important to understand people’s experiences of education both from the children’s and the parents’ points of view. For children, school is the place they spend most of their time, therefore, the school environment often contributes largely to decide the level of children’s well-being.¹⁹ Hence, children’s satisfaction on school life, and reported case of bullying need to be investigated. Moreover, it is essential to pay attention to the negative spiral of low educational attainment. Parents who have low level of educational attainment can cause a household to suffer from poverty and social isolation. Child poverty and social exclusion are reported to have a correlation with a low level of education in parents (Cabinet Office, 2011b). Therefore, encompassing the trend of high school dropout rate and identifying high-risk groups in the population will be essential to prevent inter-generational poverty and social exclusion.

Taking the above discussions in to an account, suggested indicators are summarized in the following table.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	educational attainment	•Population Census	This can be different depending on the level of compulsory education. Also, there are gaps between generations. (If the region has more old age population, that region are likely to have a lower level of education.)	•OECD •National Statistics (various countries)
community/ society	all age group	regional disparities of gynecologist and obstetrician	•Statistics on Doctors, Dentists, and Pharmacists (every each year)(Ministry of Health, Labor and Welfare)		
individual	children	attainment of life skills (communication skills, being able to help people in trouble, being able to ask for help, and etc.)	•Preliminary survey of young people	The questions should include "Is it easy for you to communicate with the others?", and "Can you ask for help when you are in trouble?"	•OECD PISA •OECD Cognitive/Non-cognitive skill study •NLSY-CS1997
individual	children	child satisfaction on school environment	•For school life in general, the Survey on Japanese Youth In Comparison with the Youth of the World (Cabinet Office). The most recent survey was carried out in the fiscal year 2008) •For education in general, quality of teachers, curriculum, and infrastructure of education, NSLP (Cabinet Office)	The Youth of the World are carried out only every 5 years. The National Survey on Lifestyle Preferences had included the question related to this indicator only once.	•Social Survey 2009 (South Korean Government Statistic Bureau) (asking: if they are satisfied with school environment including lecture, teaching, relations with students, relations with teachers, school infrastructure, surrounding environment, awarded degree, and living overall)

18 Heckman, Stixrud, and Urzua (2006) researched noncognitive ability by using ego and internal control. Cunha and Heckman (2009) focused on the aspect of anti-sociality, anxieties, and self-centeredness, and attention disorder.

19 Randolph, Kangas and Ruokamo (2010) show the positive correlation between life satisfaction of students and satisfaction of school life.

target		indicator	existing data	consideration	examples of overseas
individual	children	experiences during the childhood whether they had close communication with parents or not (whether parents read bed time story etc.)	•Preliminary survey of young people (it has not surveyed on children)	Tachibanaki Survey	•NLSY-CS1997
individual	children	reported cases of bullying	•Survey on Education towards Problematic Students (Ministry of Education)	Grasping the number of of bullying is difficult, because it is often hidden.	
individual	children	high school dropout rate (the rate of people whose educational attainment is below high school)	•no exact data available	Based on the Survey on Education towards Problematic Students (the Ministry of Education), it is possible to understand the rate of the dropouts among ones who have enrolled to the high school. But the rate of people whose educational attainment is below high school cannot be obtained. Although the MIC has the Survey on Labor Force, this survey does not separate primary graduate, middle school graduate and high school graduate.	•Eurostat (Population of the non-educated, primary or middle school graduates between 25 and 64 years old is calculated from the Labor Force Survey)
individual	adult	satisfaction of parenting	•Preliminary survey of young people •NSLP Fiscal Year 2009 (Cabinet Office) (asking about childbearing environment)	There are surveys conducted by private institutions to be considered for its usage.	
individual	adult	participation rate of male partners for parenting	none	There are surveys conducted by private institutions to be considered for its usage. (For instance the male satisfaction of parenting.)	
household	adult	the number of children on the waiting list for nursing school or kindergarten	•The number of children on the waiting list for nursing school is available by the Ministry of Health, Labor and Welfare.	The number of children on the waiting list for kinder garden is not available.	
household	adult	the number of young people who cannot study at high school or university due to economic reasons	•Preliminary survey of young people	It needs to consider if this is to ask parents or the children	•Social Survey 2009 (South Korean Government Statistic Bureau) (asking if they could obtained the degree they have deserved)
community/ society	adult	satisfaction towards parenting support	•NSLP fiscal year 2009 (Cabinet Office) (asking: the convenience of using the support including the distance, available hours, and cost, as well as quality of staff, and quality of facilities.)		
individual	adult	the rate of people who have childcare leave	•Basic Survey of Gender Equality in Employment Management (Ministry of Health, Labor and Welfare)	This rate of existing survey does not include women who retired before giving birth, yet they should be included.	•OECD Family Database

4. Employment

In Happiness Studies, unemployment is a central issue as believed to have a largest negative influence on happiness and well-being. It has been proved that the employed have a higher level of happiness than that of the unemployed (Clark and Oswald, 1994; Blanchflower and Oswald, 2004),²⁰ and the level of happiness lowers when people become unemployed (Winkelmann and Winkelmann, 1997). Hence, the situation of employment needs to be included as an aspect contributing to well-being. This aspect will be measured by 15 indicators. For targeting the whole population, 4 indicators will be used: the rate of undesired contractual workers, the number of jobless households, the number of companies with female workers in administrative position, and the number of research related workers. For young people, 4 indicators are considered: the number of the NEET (Not in Employment, Education or Training), youth unemployment rate, the number of young entrepreneurs, and the number

²⁰ For the reference to Japan, see Ohtake (2004), and the Cabinet Office (2008).

of young people who hope to become an entrepreneur. For adult, 6 indicators are suggested: job satisfaction, the effective ratio of job offers to applicants, anxiety towards *karoushi* (death due to excessive amount of work), the ratio of the employed who suffer from harassment, the number of long-term unemployed and the number of unemployed people who strongly desired to work (particularly women who cannot work due to household tasks). As for the old aged population under 80 years old, social participation rate will be used to see their social networks after their retirement.

A job provides material wealth to the worker, but it also provides rewards including social connection and joy as well as providing wealth to the family of the worker. Hence, the consequence of losing one's job is more than losing a sustainable income. Those who feel a responsibility to look after their family, such as middle aged men, often suffer most from losing job. In addition to losing sustainable income to provide for a decent family life, there is an overall negative psychological effect, which sometimes lowers self-esteem, causing a feeling of uselessness about themselves and even leading to severe depression (Goldsmith, Veum and Darity, 1996; Frey and Stutzer, 2002). Some research even pointed out that this negative consequence of losing one's job will not disappear easily, some people suffer from unhappiness for more than 5 years even after they have gained other jobs (Clark et al. 2008). Our preliminary survey of young people also showed this tendency that those who had experienced unemployment in the past have statistically lower level of happiness (Figure14). Therefore, being unemployed for a long period of time, and unable to work despite ones' wills due to other social responsibility has a considerable negative effect on well-being of people.

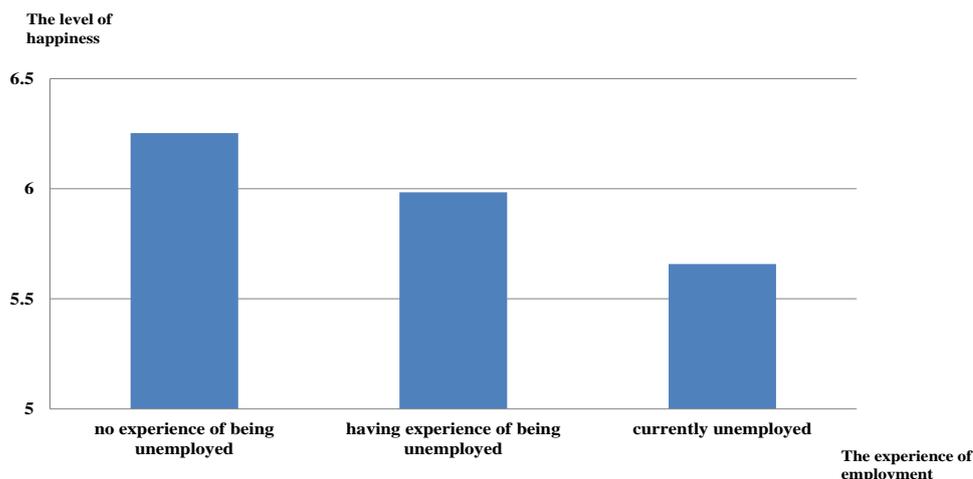


Figure 14 The experience of unemployment and the level of happiness

(Note) The data was extracted from the preliminary survey (ESRI (2011) The Survey on Level of Happiness of Young People).

Because the significance of having a job is not only to obtain a sustainable income, the degree of enjoyment at work matters. That is influenced by how much he/she wanted that job, how suitable the job is, or how rewarding the job is. Also, it is crucial to understand working environment including the companies' efforts to provide a better working environment with no harassment and no excessive amount of work.

Additionally, the complicated situation of the unemployed youth needs to be investigated. There is a phenomenon of large youth unemployment, existence of the NEET and the problem of *hikikomori*, those who have chosen to withdraw from society and reject leaving their home or even room so they can isolate themselves from society. Nevertheless, there are young people with a more positive attitude, such as ones who start up their own business with creative idea, which bring about a positive impact on the other young people.²¹ Hence, it is essential to have indicators particularly for young people, such as the youth unemployment rate, and the NEET rate as well as the number of youth entrepreneurs, and the number of young people who hope to become an entrepreneur.

Another important aspect of Japanese Society is that we have an aged population, and the elderly play a significant role in our society. Having a large amount of lively and active elderly people helps to create a society filled with positive energy. In particular, it is desirable if the elderly people can use their various skills gained throughout their life to solve societal problems. Hence, indicators to capture number of elderly people who eagerly participate in social activities would be helpful.

Taking the above discussions into considerations, propose indicators are summarized in the table below.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	the rate of undesired contractual workers	•General Survey on Diversified Types of Employment 2010, 2007, 2003, 1999, 1994 (Ministry of Health, Labor and Welfare)	How do we define "undesired contractual workers".	
household	all age group	the number of jobless households	•Preliminary survey of young people		•EU-SILC
community/ society	all age group	the number of companies with female workers administrative position	•Basic Survey on Management of Female Employment (Ministry of Health, Labor and Welfare)	There is no data available after 2007.	
community/ society	all age group	the number of research related workers	•Survey Report on Science and Technology Research (MIC, Statistical Bureau)		•MSTI
individual	youth	the number of the NEET	•White Paper on Labor Economy (Ministry of Health, Labor and Welfare)		

21 The relationship between the NEET and adjustment to society is discussed in Norasakkunkit and Uchida (in press) and Toivonen, Norasakkunkit and Uchida (2011).

target		indicator	existing data	consideration	examples of overseas
individual	youth	youth unemployment rate	• Survey on Labor Force (MIC, Statistics Bureau)		• National Statistics (various countries) • OECD
individual	youth	the number of young entrepreneurs	• Survey on Business and Companies (MIC, Statistics Bureau) • Annual Statistics of National Tax Agency (National Tax Agency) • Statistical Yearbook of Civil Rights, Litigation, and Human Rights (Ministry of Law)	This existing data cannot identify the age of entrepreneurs.	
individual	youth	the number of young people who hope to become an entrepreneur	• Basic Survey on the Employment (MIC, Statistics Bureau)	The survey carried out by the MIC asks if they have thought about starting up business, but the question should ask quality aspects.	
individual	adult	job satisfaction (reward)	• NSLP fiscal year 2009 (Cabinet Office) • Preliminary survey of young people		• National Statistics (various countries) • WHO Mortality Database
individual	adult	the effective ratio of job offers to applicants	Ministry of Health, Labor and Welfare has the data of the situation of job openings.		• National Statistics (various countries)
individual	adult	anxiety towards <i>karoushi</i>	• Preliminary survey of young people	There is the data of number of recognized case of <i>Karoushi</i> , this can be used as an objective indicator.	
individual	adult	the ratio of the employed suffers (or suffered) from harassment	• Ministry of Health, Labor and Welfare has the data on the situation of the Equal Employment Opportunity Law, which includes the data on number of cases of reported sexual harassment.	The survey does not include the past experiences. Also it does not include other types of harassments.	
individual	adult	the number of long-term unemployed	• Survey on Labor Force (MIC, Statistical Bureau)	The survey defines one year as a long-term. It is necessary to evaluate if this definition is applicable to measure well-being.	• National Statistics (various countries) • OECD
individual	adult	number of the unemployed who strongly desired to work (particularly women who cannot work due to household tasks)	• Annual Population and Social Security Surveys (Ministry of Health, Labor and Welfare) for employment rate after giving the birth for first child.		
individual	elderly	social participation rate (especially under 80 years old)	• Basic Survey on Social Life (MIC, Statistical Bureau) for volunteer participation rate. • NSLP (Cabinet Office) for the participation as volunteers, the filed to be participated, the number of times/hours participated, the reasons for participation.	The indicator should include "job" in the social participation rate because there are people who work after the retirement.	

5. Social system

It is unquestionable that social system (social infrastructure) influences well-being through various aspects of our life including housing, childbearing, education, and employment. Particularly, it is important to understand how trustworthy the social system is in order to see its sustainability or to forecast the influence of the social system on individuals in the future. There are 5 indicators to be proposed: trust of the social system, the number of the non-registered in the national pension scheme and health insurance, the recognition of public security, the recognition of the system of public comments, and voters' turnout rate.

Trust towards social system can be measured by the indicator of trust in the government by

asking people's opinion. Additionally, the number of the non-registered in national pension scheme can be used as an objective indicator to see how trustworthy and how sustainable the social system is. Because it is expected that ones who do not trust the social system are not willing to pay for the national pension scheme, if the rate is higher, it shows the public generally distrust the social system.²² When people distrust the national pension scheme, this scheme is probably not sustainable although one's pension is very important in old age. Moreover, in developed regions especially, social systems need an evaluation of their democratic governance. Democracy is measured by indicators, such as if the government is listening to the voice of the public, or if the government has higher accountability (Helliwell and Huang 2005). It is important that the people trust their democratic governance, and are aware of their own rights to take part in the decision making process. Also, the indicator of subjective evaluation of public safety can understand how peaceful people living in society are, which an objective indicator of safety, such as crime rate, cannot represent.

Indicators are summarized in the table below.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	trust of the social system	none	It is sufficient to measure the trust towards the government.	• Gallup World Poll (asking: the trust towards national police, supreme court, and medical system)
individual	all age group	the number of the non-registered in the national pension scheme and health insurance	• Preliminary survey of young people • Commission of Social Security		
individual	all age group	the recognition of public security	• Public Poll on Public Security (Cabinet Office)	Surveys are not consistent. (The survey in 2007 is the most recent).	
individual	all age group	the recognition of the system of public comments	• NSLP fiscal year 2007(Cabinet Office)	The survey is done only once.	
community/ society	all age group	voters' turnout rate	• MIC has the record.	The election could include not only the general election but also other elections.	• National Statistics (various countries) • OECD

²² In the case of Japan, a very small amount of people do not have pensions due to financial reasons.

(3) Health

Well-being depends largely on one's health, and health includes physical health and psychological health. This domain therefore focuses on both physical and psychological health including several indicators. Indicators are divided into three groups: physical health, psychological health and relating to both kinds of health.

1. Physical health

As stated earlier, health is chosen as the most important factor for well-being by most of the population, and particularly old aged women value its importance (Figure 5 in Section2). Although there is research that the level of happiness of the disabled is not necessarily lower than that of people who have won the lottery, this is thought to be due to the adjusting mechanism of human beings (Brickman et al., 1978). Five indicators are proposed here: the rate of patients with long-term illnesses, child mortality rate, rate of child sickness, capability of the elderly to conduct Activity of Daily Living (ADL) and the number of bedridden elderly.

Firstly, the rate of patients with long-term illnesses is proposed as an indicator because long-term illnesses often limit people's activity, which will lower their level of subjective well-being not only due to their illness, but also due to their limited mobility. Additionally, it is necessary to consider what matters the people at different stages of their life in relation to well-being. As for children, child mortality rate and infant mortality rate are suggested as indicators. Because these rates are normally higher than that of adult mortality rate, it is better to separate these indicators. In order to capture how many children suffer from illnesses, it is proposed to use the rate of illnesses including modern illnesses such as asthma and atopic dermatitis.²³

Also, different indicators are needed for the elderly. In general, the elderly frequently visit hospital as outpatients, and the severity of illness does not necessarily correlate to the number of outpatient visits. Hence, rather than the number of outpatients visits, it is more suitable to look at whether physical limitations cause them to have any problems in conduct their daily life. Therefore two indicators are proposed: the number of bedridden patients who require long-term care and the number of elderly who cannot conduct ADL such as eating, dressing, toileting and bathing.

Taking the above considerations into account, five indicators are summarized in the following table.

²³ In the U.S., 8.9 % of children are reported as patient of asthma (Akinbami, 2006).

target		indicator	existing data	consideration	examples of overseas
individual	all age group	the rate of patients with long-term illnesses	none	It needs to define the length of "long-term", and it might need to take into the seriousness of the illness into consideration.	•EU-SILC (asking: if they have been suffering from illness over 6 months including seasonal illness, and how severe it is)
individual	children	child mortality rate (new born child mortality and infant mortality)	•Vital Statistics (Ministry of Health, Labor and Welfare)	It needs to separate mortality rate of new born babies and infants because of its large differences.	•National Statistics (various countries) •WHO Mortality Database
individual	children	rate of child sickness	•Survey on School Health (Ministry of Education) •Comprehensive Survey of Living Conditions of the People(Ministry of Health, Labor and Welfare) for hospital outpatients visits		•A Picture of Australia's children (the Government of Australia)
individual	elderly	Activity of Daily Living (ADL)	•Comprehensive Survey of Living Conditions of the People(the Ministry of Health, Labor and Welfare) •Hitotsubashi RIETI ISTAR		•SHARE
individual	elderly	the number of bedridden elderly	•Comprehensive Survey of Living Conditions of the People(Ministry of Health, Labor and Welfare)	It is only conducted every 3 years.	

2. Psychological health

In developed countries, psychological health is becoming an issue.²⁴ Referring to well-being, previous studies suggest that psychological ill health lowers the level of well-being, hence psychological health is one of the most important factors should be measured when determining well-being.²⁵ There are 9 indicators: the number of suicides, degree of stress, suicidal ideation, satisfaction towards counseling, reported cases of child abuse, number of child protection institutions with counselors, number of children with development disabilities, number of patients with depression and occurrence rate of dementia.

In order to see how influential psychological health is to formulate one's well-being, and to discuss suitable indicators to capture psychological health, we have conducted a preliminary analysis by using the data we collected on young people. We have firstly surveyed psychological health of young people by using the Zung Self-Rating Depression Scale (SDS), and the Center for Epidemiologic Studies Depression Scale (CES-D). Although those preliminary surveys were conducted at different times, results of both methods showed a correlation between the level of happiness and the severity of depression (Figure 15).

24 According to Baumeister and Härter (2007), the surveys carried out in the U.S., Australia, Germany, and Holland revealed that, 6.6-11.9% of the respondents suffered from mental disorders, and 5.6-18.1% of the respondents suffered from anxiety in the past 12 months.

25 Bergsma, Have, Veenhoven and Graaf (2011) reported that happiness indicators are valid to measure well-being because he found: Patients with psychological disorders less frequently feel happy in comparison to healthy people. Mentally ill patients do not increase their happiness with time, which in other words, patients cannot adjust themselves to the situation and become happier. Regardless mental illness, satisfaction with family life and loneliness is statistically influential to the level of happiness.

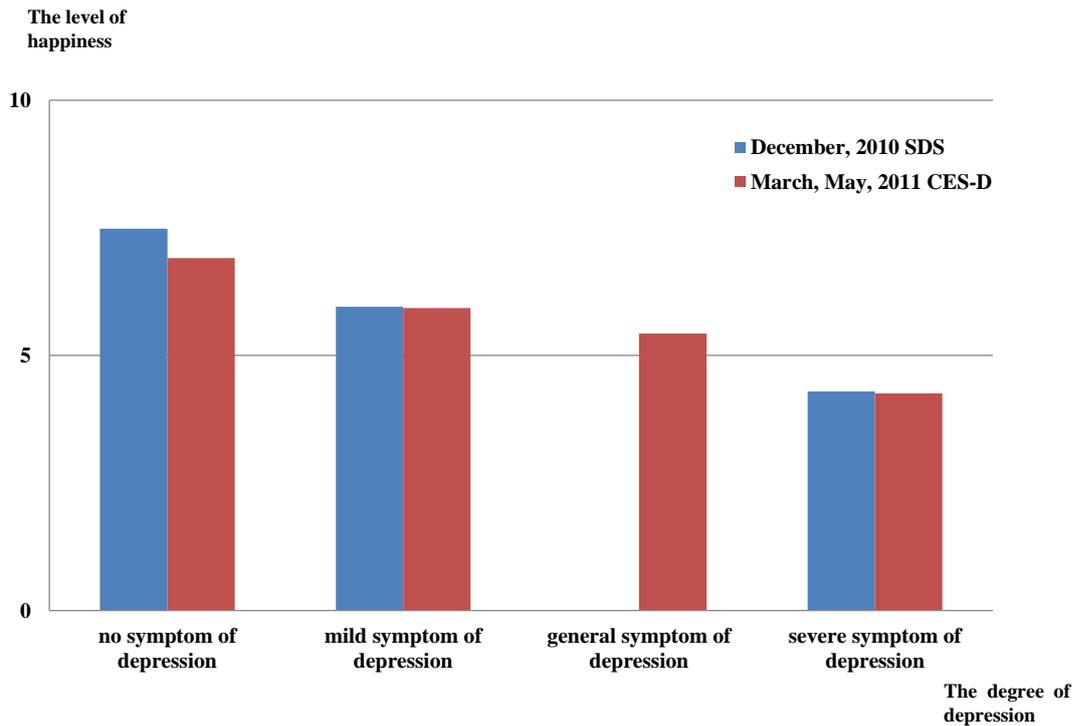


Figure 15 Mental health and the level of happiness

(Note1) The data was extracted from the preliminary survey
(ESRI (2011) The Survey on Level of Happiness of Young People).

Also, other surveys report that people with a greater amount of stress have a lower level of happiness, and they are at the high risk suffering from severe mental illnesses.²⁶ In most cases, suicidal ideation and suicide are caused by excessive stress and mental illness. Although it is impossible to know subjective well-being of the dead, it is easily guessed that are person who commits suicide was not a happy individuals.²⁷ Statistically, our preliminary survey discovered that those who have a higher level of suicidal ideation are likely to have a lower level of happiness. (Figure16)

26 According to the Cabinet Office (2009), stress is one of the largest contributors in decreasing the level of happiness of people in Japan.

27 Although some cross section analysis concludes that there is no relations between level of happiness with suicide, panel data analysis for the last 20 years show the relationships between the two (Koivumaa-Honkanen et al., 2007; Daly and Wilson, 2008).

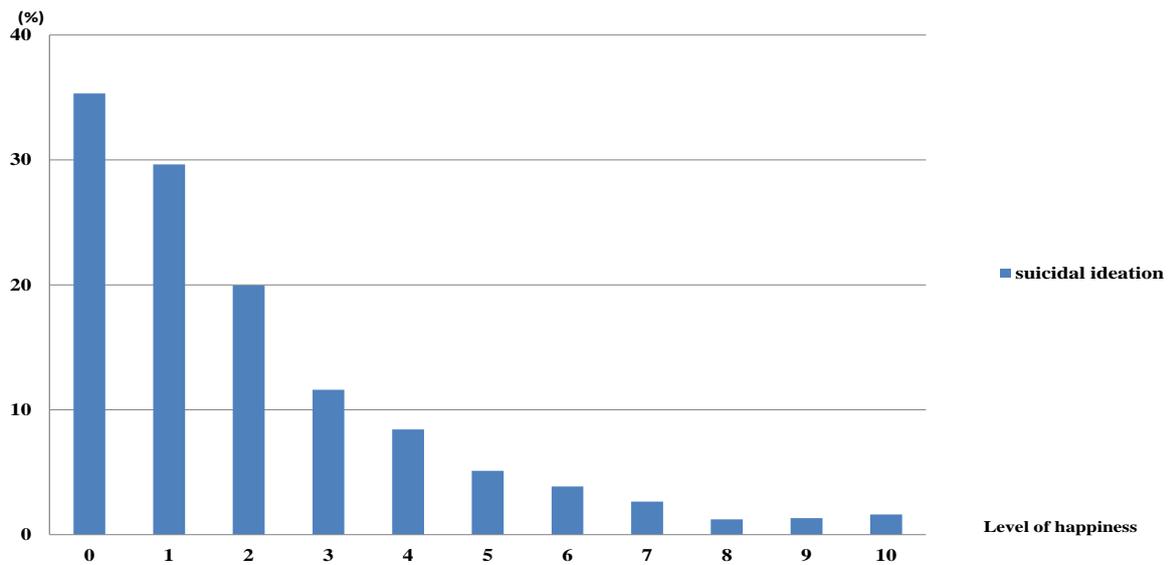


Figure 16 The relationship between suicidal ideation and level of happiness

(Note1) The data was extracted from the preliminary survey

(ESRI (2011) The Survey on Level of Happiness of Young People).

(Note 2) X-axis represents the level of happiness. Y-axis is the percentage of people who either “has unsuccessful suicidal experience” or “has seriously considered to kill themselves” within a year.

Moreover, previous studies show that people who feel lonely have a lower level of happiness (Gary, Lee and Ishii-Kuntz, 1987). According to the NSLP, around 10% of the population is feeling lonely at school, in the community, at work and even at home (Figure17). From our preliminary analysis, there is a negative correlation between loneliness and happiness, and people who feel lonely are less likely to be happy.

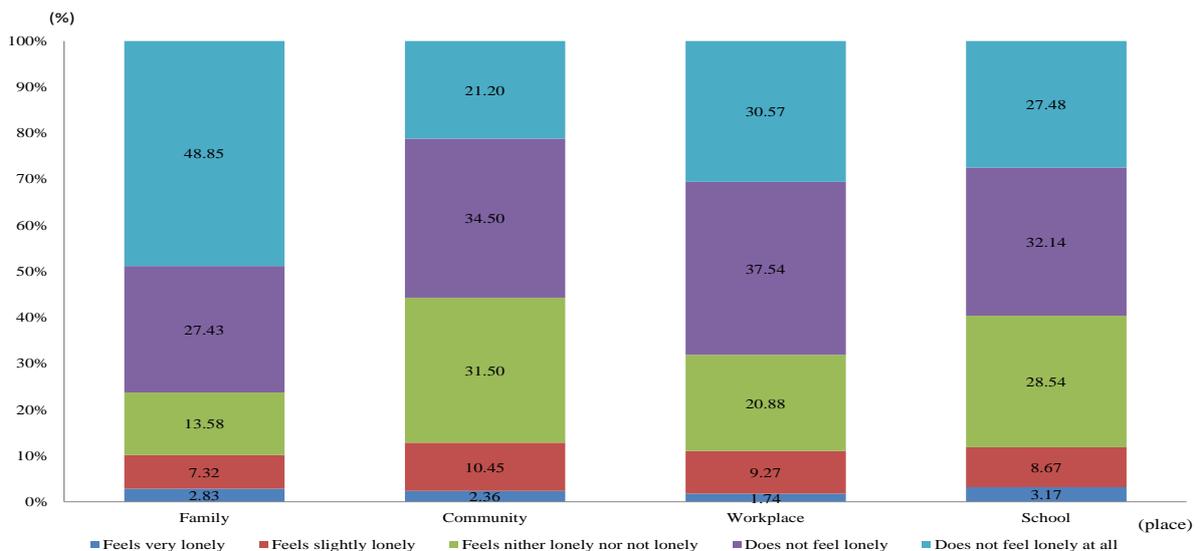


Figure 17 The percentage of people who feel lonely in various places

(Note 1) The data was extracted from the NSLP fiscal year 2010.

(Note2) Calculation of the percentage was made without ones who did not answer.

According to the above discussions, the indicator of depression is useful to measure adult psychological health. In considering different age groups, however, the indicator of depression is not sufficient. For example, psychological health of children is better captured by the indicator of development disabilities, or the indicator of child abuse. Also, in order to measure mental health of the aged population, dementia is a more suitable indicator to employ.

Additionally, indicators to understand the community and societal support for mentally ill patients, and support for child protection will be useful in order to see how much effort has been made, and how much the community has paid attention to those issues.

Various indicators are summarized as following.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	the number of suicides	•Vital Statistics (Ministry of Health, Labor and Welfare), National Policy Agency has the data of suicide.		•National Statistics (various countries) •WHO Mortality Database
individual	all age group	degree of stress	•NSLP fiscal year 2007 and 2008 (Cabinet Office) •Vital Statistics (Ministry of Health, Labor and Welfare) asks if the respondents have stress and worries	The NSLP includes related questions only in the fiscal year 2007 and 2008. The Vital Statistics is conducted only every 3 years. Additionally, they do not ask about the degree of the stresses.	•Bhutan GNH (asking: how stressful their life was in the past year/what are the factors, and how often they had feeling of frustration or peace last week) •Social Survey 2010 (South Korean Government, Statistical Bureau) (asking:how stressful last 2 weeks have been)
individual	all age group	suicidal ideation	•Preliminary survey of young people		•Social Statistics 2010 (the South Korean Government, Statistical Bureau) (asking: if they had attempt to commit suicide within the past year and its reason) •SHARE (asking: if they have thought to kill themselves last month)
community/society	all age group	satisfaction towards counseling	none	The number of hospitals are found in the Survey of Medical Institutions (Ministry of Health, Labor and Welfare).	
individual	children	reported cases of child abuse	•Ministry of Health, Labor and Welfare has the data on the situation of child counseling in the municipal.		•Child Protection Australia (Australian government) (including the number of cases reported, and the number of case successfully managed)
community/society	children	number of child protection institutions with counselors	•Survey of Social Welfare Institution (the Ministry of Health, Labor and Welfare)		
individual	children	number of children with development disabilities (attention-deficit hyperactivity disorder)	•In 2002, Ministry of Education conducted a nation-wide survey.	Is it really appropriate to use the number of children with development disorders? If children have not been examined, it is impossible to assess the reality.	•HHS (the U.S.) have been conducted every 4 years. •British Survey of Child and Adolescent Mental Health (Kings College)
individual	adult	number of patients with depression	•Preliminary survey of young people (SDS, CES-D)		•EC proposes as one of the indicators
individual	elderly	occurrence rate of dementia	•Patient Survey (every 3 years) (Ministry of Health, Labor and Welfare)	The number of recognized long-term care patients who receive insurance can be used as alternate indicator.	

3. Indicators that relate to both physical and psychological health

There are various indicators to capture both physical and psychological health. Seven indicators are included here: average life expectancy at birth, satisfaction towards medical services, degree of exhaustion of family members with patients, satisfaction towards external

support for nursing, reported cases of domestic violence, maternal mortality rate and subjective evaluation of own health.

The average life expectancy at birth (age) is often used as a measurement of physical health.²⁸ However, in considering the number of people committing suicide, this measurement is more suitable to be used as a common indicator. Nonetheless, this indicator needs careful interpretations. This is constructed based on the hypothesis that the current death rate and reasons for the death will remain the same in the future, yet, in practice they change. Therefore, it is necessary to take expected changes in death factors in to consideration for the interpretation of this indicator. Additionally, satisfaction towards medical services is also included here because they provide services for both physically and psychologically ill patients.

There are also some indicators that need to be taken into account in relation to Japan, although other countries do not need to do so, as Japan is moving more and more towards an aged society. In recent years, there have been an increase in the number of care givers, generally family members, who suffer from physical and psychological disorder due to exhaustion. Therefore, in the case of Japan, it is necessary to consider the health of family members, and external support provided for nursing.

In addition, reported cases of domestic violence are included here as an indicator because domestic violence has both physical and psychological consequences. The elderly's self-evaluation of their health is also suggested here as mental health largely affects their physical condition, and consequently their overall evaluation of their own health.

Indicators are summarized in the following table.

28 One of four indicators used in the Human Development Index (HDI) by the UNDP is the average life expectancy at birth (age). Veenhoven (2007) says that when people are happy, people are less likely to have illness.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	average life expectancy at birth (age)	•Life Tables (Ministry of Health, Labor and Welfare)	Life expectancy at current age can be substitute to this indicator.	•National Statistics (various countries)
community/ society	all age group	satisfaction towards medical services	•NSLP fiscal year 2009 (Cabinet Office) for satisfaction for: medical services in general, distance to hospital, waiting hours in the hospital, cost, and medical standard.		•Social Survey 2010 (South Korean Government) (asking: the medical services people have used with in a year, and its degree of satisfaction)
community/ society	all age group	degree of exhaustion of family members with patients	none	For the nursing, it is possible to assess the number of households with long-term care patients, and stress and worries of care givers from health record in the Vital Statistics (Ministry of Health, Labor and Welfare).	
community/ society	all age group	satisfaction towards external support for nursing	none		
individual	adult	reported cases of domestic violence	•National Police Agency		
individual	adult	maternal mortality rate	•Vital Statistics (Ministry of Health, Labor and Welfare)		
individual	elderly	subjective evaluation of own health	•Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)	The survey is only conducted every 3 years.	•EU-SILC •Social Survey 2010 (South Korean Government)

(4) Relatedness

Relatedness plays an important role in conducting daily life, and it affects well-being of people. Relatedness will be measured by indicators capturing life style, family ties, bonding with community and closeness to nature.

1. Life style

Life style reflects individual values or preferences that are shaped by the era which we live. But at the same time, life style outlines the economic environment and social relations. Seven indicators are included to measure life style: length of free time, satisfaction with time allocation, number of people who wish to work for public wealth, openness towards foreign cultures, time management of children, actual utilization of paid leave and Instrumental Activity of Daily Living (IADL).

As stated earlier, Japanese people have a negative image of their own society as “people are too busy to relax”. However, findings from our preliminary survey on young people do not show a positive relationship between the length of free time and the level of happiness (Figure 18). Therefore, it is essential to investigate their quality of free time, which can be measured by the satisfaction of time allocation.

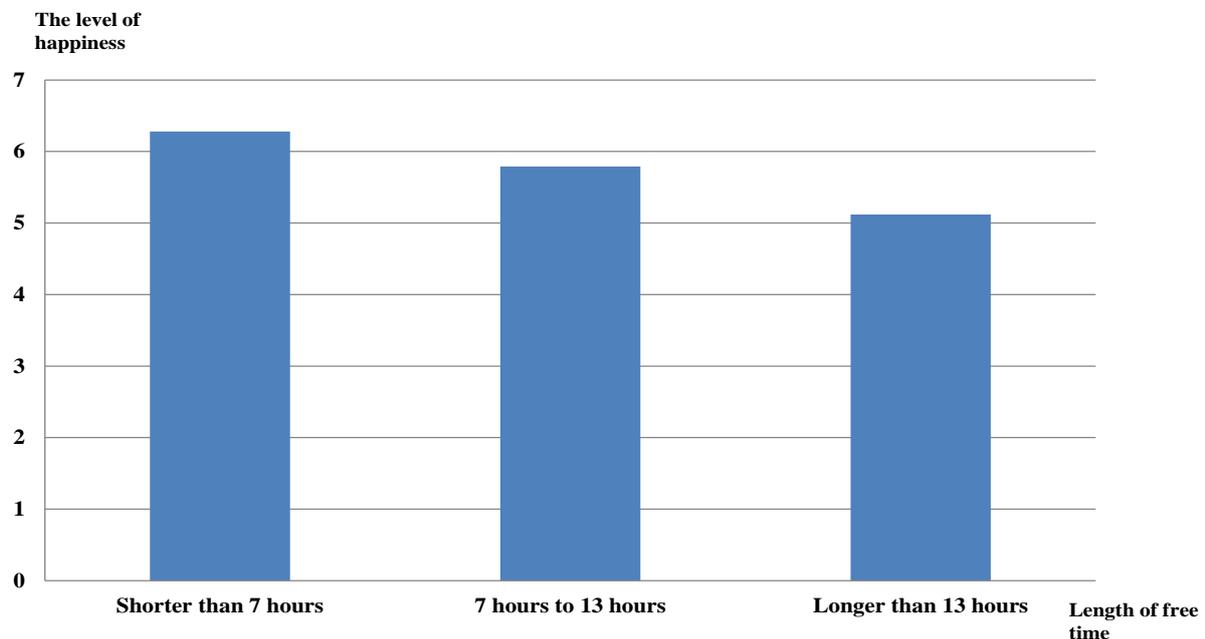


Figure 18 Length of free time and the level of happiness

(Note) The data was extracted from the preliminary survey
(ESRI (2011) The Survey on Level of Happiness of Young People).

Also, it is useful to see how people want to use their free time, whether they are willing to devote their time to the community, or wanting to use all their free time for their own

recreation. It is because the way people use their time will consequently contribute to the national well-being. It is noted that separate indicators for different age groups are needed such as time management of children, the actual utilization of paid leave and the indicator of IADL as people have different life style in accordance to their age lifestyle.

In addition to the time usage and management, acceptance towards cultural diversity is also important to assess people’s life style. This will be measured based on the declaration made in the UNESCO Universal Declaration on Cultural Diversity whether society as a whole is opened to cultural diversity.

Taking into account the above considerations, suggested indicators are summarized in the following table.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	length of free time	•Basic Survey on Social Life (Ministry of Internal Affairs and Communications, Statistical Bureau)	The survey is only conducted every 5 years.	•National Statistics of Time Use Survey (various countries)
individual	all age group	satisfaction with time allocation	none	NSLP fiscal year 2009 (Cabinet Office) includes questions related to time allocation (asking: if they allocate their time both to the work and the private life/if they have sufficient time to spend with family/if they have sufficient time for friends/if they have enough time to be alone).	•EQLS
individual	all age group	number of people who wish to work for public wealth	•Preliminary survey of young people		
society	all age group	openness towards foreign cultures	none	Japan has signed on the UNESCO Universal Declaration on Cultural Diversity	•The Thai government and the EC have a measurement of civil power (asking if they should prevent outside influence to protect own culture)
individual	children	time management of children	•Basic Survey on Social Life (MIC, Statistical Bureau)		•National Statistics of Time Use Survey (various countries)
individual	adult	actual utilization of paid leave	•General Survey on Working Conditions (the Ministry of Health, Labor and Welfare)	The existing data only show an average utilization of paid leave. It might be better to assess how many percent of people can utilize their paid leave for how many times.	•Employee Benefits Survey (SHRM). Newspoll (Australian organization) research on this issue.
individual	elderly	Instrumental Activity of Daily Living (IADL)	•Hitotsubashi RIETI JSTAR		•SHARE

2. Family ties

Well-being indicators in Asian countries such as Bhutan and Thailand put importance on family ties, and it is evidenced that the countries with stronger family ties have higher levels of happiness (Alesina and Giuliano, 2007). Also, family relations are said to be crucial in sustaining mental health (Cobb, 1976). Hence, this is an essential aspect to be included, and 8 indicators are suggested: closeness to family and friends, number of single households, feelings of isolation, existence of the person who can be totally trusted and who would give

some help in a time of crisis, satisfaction on family life, number of children and youth who feel isolated, number of elderly living alone without family staying nearby and number of household living far from other family members. These suggested indicators will show the depth of the relationship and the high-risk population who will become socially excluded.

Following table summarizes indicators suggested to capture family ties.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	closeness to family and friends	•Preliminary survey of young people		•Social Survey 2010 (South Korean Government, Statistic Bureau) (asking: how often they meet up with their parents or talk on the phone)
individual	all age group	the number of single households	•Population Census		•Census (various countries)
individual	all age group	feeling of isolation	•Preliminary survey of young people (UCLA loneliness indicator) •NSLP fiscal year 2010 (the Cabinet Office)	It may contain too many questions.	
individual	all age group	the existence of the person who can be totally trusted and who would give some help in the time of crisis	•Preliminary survey of young people •The National Institute of Population and Social Security Research established the commission of the comprehensive survey on social life.	It should ask both "if they have someone who would help them in the time of need" and "if they have someone who gives unconditional love".	•Social Survey 2010 (South Korean Government, Statistic Bureau) (asking: how many people would help them when they are in trouble such as having flu, having trouble with money, feeling depressed, and etc). •EU SILC 2009 (asking: if they have anyone who would help them when they are in trouble)
household	all age group	satisfaction on family life	none		•Social Survey 2010 (South Korean Government, Statistic Bureau) (asking: the degree of satisfaction on family life, partner, children, parents, step parents, brothers, and step brothers)
individual	children	the number of children and youth who feels isolated	none		•OECD PISA
individual	elderly	the number of elderly living alone without family staying nearby	none		
household	adult	the number of household living far from family members	•Preliminary survey of young people		

3. Bonding with community

At the time of the Great East Japan Earthquake, solidarity of community played a great role. For example, the community was able to lead safe evacuation during the tsunami or able to establish shelters. Also, it is said that child development is not determined by the family effort but influenced by the neighborhood context.²⁹ Hence, bonding with the community is expected to affect one's level of well-being. There are 12 indicators followed by the indicator of self-perceived usefulness in the society. Four indicators are suggested to capture individual feeling towards the community and others: general trust, number of people who think it is natural to help people in trouble, share of people who want to continue to live in the current place and altruism. Five indicators are proposed to understand community networks:

29 Most studies of neighborhood effect focus on poverty, delinquency, crime, and mental illness (Sampson, Morenoff and Gannon-Rowley, 2002). Leventhal and Brooks-Gunn (2003) investigate the psychological influence in detail, Small and Newman (2001) discusses the problem of single parents and isolation.

intergenerational communication in the community, community engagement, rate of *hikikomori*, feelings of alienation and frequency of participation in activities of NPO, NGO, sports groups and hobby groups. Two indicators are thought to be useful to assess community environment: places for recreation, and security. Moreover, as a modern sense of community, degree of internet-based community formation is suggested as an indicator.

General trust towards others and self- perceived usefulness have been focused on by psychologists to understand people’s relationships with the community and society.³⁰ In general, the degree of trust determines one’s will to conduct activities either to produce own benefit or to collaborate with others to produce public wealth. For instance, individuals make different decisions when facing the dilemma between energy use for their own purposes and energy saving for a long-term public benefit of society depending on how much one trusts others (Yamagishi, 1999). Also, self-perceived usefulness is believed to sustain social life or to prevent people from losing motivation.³¹ In the discussion of social capital, bonding with community is often addressed, and it is said there is a close relation between social capital and well-being.³² Social capital is measured by the participation rate for NPO activities or activities to bring about public wealth. The preliminary survey proved that there is a positive correlation between people who have a high level of well-being and those who participate in social activities although we are unable to determine the causality. (Figure19)

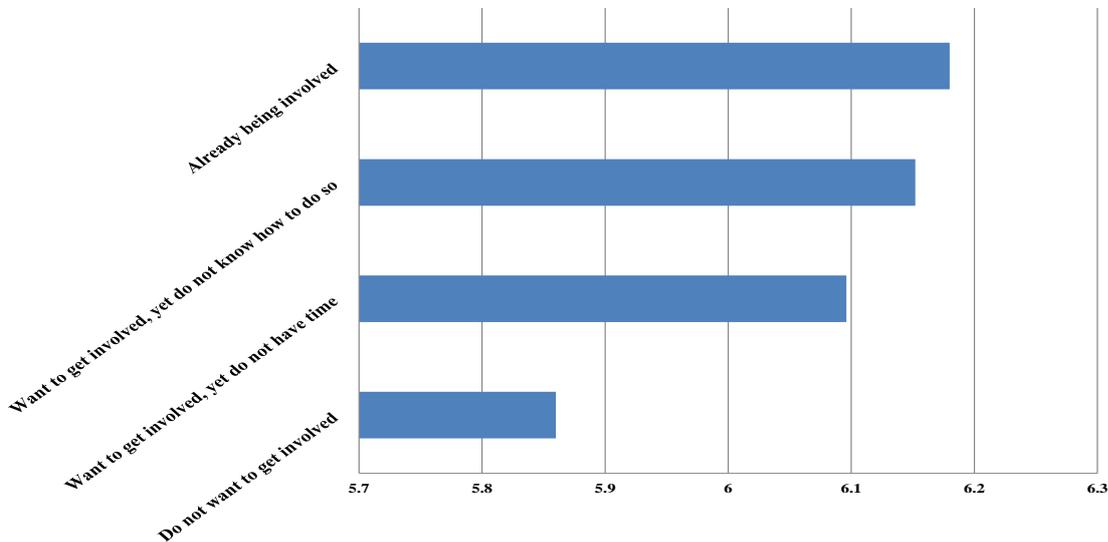


Figure 19 Motivation towards engagement with social activities.

(Note) The data was extracted from the preliminary survey (ESRI (2011) The Survey on Level of Happiness of Young People).

30 For studies on trust and happiness, see Tov and Diner (2009), Helliwell and Wang (2010).

31 Ishimoto and Kurasawa (2009) report that children who recognize their own significance at home have a higher motivation and achieve more at school. Yamazaki et.al (2009) reports that homeless people feel less significance towards their existence after receiving the government living support.

32 Helliwell and Putnam (2004) analyze that there are positive relationships between closeness with family and the level of happiness. Helliwell (2005) clarifies that trust to others and the participation in nonprofit activities correlates with the level of happiness.

Considering the above discussions, suggested indicators are summarized in the following table.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	self-perceived usefulness in the society	none	There are surveys conducted by the private institutions such as the Homeless Survey in Kita Kyushu. Also, there are researches in the filed of development psychology.	
individual	all age group	general trust	•Preliminary survey of young people	It needs to consider whether to use general trust or trust to the neighbors.	•Bhutan GNH (asking: how much they trust the people of Bhutan)
individual	all age group	number of people who think it is natural to help people in trouble	none		•Gallup World Survey (asking: if they helped strangers who are facing problems)
individual	all age group	intergenerational communication in the community	•The Cabinet Office conducts the Opinion Survey on the Community Participation of Elderly every 5 years, which includes the question of intergenerational communication		
household	all age group	community engagement	•Preliminary survey of young people		•Bhutan GNH (asking: how strongly do you feel you belong to the community/if the community treat you equally/ if you have worked for the community in the past 12 months).
society	all age group	degree of internet-based community formation	•Trend Survey on Usage of Information Technology (MIC) for the number of private HP and blogs, and participation in Social Network Service	It needs to consider if the participation rate is appropriate indicator.	
community/ society	all age group	share of people who want to continue to live in the current place	none	There are some surveys carried out by municipality such as Kanuma city (Tochigi), Hino city (Tokyo), Chigasaki city (Kanagawa), Katano city (Osaka), Kumatori-cho (Osaka), Anan city (Fukushima) etc.).	•Gallup World Poll (asking: If they will recommend their community or your town to your friends to live in/if they are planning to move out from the community)
individual	all age group	altruism (blood donation, giving)			
individual	children	rate of <i>hikikomori</i>	•The Survey on <i>Hikikomori</i> (the Cabinet Office)	It is done only once.	
individual	children	feelings of alienation	none	NEET and <i>hikikomori</i> can be used for children as well.	
individual	children	places for recreation	none	It needs to consider if the indicators can be exactly same as the U.S., or it should include other aspects such as the communication with other children.	•National Survey of Children's Health (Department of Health and Human Services, the U.S.)
individual	children	community security (neighborhood effect)	•Preliminary survey of young people (crime and violence in the community)		
individual	adult	frequency of participation in activities of NPO, NGO, and sports group and hobby group	•NSLP fiscal year 2009 and 2010 (Cabinet Office) •Basic Survey on Social Life (MIC, Statistic Bureau)	The Basic Survey on Social Life (MIC, Statistic Bureau) in only conducted every 5 years. The NSLP (Cabinet Office) has relevant indicator only fiscal year 2009 and 2010, and it does not include activities of hobbies and supports. Also, the rate of participation is the rate of people participated in those activities more than once a month. This may not be sufficient time of participation to measure relatedness.	•Social Survey 2009 (South Korean Bureau of Statistics) (asking: number of times, and length of hours people participated in volunteer activities for the past year) •Gallup World Poll (asking: whether they have used their time for volunteering in the past month)

4. Closeness to nature

Education about environment and conservation tries to increase an understanding of local nature and culture, and remind people to respect nature. It is important for people to have skills for nature conservation and recognize the greatness of nature. Japanese people live in harmony with nature on these natural disaster prone islands. It has been believed that nature has a superior power to control and protect human's lives and people appreciate and respect nature. Nonetheless, Japanese people nowadays are losing their harmonious life style, and lack of contact with nature is said to make people more stressful. Therefore, it is critical to reconsider a relationship with the environment. Four indicators are suggested: degree of reverence for nature, degree of understandings of local nature and culture, degree of recognition towards local traditions and degree of understanding of environmental issues. Additionally, as an objective indicator, evacuation rates in disasters are thought to be useful because they show the depth of understanding of nature as well as how closely people have lived with nature.

Additionally, there are many other important indicators. Some suggest that spirituality is the most important. In practice, many empirical analyses prove that religious people generally have a higher level of happiness. ³³

Indicators are summarized in the table below.

target		indicator	existing data	consideration	examples of overseas
individual	all age group	degree of reverence for nature	none	Some investigation have been conducted during the environment education. (Do you think nature is very important?. Do you think nature is powerful?. Do you have fear against nature?. Do you feel you are alive thanks to nature?. Do you some time think your life is led by some powerful energy?. Do you feel you are secured by nature?. Do you thank to nature?)	
individual	all age group	degree of understandings of local nature and culture	none		•Bhutan the National Gross Happiness (asking: to name one of the most important festival in your community/ to name plants and animals living in the community)
individual	all age group	degree of recognition towards local tradition (whether people heard and understands old sayings)	none	It is very important during the natural disaster. Old saying includes the knowledge to save themselves from natural disasters such as tsunami or earthquakes.	
individual	all age group	degree of understandings of environment issues	none	The Chamber of Commerce introduced the exam for the certificate of environment	• World Economic Forum, the Environmental Sustainability Index •Gallup World Poll (asking: how much do you understand global warming/how serious global environment is for you and your family, and etc.)
community/ society	all age group	evacuation rate in disasters	municipality		

³³ For more details, see Tsutsui, Ohtake and Ikeda (2009) etc.

(5) Sustainability

Sustainability of well-being is particularly important to evaluate national well-being. These proposed well-being indicators look at sustainability issues from an environmental point of view. The focuses will be placed on 7 fields of the environment: global warming issues, material cycle, air environment, water environment, chemical substances, biodiversity and ecological footprint. Also, these try to incorporate attitudes towards environmental sustainability by looking at consumer behavior and corporate activities. These aspects include indicators discussed below.

In Japan, overall environmental indicators are proposed in the Third Basic Environment Plan implemented in 2006 by the Ministry of Environment. Because these indicators include the overall situation of environment and conservation efforts, we consider some of these indicators can be used to measure environmental sustainability of the country.

Firstly, the plan has the set of indicators that are composed to represent 6 fields of the environment including: (1) global warming issues : total emission amount of greenhouse effect gas (that from households are addressed separately), (2) material cycle; resource productivity, cyclical use rate, final disposal amount (disposal from households are addressed separately), (3) air environment; achievement rate of Environmental Quality Standard for air pollution, annual hours exceed 30 °C in the urban area/A hot night when the temperature does not fall below 25°C outdoors, (4) water environment: maintenance and achievement status of Environmental Quality Standard of public water and ground water, (5) environmental risks from chemical substances; emissions of chemical substances which are categorized as Pollutant Release and Transfer Register (PRTR) chemicals and established an environmental standard and reference value, (6) biodiversity; proportion of endangered species to reference number of species in a vertebrate animal, insects and vascular plants. Currently, the forth Basic Environment Plan has been discussed and those indicators will be revised. We suggest including overall indicators focusing on conservation of endangered species and biodiversity, and the calculation of imported virtual water.

In addition, the plan includes ecological footprint, which is an indicator invented and developed in the University of British Columbia for the purpose of capturing how much are human's life depends on natural environment. The worldwide NPO Global Footprint Network calculates ecological footprint of the world as "*It measures how much land and water area a human population requires to produce the resource it consumes and to absorb its carbon dioxide emissions, using prevailing technology*" (NPO Global Footprint Network, 2011). For the calculation of the ecological footprint, various data is used including the area of arable land, pasture land, marine land, forest for producing timber and forest for photosynthesis.

In order to achieve those environmental standards, people have to be reminded to keep harmonious relations with nature and have to take action such as building environmental friendly housing or sustainable trade including fair trade.³⁴ Hence, this indicator also looks at consumer behavior as well as corporate efforts for environmental conservation.

Indicators are summarized in the table below.

field of focus	indicator	existing data	consideration	examples of overseas
global warming issues	total emission amount of greenhouse effect gas	•Greenhouse Gas Inventory Office of Japan publishes the data on the greenhouse gas emission.	The calculation and its boundary has been revised regularly.	•National Statistics (various countries) •OECD •UNDP
material cycle	resource productivity	•Ministry of Environment	The calculation and its boundary has been revised regularly.	•National Statistics (various countries) •OECD •UNDP
	cyclical use rate	•Ministry of Environment	This is not suitable simple comparison with other countries because they differ depending on the stages of economic development, industrial structure, the currency value, and data availability.	•National Statistics (various countries) •OECD •UNDP
	final disposal amount	•Ministry of Environment	same as above	•National Statistics (various countries) •OECD •UNDP
air environment	achievement rate of Environmental Quality Standard for air pollution	•Ministry of Environment	Many standards have already been achieved.	•National Statistics (various countries)
	annual hours exceed 30 °C in urban area/A hot night when the temperature does not fall below 25° C outdoors	•Ministry of Environment •Japan Meteorological Agency	The data differs largely depending on the year.	•National Statistics (various countries)
water environment	maintenance and achievement status of Environmental Quality Standard of public water	•Ministry of Environment	Many standards have already been achieved.	•National Statistics (various countries)
	maintenance and achievement status of Environmental Quality Standard of ground water	•Ministry of Environment	Many standards have already been achieved.	•National Statistics (various countries)
	amount of imported virtual water	•Ministry of Environment •NPO Japan Water Forum	It may be easier to understand to use the ratio against fresh water rather than amount of imported virtual water.	•UNEP •Global Environment Outlook
environmental risks from chemical substances	emissions of chemical substances which is categorized as Pollutant Release and Transfer Register (PRTR) chemicals and established its environmental standard and reference value	•the Ministry of Environment	Although there is an international guideline on the PRTR, substances differs from country to country.	•National Statistics (various countries) •OECD
biodiversity	proportion of endangered species to reference number of species in a vertebrate animal, insects and vascular plants.	•the Ministry of Environment	There are different recognitions on the number depending on creatures. There are creatures needs to be depend on qualitative evaluation.	•the International Union for Conservation of Nature •National statistics (various countries)
	overall indicators focusing on conservation of endangered species and biodiversity	none	There are various indicators proposed such as the Simpson Index and the Shannon Biodiversity Index, and there is no indicator firmly established. Also there are discussions on importance of diversity of microorganism.	•Bhutan GNH (asking: if there are any changes in plants in the surrounding area)
ecological footprint	ecological footprint	•Ecological footprint Japan	The Ministry of Environment is considering own project for ecological footprint.	•WWF publishes the regular report on international comparisons of environment.
consumer behavior	environmentally friendly housing	•The Survey on Housing and Land (MIC) for solar power generated housing, and doubled window	There is no standard of environmentally friendly housing.	
	consumption of fair trade products	none	NSLP fiscal year 2007 (Cabinet Office) has survey on the recognition of fair trade	•Fair trade Labeling Organizations
Corporate Social Responsibility	Number of companies publish CSR report	none	The Ministry of Health, Labor and Welfare surveyed the situation of the publishing CSR report.	

34 For more details about environmental education, see Ministry of Environment (2009).

4. Conclusion

As stated in the introduction, these proposed indicators of well-being are constructed based on previous researches carried out in Japan and foreign countries. Also, this report has utilized preliminary research on the happiness of young people conducted in collaboration with the ESRI in order to assess the validity of the indicators. Nevertheless, the validity of some indicators cannot be assessed due to the lack of overall national data. Hence, some questions remain: 1) if the indicator is applicable to Japan, 2) if the indicator is applicable to a non- youth such as elderly, 3) if the indicators include duplicated or contrasted questions.

It is essential to collect and study the nationwide panel data which is taken from people across all generations, to achieve the two goals of creating the indicator. The first goal is to discover factors affecting individuals' well-being, and to identify societal advantages and disadvantages which may affect the level of well-being. As well as to observe what aspects of society are improving and what aspects of society are deteriorating. The second goal is to provide the opportunity for people to obtain a deeper understanding of where society is heading for more extensive discussions, and to give individuals some clues on what are the necessary actions needed to facilitate not only an individuals' well-being but also national well-being. Also, panel data analysis can overcome the problem of duplications and contradictions among indicators by using micro-data.

Additionally, for the purpose of policy implication based on the subjective indicators of well-being, it is necessary to construct a set of panel data to analyze unobserved individual differences and household differences as well as the individual response to particular policy and life events.³⁵ The advantage of using panel data is that the data can control the biased response which some respondents might have because they are aware of the purpose of the data collection. Therefore, the Cabinet Office is strongly advised to collect panel data on the well-being of households for the next few years and examine the policy effectiveness of these proposed well-being indicators. The Commission will actively engage in the construction of questionnaires and the analysis of the data.

Well-being is a subjective appraisal of our own lives, hence it reflects individual value. It means that the components would differ between regions in a country with regional diversity. For instance, EU-Statistics on Income and Living Conditions (EU-SILC) includes micro-data of 14,250 households (25,000 individuals) for Germany, 13,250 households (24,250 individuals) for the U.K. and 12,750 households (23,750 individuals) for France. Those data sets with a large number of respondents allow them to identify and control regional

³⁵ The EU-SILC has panel data of 100,000 households which is over 40% of the total sample of 230,000 household, which is used to measure well-being.

differences. Japan is also a country with regional diversity. Therefore, the data collection has to include a certain number of respondents representing each region, and the validity assessment of the proposed well-being indicators needs to take the sample number into consideration.

In order to be utilized widely, it is well recommended to consider establishing panel data set not as a national statistic but as publicly accessible data. In reality, one of the reasons why Western countries are the leading countries for studies on well-being is the wide availability and usage of the data collected not only by their governments but also by private institutions and universities. Hence, the availability of data and the methodology of data collection need to be improved for Japan for it to become a world leader in studies of well-being. Improvements can be made by providing a data on the internet or collecting the data in collaboration with the public and the private institutions.

This proposal is only the starting point of the discussion of well-being in Japanese society. Society that only pursues economic development is definitely different from a society that strives to create a happier community. We sincerely hope that this report opens up the space for different sectors of the society to come together to discuss issues of well-being for a more progressive society.

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Annotation: Technical Information on Survey

1. The ESRI Survey of Level of Happiness of Young People (Preliminary survey of young people)

Name of the Survey: Questions about yourself

Methodology: Web based survey

Survey purpose: To capture happiness, employment, family relations

(The second round of this survey included the influence of the earthquake on themselves such as the changes on the perception of life, and their attitudes to everyday life. The third round added questionnaires about the influence of the earthquake on family members, health, employment, overall life.)

Survey period: Survey was conducted for 3 times between late December 2010 and late May 2011 in different areas.

1st round : Late December 2010

2nd round: Late March 2011

3 rd round: Late May 2011

Surveyed region: 1st round : Nationwide

2nd round: Nationwide except Tohoku region and Ibaraki prefecture

3 rd round: Tohoku region and Ibaraki prefecture

Sample: Male and female aged between 20 and 39

1st round : 20,000 (stratified sampling based on the population)

2nd round: 16,000 (10,744 samples are same individual as the first round)

3 rd round: 1,800 (samples are individuals living same area as ones answered the first round survey.)

2. The National Survey on Lifestyle Preferences Fiscal Year 2008, 2009, 2010

Name of the Survey: The National Survey on Lifestyle Preferences

Methodology of the Survey: Self completion, paper and pencil are delivered and collected by the researchers.

Sample: Male and female aged between 15 and 75 (fiscal year 2008)

Male and female aged between 15 and 80 (fiscal year 2009, 2010)

Number of sample: 6,000 individuals (fiscal year 2008), 4,000 individuals (fiscal year 2009), 5,000 (fiscal year 2010) (two-stage sampling method)

Survey period: 18 days (15th January 2009 – 1st February 2009)

12 days (11th March 2010-22nd March 2010)

11days (3 rd March 2011-13th March 2011)

Surveyed region: Nationwide

Response rate: 4,480 people (74.7%), 2,900 people (72.5%), 3,578people (71.6%) (fiscal year 2008, 2009 and 2010, respectably)

Appendix 1. The Measurements of Well-being - Overseas Effort-

Appendix 1

The Measurement of Well-being - Overseas Efforts-

Organization/Country	OECD	UN	UNDP	Korea	Thailand	Bhutan	Australia	European Commission	France
Name of the Project	Better Life Initiative: Measuring Well-being and Progress	MDGs	HDI	Social Indicator	the Green and Happiness Index	GNH	The Genuine Progress Indicator	GDP and beyond	The commission on the measurement of economic performance & social progress (Seligler Commission)
Year that started	2007	2000	1990	1975	2007	2005	2002	2007	2008
Initiative	OECD, UN	UN, Government (various country)	Bangladesh economist Mahbub ul Haq	Statistics Korea, The Korea Development Institute	National Economic and Social Development Board	Centre for Bhutan Studies	Australia Institute	European Commission, Environment and Eurostat	National Institute of Statistics and Economic Studies, Center for Economic Research
Purpose	The development of holistic point of view to understand the social progress including economy, environment, and society as a whole	Prioritizing the issue to be solved immediately such as combating an extreme poverty by 2015	To measure human development of each country	To propose social development public policy	To encourage civic participation, and to develop a country with high well-being	To indicate the goal of the nation, and to utilize the indicator for public policy	To supplement the evaluation for life improvement of people in Australia	To improve the indicators to assess social progress, wealth, and well-being	To consider supplemental information for the evaluation of social progress, and to consider the indicators that could substitute GDP as an indicator
Area of focus	society, economy, environment	health, education, environment, aid	health, education, living standard	society, economy, environment	individual, region, economic system, environment, governance	material wealth (income), health, society and environment	society, economy, environment	society, economy, environment	economy, quality of life, sustainable development and environment
Current situation	published	published	published	published	published	published	published	ongoing	ongoing
Domains	11	8	3	13	6	9	17	5	-
Number of indicators	under the discussion	48	4	487	30	72	69	47 (proposal)	-
Subjective well-being	○	×	×	○	×	○	×	being proposed	being proposed
Combined indicators into a single indicator	under the consideration	×	○	×(under the consideration)	○	○	×	-	-
Other information	<ul style="list-style-type: none"> Established based on the Istanbul Declaration (the World Forum 2007) Being planned to have the World Forum in India in 2012. 	<ul style="list-style-type: none"> Presented in "The road map towards the implementation of the United Nations Millennium Development Goals", which was declared in September 2001 at the UN general assembly 	<ul style="list-style-type: none"> The HDI includes 3 dimensions (health, education and living standard) and 4 indicators (life expectancy, mean years of schooling and GNI per capita), and it sets a minimum and a maximum for each domain. They are called "goals", and expressed as a value between 0 and 1. A composite HDI index is an average of these 3 values. From 2010, the UNDP also publicize HDI. If a country has the perfect equality, the HDI value and the HDI value will be the same. The UNDP also publishes Human Poverty Index, Multidimensional Poverty Index, Gender Development Index and Gender Empowerment Index. 	<ul style="list-style-type: none"> They changed their framework in 1987, 1995 and 2004. To create the set of well-being indicators, they use Social Statistics Survey including 30000 households. 	<ul style="list-style-type: none"> It has developed in order to measure "happiness, peace and sustainable development", which is the main issue addressed in the 10th Development Plan. 	<ul style="list-style-type: none"> The index reflects the belief of the ex-King who declared that well-being is the objective of their country's development. They carried out the pilot tests in 2006 and 2007, and in 2008, they have publicized their result for the first time. 	<ul style="list-style-type: none"> It makes comparison with 10 years ago, and discusses what changes a society had since 10 years ago. Measurements are categorized as main index, supplemental index, and reference index. The number of index mentioned above is the number which combined main and supplemental index. 	<ul style="list-style-type: none"> They have planned out 5 actions until 2012. Creating well-being indicators are included to the first action of 1) to complement GDP by other economic and environmental indicators. Other 4 actions are: 2) Providing real time information for the decision making, 3) Reporting more precise income distribution and objective well-being will give important information to evaluate inequality, 4) Development of score board for Europe for its sustainability, 5) Broadening the fields to social issues that SNA covers. 	<ul style="list-style-type: none"> Their main arguments are: 1) Should focus on income and spending's rather than production 2) Should focus on distribution of income, spending and wealth 3) Should evaluate the inequality of quality of life 4) Measuring subjective and objective well-being will give important information to evaluate quality of life, therefore, questions related to these issues should be included. 5) Need to assess suitability of indicators to measure sustainability

(note) The table above includes only international government organizations' effort and governments' effort, and it does not include the actions being made by non-profit organizations. Also, this does not include every activities related to measuring well-being or social progress due to the limitation of available information.

The Measurement of Well-being -Overseas Efforts-

Appendix 1

Germany	Finland	Ireland	Holland	the United Kingdom	the United States	Mexico
Social Indicators	Indicator	Unity Progress Report	Life Situation Index	Measuring National Well-being	Key National Indicator System	Measuring Social Progress
2008	2007	2003	1974	2010	2003	2009
Federal Statistical Office/German Social Science Infrastructure Services and etc.	Prime Minister's Office, Statistics Finland	Central Statistics Office Ireland	The Netherlands Institute for Social Research	Office for National Statistics	Commission on Key National Indicator System (established in 2008 in accordance to the Key National Indicator System Law)	Mexican Consultative Forum on Science and Technology
To utilize it as a public policy decision making, and to offer information to German people.	To supply the information about social progress, and to suggest public policy based on the empirical result	To present the overview of economics, environment, and social issues in Ireland	To understand and to map out the progress of a society, especially to solve societal problems and prevent social loss.	To show the overall picture of a country including some issues which economic indicator such as GDP cannot represent	To suggest country's strategies for its development, and to provide information to the public.	Increasing awareness about OECD's measuring well-being and progress in the country as well as introducing scientific point of view towards well-being measurement.
quality of life, social change	social development	economy, innovation, society, environment	living environment (habitats, health, community engagement)	economic stock, social progress, environmental degradation	development of the country, living standard, quality of life, sustainability	-
published	published	published	published	discussion paper was published in October 2011 for the public consultation	ongoing	×
15	12(divided by themes)/10(divided by policy field)	10	8	10 domains	-	-
N/A	100	107	19	-	-	-
○	×	×	○	being proposed	-	-
×	×	×	○	being proposed as an option	-	-
• They have updated the Data Book carried out since 1999 as a report to present the social changes.	• They are only available at web-site. Individual data will be updated automatically when the new data was collected. • From the web-site, data is available for download as a table, graph and text format.	• They present the comparison with other E.U. Countries.	• This was originally invented in 1970s during the movement of social indicators development. • As a subjective indicators, it has included 6 indicators of social exclusion since 1997.	• Opened for the consultation until 23rd January, 2012.	• Budgetary provision (total US\$77,500,000) was declared between 2009 and 2018 in the Key National Indicator System Law.	• OECD regional forum was held in May, 2011.

(note) The table above includes only international government organizations' effort and governments' effort, and it does not include the actions being made by non-profit organizations. Also, this does not include every activities related to measuring well-being or social progress due to the limitation of available information.

Appendix2. Well-being Survey in Overseas

Name of the survey	EU SILC	ESS	SHARE	NLSY79-CS	GNH Survey	Gallup World Survey	World Values Survey	Korean Social Survey
Country/ Organization	EU	the Centre for Comparative Social Surveys in City college, London, UK	Mannheim Research Institute for the Economics of Aging, and etc.	United States Department of Labor	The Centre for Bhutan Studies	The Gallup Organization	the World Values Survey Association	Statistics Korea
Survey year (frequency)	2004 (every year, cross-section data, and time-series data have been published twice)	2001 (every 2 years)	2004 (every year)	1986 (every 2 years)	Preliminary Survey in 2007 First Survey in 2010	2005-2006 (every year)	1981 (1981-1984, 1988-1993, 1994-1998, 1999-2004 2005-2008 2010-2012)	1977 (every year, 2-year cycle per sector)
Survey body	Euro stat	Roger Jowell, and etc.	Mannheim Research Institute for the Economics of Aging, and etc.	Bureau of Labor Statics	Centre for Bhutan Studies	Gallup Organization	World Values Survey Association	Statistics Korea
Purpose	To collect comparative, cross-sectional, longitudinal and multi-dimensional data corresponding to social needs and issues such as income, poverty, social exclusion and living standards.	To design and develop an academically-driven social survey in order to explain the changes in a society including interaction between institutions and the attitudes, beliefs and behavior patterns in Europe.	To establish the database of micro-data including information on health and socio economic situation throughout European countries	To measure household environment, children's cognitive capacity, behavior, physical ability, social skills, problematic behavior and self-perceived usefulness.	To establish CNH	To question people about their view on vital importance to the world today, on various topics including well-being.	To compare people's values throughout the world.	To provide an essential information for establishing public policy, and to understand people's view on quality of life by investigating people's interest and their opinions.
Number of countries included in the survey	27 countries (cross-sectional data), 25 countries (longitudinal data) by 2010	More than 30 countries by 2009	12 countries by December 2008	1	1	Over 140 countries in total	54 countries	1
Number of questions	290 (in 2009)	298 (in 2010)	720 (in 2004)	130 (in 2006)	249 (in 2010)	97 (in 2008 for Asia)	101 (in 2005)	78 (in 2009) 75 (in 2010)
Sample	130,750 households (cross-section), 98,250 households (time-series), 272,900 individuals (cross-section), 203,850 individuals (time-series) (in 2005, 2006)	no data available	18,741 individuals (by December 2008)	11,466 individuals (in 2006)	no data available	1,000 individuals (Japan), 155,093 individuals (worldwide) (in 2010)	1,000 individuals (Japan), 77,000 individuals (worldwide) (2005-2008)	no data available
Main fields of questions	<ul style="list-style-type: none"> household structure and family members annual schedule the months that they are active occupation and work place education health child attendance for nursing school and schools child healthcare, basic needs, recreation income household income and lending between family members rent and housing housing and neighborhood environment/material deprivation debt and financial problem 	<ul style="list-style-type: none"> media politics subjective well-being social exclusion religion discrimination trust towards police or court information related to social demography work, family and well-being 	<ul style="list-style-type: none"> information related to social demography physical health risky behavior cognitive function psychological health healthcare employment and pension grasping power walking speed children social support financial transfer housing household income consumption assets 	<ul style="list-style-type: none"> health of children schooling family background and school environment family parents school and ability employment religion friends smoking and drinking relationships sexual education information literacy volunteer 	<ul style="list-style-type: none"> psychological well-being time use and balance cultural diversity and resilience community vitality ecological diversity and resilience good governance health education living standard 	<ul style="list-style-type: none"> occupation and economy civic engagement community and technology education and family environment and energy food and shelter autonomy and politics health law and order religion and moral social issues well-being work 	<ul style="list-style-type: none"> subjective happiness self-rated health life satisfaction value 	<ul style="list-style-type: none"> culture and recreation social welfare income and consumption job social engagement health education safety family environment

Appendix 4. Details of Indicators

domain	factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology		
Subjective well-being		individual	all age group	current level of subjective happiness	*NSLP (Cabinet Office)	There is a need to consider the phrasing of the question. Life satisfaction, and escalated indicator of satisfaction might be useful to complement this indicator.	*ESS	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	ideal level of happiness	*Preliminary survey of young people			age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	expected level of happiness in the future	*Preliminary survey of young people (asking: expected level of happiness in the next year and the time they will die)	There is a question of how to define "future (How many years later will be future happiness?)".	*Gallup World Poll (asking: expected life satisfaction in 5 years)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	relativeness	*Preliminary survey of young people (using Interdependent Happiness Scale)			age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	affective experience	*Preliminary survey of young people (same questionnaire as the Gallup World Poll)	It is better to employ the method of Bhutan, and include typical Japanese emotion such as embarrassment and guilt.	*Gallup World Poll *Bhutan GNH	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		household	all age group	happiness gap within the household	none	It will be necessary to have data for whole household.	*ESS	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	self report	
Socio-economic condition	Basic needs	individual	all age group	poverty rate (under the minimum income line)	*The National Institute of Population and Social Security Research (Japan) has been developing the indicator.	How to set the absolute poverty line. How do we consider assets.	*OECD *EU-SILC *NBID *FAHCSLA	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		individual	all age group	material deprivation rate (people who have more than 3 yes out of 9)	*Preliminary survey of young people	Whether Japan should use the same indicator as Europe. The European Commission suggests adding 4 more indicators on the current indicator.	*EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		individual	all age group	relative poverty gap	*Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)	The rate has not been published.	*EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		individual	all age group	food safety	*Food Safety Monitoring Survey (128 monitors: the relative anxiety towards safety of food in comparison to other safety issues such as natural disaster, environment, crime and traffic accident) (Commission on Food Safety) *Monitoring Survey on Living Condition of the People (1810 monitors: there are 7 questions related to the issue of food safety) (Cabinet Office)	This is the one-shot survey.	*Euro barometer 2005, 2010 (comparing with economic crisis, pollution, crime, traffic accident, and health)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		household	all age group	relative poverty rate	*Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare) *Survey on the Situation of Consumption (MIC)	How to calculate equivalent disposal income over generations.	*OECD *EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		household	all age group	proportion of households that are unable to pay for rent, mortgages or public utility bills	*Preliminary survey of young people	How do we define public bills.	*EU-SILC (asking: how frequent they could not pay for the rent in the past year / if they had experience of not being able to pay for the public bills / if they had times not being able to pay for the loan.)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		community/society	all age group	consumer fraud (1. the amount of consumer fraud, 2. reported cases of illegal activities against commercial law, 3. the number of consumer affairs consultations)	*White Paper on the Life of the Nation Fiscal Year 2009 (Cabinet Office) *The number of reported offenses related to commercial activities (National Police Agency) *Annual Report on Consumer Affairs (National Consumer Affairs Center of Japan)	It requires large survey.	*the U.K. Office of Fair Trading *Netherlands Consumer Protection Agency	age, sex, types of household composition, household income, educational attainment, and etc.	objective	self report	
		community/society	all age group	subjective evaluation towards material wealth (the rate of households who think having difficulties in financing)	*Preliminary survey of young people			*OECD *EU-SILC	age, sex, types of household composition, household income, educational attainment, and etc.	objective	self report
		individual	children	child poverty rate	*Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)			*OECD *EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
		individual	adult	bankruptcy rate (per million)	*The Supreme Court has statistics on civil proceedings and administration, which offers bankruptcy rate.	It cannot differentiate people based on age, sex, types of households, and household income.	*None, but the Eurostat is considering the index to understand the situation of debt.	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	objective	
		individual	elderly	suicide rate	*The Cabinet Office publishes the estimated numbers.			*The Report by NCEA (1998)	age, sex, types of household composition, and etc.	objective	objective
		individual	elderly	lonely death rate	*The statistics of lonely death over 65 years of age has been published by the Tokyo Medical Examiner's Office.	The definition is not clear. As a statistics, there is only the number of people who died from hunger, illness, suicide and murder, and no one knows who he/she is. Nisiet Research Institute estimates the number of people who face lonely death amount to 15,000 per year.	none	age, sex, types of household composition, and etc.	objective	objective	
		individual	elderly	ratio of people who fear lonely death	*Survey on the Social Life of the Elderly Fiscal Year 2009 (Cabinet Office)	It is only one-shot survey. It may be needed to ask other age group. (The preliminary survey only included young people)	none	age, sex, types of household composition, and etc.	subjective	subjective	
		individual	elderly	anxiety for the life expenses in their later life	*Survey on Social Security Fiscal Year 2007 (Japan Institute of Life Insurance)	There is no official government survey on this issue.	*SHARE (asking: how often they feel the future will be great / if they have hope in the future).	age, sex, types of household composition, and etc.	subjective	subjective	

domain	factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology	
Socio-economic condition	Housing	individual	all age group	the number of homeless people	*National Survey on the Actual Conditions of the Homeless (Ministry of Health, Labor and Welfare)	The definition of "homeless" in Japan is different from other countries.	*OECD *EC (2007)	age, sex, job history, educational attainment, living area	objective	objective
		household	all age group	the number of households feel the rent or mortgage is too much	*Preliminary survey of young people		*EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		household	all age group	degree of satisfaction for own habitation	*Preliminary survey of young people		*Gallup World Poll	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		household	all age group	indicator of deprived housing (density, noise, sunlight, etc.)	*Statistics on Housing and Land (density, and sanitation) (Ministry of Internal Affairs and Communications, Statistical Bureau) *Preliminary survey of young people (noises and lightning)	Statistics on Housing and Land has been conducted only every 5 years. How do we set the standard of "the sufficient space".	*EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		community/society	all age group	cleanness of the community	*Preliminary survey of young people		*EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		community/society	all age group	environmental degradation in the surrounding areas (water pollution and air pollution)	*Preliminary survey of young people	It needs to include anxiety for radiation level.	*Social Survey (South Korean Government Statistic Bureau) *Gallup World Poll	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		community/society	all age group	safety of the community (people can walk alone at night)	*Preliminary survey of young people		*Social Survey (South Korean Government Statistic Bureau) (asking: if there are places they feel unsafe to walk at night/ what they do to for the danger) *Gallup World Poll (asking: if they feel safe to walk around their neighborhood at night)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		community/society	all age group	indicator of near-by surroundings (whether there are parks, hospitals, and commercial centers)	*Preliminary survey of young people		*EQLS (asking about afforestation)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
		individual	children	number of children who has no adult supervision after school	none			age, sex, household income, parents profession, living area, and etc.	objective	self report
	Parenting and Education	individual	all age group	educational attainment	*Population Census	This can be different depending on the level of compulsory education. Also, there are gaps between generations. (If the region has more old age population, that region are likely to have a lower level of education.)	*OECD *National Statistics (various countries)	age, sex, types of household composition, household income, living area, and etc.	objective	self report
		community/society	all age group	regional disparities of gynecologist and obstetrician	*Statistics on Doctors, Dentists, and Pharmacists (every each year)(Ministry of Health, Labor and Welfare)			provinces, medical deviation	objective	subjective
		individual	children	attainment of life skills (communication skills, being able to help people in trouble, being able to ask for help, and etc.)	*Preliminary survey of young people	The questions should include "Is it easy for you to communicate with the others?," and "Can you ask for help when you are in trouble?"	*OECD PISA *OECD Cognitive/Non-cognitive skill study *NSLY-CS1997	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	objective
		individual	children	child satisfaction on school environment	*For school life in general, the Survey on Japanese Youth In Comparison with the Youth of the World (Cabinet Office). The most recent survey was carried out in the fiscal year 2008) *For education in general, quality of teachers, curriculum, and infrastructure of education, NSLP (Cabinet Office)	The Youth of the World are carried out only every 5 years. The National Survey on Lifestyle Preferences had included the question related to this indicator only once.	*Social Survey 2009 (South Korean Government Statistic Bureau) (asking: if they are satisfied with school environment including lecture, teaching, relations with students, relations with teachers, school infrastructure, surrounding environment, awarded degree, and living overall)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective

domain	factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology	
Socio-economic condition	Parenting and Education	individual	children	experiences during the childhood whether they had close communication with parents or not (whether parents read bed time story etc.)	*Preliminary survey of young people (it has not surveyed on children)	Tachibanaki Survey	*NLSY-CS1997	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
		individual	children	reported cases of bullying	*Survey on Education towards Problematic Students (Ministry of Education)	Grasping the number of of bullying is difficult, because it is often hidden.		primary school, middle school	objective	self report
		individual	children	high school dropout rate (the rate of people whose educational attainment is below high school)	*no exact data available	Based on the Survey on Education towards Problematic Students (the Ministry of Education), it is possible to understand the rate of the dropouts among ones who have enrolled to the high school. But the rate of people whose educational attainment is below high school cannot be obtained. Although the MIC has the Survey on Labor Force, this survey does not separate primary graduate, middle school graduate and high school graduate.	*Eurostat (Population of the non-educated, primary or middle school graduates between 25 and 64 years old is calculated from the Labor Force Survey)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
		individual	adult	satisfaction of parenting	*Preliminary survey of young people *NSLP fiscal year 2009 (Cabinet Office) (asking about childbearing environment)	There are surveys conducted by private institutions to be considered for its usage.		age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		individual	adult	participation rate of male partners for parenting	none	There are surveys conducted by private institutions to be considered for its usage. (For instance the male satisfaction of parenting.)		age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		household	adult	the number of children on the waiting list for nursing school or kindergarten	*The number of children on the waiting list for nursing school is available by the Ministry of Health, Labor and Welfare.	The number of children on the waiting list for kinder garden is not available.		age of children, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
		household	adult	the number of young people who cannot study at high school or university due to economic reasons	*Preliminary survey of young people	It needs to consider if this is to ask parents or the children	*Social Survey 2009 (South Korean Government Statistic Bureau) (asking if they could obtained the degree they have deserved)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
		community/society	adult	satisfaction towards parenting support	*NSLP fiscal year 2009 (Cabinet Office) (asking: the convenience of using the support including the distance, available hours, and cost, as well as quality of staff, and quality of facilities.)			age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
		individual	adult	the rate of people who have childcare leave	*Basic Survey of Gender Equality in Employment Management (Ministry of Health, Labor and Welfare)	This rate of existing survey does not include women who retired before giving birth, yet they should be included.	*OECD Family Database		objective	objective
		individual	all age group	the rate of undesired contractual workers	*General Survey on Diversified Types of Employment 2010, 2007, 2003, 1999, 1994 (Ministry of Health, Labor and Welfare)	How do we define "undesired contractual workers".		age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
	household	all age group	the number of jobless households	*Preliminary survey of young people		*EU-SILC	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
	community/society	all age group	the number of companies with female workers administrative position	*Basic Survey on Management of Female Employment (Ministry of Health, Labor and Welfare)	There is no data available after 2007.			objective	objective	
	community/society	all age group	the number of research related workers	*Survey Report on Science and Technology Research (MIC, Statistical Bureau)		*MSTI		objective	objective	
	individual	youth	the number of the NEET	*White Paper on Labor Economy (Ministry of Health, Labor and Welfare)				objective	objective	
	individual	youth	youth unemployment rate	*Survey on Labor Force (MIC, Statistics Bureau)		*National Statistics (various countries) *OECD	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
	individual	youth	the number of young entrepreneurs	*Survey on Business and Companies (MIC, Statistics Bureau) *Annual Statistics of National Tax Agency (National Tax Agency) *Statistical Yearbook of Civil Rights, Litigations, and Human Rights (Ministry of Law)	This existing data cannot identify the age of entrepreneurs.		age, sex, educational attainment, living area, and etc.	both subjective/objective	subjective/objective	
	individual	youth	the number of young people who hope to become an entrepreneur	*Basic Survey on the Employment (MIC, Statistics Bureau)	The survey carried out by the MIC asks if they have thought about starting up business, but the question should ask quality aspects.		age, sex, educational attainment, living area, and etc.	subjective	subjective	
	individual	adult	job satisfaction (reward)	*NSLP fiscal year 2009 (Cabinet Office) *Preliminary survey of young people		*National Statistics (various countries) *WHO Mortality Database	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
	individual	adult	the effective ratio of job offers to applicants	Ministry of Health, Labor and Welfare has the data of the situation of job openings.		*National Statistics (various countries)		objective	objective	
	individual	adult	anxiety towards <i>karoshi</i>	*Preliminary survey of young people	There is the data of number of recognized case of <i>karoshi</i> , this can be used as an objective indicator.		age, sex, types of household composition, household income, employment history, educational attainment, living area, and etc.	objective	objective	

domain	factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology		
Socio-economic condition	Employment	individual	adult	the ratio of the employed suffers (or suffered) from harassment	*Ministry of Health, Labor and Welfare has the data on the situation of the Equal Employment Opportunity Law, which includes the data on number of cases of reported sexual harassment.	The survey does not include the past experiences. Also it does not include other types of harassments.		age, sex, professions, and etc.	objective	objective	
		individual	adult	the number of long-term unemployed	*Survey on Labor Force (MIC, Statistical Bureau)	The survey defines one year as a long-term. It is necessary to evaluate if this definition is applicable to measure well-being.	*National Statistics (various countries) *OECD	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	objective	
		individual	adult	number of the unemployed who strongly desired to work (particularly women who cannot work due to household tasks)	*Annual Population and Social Security Surveys (Ministry of Health, Labor and Welfare) for employment rate after giving the birth for first child.			age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		individual	elderly	social participation rate (especially under 80 years old)	*Basic Survey on Social Life (MIC, Statistical Bureau) for volunteer participation rate. *NSLP (Cabinet Office) for the participation as volunteers, the filed to be participated, the number of times/hours participated, the reasons for participation.	The indicator should include "job" in the social participation rate because there are people who work after the retirement.		age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
	Social system	individual	all age group	trust of the social system	none	It is sufficient to measure the trust towards the government.	*Gallup World Poll (asking the trust towards national police, supreme court, and medical system)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	the number of the non-registered in the national pension scheme and health insurance	*Preliminary survey of young people *Commission of Social Security			age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		individual	all age group	the recognition of public security	*Public Poll on Public Security (Cabinet Office)	Surveys are not consistent. (The survey in 2007 is the most recent).		age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	the recognition of the system of public comments	*NSLP fiscal year 2007/(Cabinet Office)	The survey is done only once.		age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report	
		community/society	all age group	voters' turnout rate	*MIC has the record.	The election could include not only the general election but also other elections.	*National Statistics (various countries) *OECD	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	objective/self report	
	Health	Physical health	individual	all age group	the rate of patients with long-term illnesses	none	It needs to define the length of "long-term", and it might need to take into the seriousness of the illness into consideration.	*EU-SILC (asking: if they have been suffering from illness over 6 months including seasonal illness, and how severe it is)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	objective	self report
individual			children	child mortality rate (new born child mortality and infant mortality)	*Vital Statistics (Ministry of Health, Labor and Welfare)	It needs to separate mortality rate of new born babies and infants because of its large differences.	*National Statistics (various countries) *WHO Mortality Database	age, reasons for death	objective	objective	
individual			children	rate of child sickness	*Survey on School Health (Ministry of Education) *Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare) for hospital outpatients visits			*A Picture of Australia's children (the Government of Australia)	school grade	objective	objective
individual			elderly	Activity of Daily Living (ADL)	*Comprehensive Survey of Living Conditions of the People (the Ministry of Health, Labor and Welfare) *Hitotsubashi RIETI JSTAR			*SHARE	age, sex, types of household composition, living area, and etc.	objective	self report
individual			elderly	the number of bedridden elderly	*Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)	It is only conducted every 3 years.			age, sex, types of household composition, living area, and etc.	objective	self report

Factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology	
Psychological health	individual	all age group	the number of suicides	-Vital Statistics (Ministry of Health, Labor and Welfare), National Policy Agency has the data of suicide.		-National Statistics (various countries) -WHO Mortality Database	age, sex, profession, educational attainment, living area, reasons for suicide, and etc.	objective	objective
	individual	all age group	degree of stress	-NSLP fiscal year 2007 and 2008 (Cabinet Office) -Vital Statistics (Ministry of Health, Labor and Welfare) asks if the respondents have stress and worries	The NSLP includes related questions only in the fiscal year 2007 and 2008. The Vital Statistics is conducted only every 3 years. Additionally, they do not ask about the degree of the stresses.	-Bhutan GNH (asking: how stressful their life was in the past year/what are the factors, and how often they had feeling of frustration or peace last week) -Social Survey 2010 (South Korean Government, Statistical Bureau) (asking: how stressful last 2 weeks have been)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
	individual	all age group	suicidal ideation	-Preliminary survey of young people		-Social Statistics 2010 (the South Korean Government, Statistical Bureau) (asking: if they had attempt to commit suicide within the past year and its reason) -SHARE (asking: if they have thought to kill themselves last month)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
	community/society	all age group	satisfaction towards counseling	none	The number of hospitals are found in the Survey of Medical Institutions (Ministry of Health, Labor and Welfare).		age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
	individual	children	reported cases of child abuse	-Ministry of Health, Labor and Welfare has the data on the situation of child counseling in the municipal.		-Child Protection Australia (Australian government) (including the number of cases reported, and the number of case successfully managed)	region, age, reasons of abuse, etc	objective	objective
	community/society	children	number of child protection institutions with counselors	-Survey of Social Welfare Institution (the Ministry of Health, Labor and Welfare)				objective	objective
	individual	children	number of children with development disabilities (attention-deficit hyperactivity disorder)	-In 2002, Ministry of Education conducted a nation-wide survey.	Is it really appropriate to use the number of children with development disorders? If children have not been examined, it is impossible to assess the reality.	-HHS (the U.S.) have been conducted every 4 years. -British Survey of Child and Adolescent Mental Health (Kings College)	sex, age, and etc.	objective	objective
	individual	adult	number of patients with depression	-Preliminary survey of young people (SDS, CES-D)		-EC proposes as one of the indicators	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report
individual	elderly	occurrence rate of dementia	-Patient Survey (every 3 years) (Ministry of Health, Labor and Welfare)	The number of recognized long-term care patients who receive insurance can be used as alternate indicator.		age, sex	objective	objective	
Physical health and Psychological health	individual	all age group	average life expectancy at birth (age)	-Life Tables (Ministry of Health, Labor and Welfare)	Life expectancy at current age can be substitute to this indicator.	-National Statistics (various countries)		objective	objective
	community/society	all age group	satisfaction towards medical services	-NSLP fiscal year 2009 (Cabinet Office) for satisfaction for: medical services in general, distance to hospital, waiting hours in the hospital, cost, and medical standard.		-Social Survey 2010 (South Korean Government) (asking: the medical services people have used with in a year, and its degree of satisfaction)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective
	community/society	all age group	degree of exhaustion of family members with patients	none	For the nursing, it is possible to assess the number of households with long-term care patients, and stress and worries of care givers from health record in the Vital Statistics (Ministry of Health, Labor and Welfare).		age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
	community/society	all age group	satisfaction towards external support for nursing	none			age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
	individual	adult	reported cases of domestic violence	-National Police Agency				objective	objective
	individual	adult	maternal mortality rate	-Vital Statistics (Ministry of Health, Labor and Welfare)				objective	objective
	individual	elderly	subjective evaluation of own health	-Comprehensive Survey of Living Conditions of the People (Ministry of Health, Labor and Welfare)	The survey is only conducted every 3 years.	-EU-SILC -Social Survey 2010 (South Korean Government)	age, sex, types of household composition, living area, and etc.	subjective	subjective

domain	factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology		
Relatedness	Lifestyle	individual	all age group	length of free time	*Basic Survey on Social Life (Ministry of Internal Affairs and Communications, Statistical Bureau)	The survey is only conducted every 5 years.	*National Statistics of Time Use Survey (various countries)		objective	self report	
		individual	all age group	satisfaction with time allocation	none	NSLP fiscal year 2009 (Cabinet Office) includes questions related to time allocation (asking: if they allocate their time both to the work and the private life/if they have sufficient time to spend with family/if they have sufficient time for friends/if they have enough time to be alone).	*EQLS		subjective	subjective	
		individual	all age group	number of people who wish to work for public wealth	*Preliminary survey of young people					subjective	subjective
		society	all age group	openness towards foreign cultures	none	Japan has signed on the UNESCO Universal Declaration on Cultural Diversity		*The Thai government and the EC have a measurement of civil power (asking if they should prevent outside influence to protect own culture)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
		individual	children	time management of children	*Basic Survey on Social Life (MJC, Statistical Bureau)			*National Statistics of Time Use Survey (various countries)	age, sex, school	objective	self report
		individual	adult	actual utilization of paid leave	*General Survey on Working Conditions (the Ministry of Health, Labor and Welfare)	The existing data only show an average utilization of paid leave. It might be better to assess how many percent of people can utilize their paid leave for how many times.		*Employee Benefits Survey (SHRM) Newpoll (Australian organization) research on this issue.		objective	objective
		individual	elderly	Instrumental Activity of Daily Living (IADL)	*Hitotsubashi RIETI JSTAR			*SHARE	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report
	Family ties	individual	all age group	closeness to family and friends	*Preliminary survey of young people			*Social Survey 2010 (South Korean Government, Statistic Bureau) (asking: how often they meet up with their parents or talk on the phone)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
		individual	all age group	the number of single households	*Population Census			*Census (various countries)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	objective
		individual	all age group	feeling of isolation	*Preliminary survey of young people (UCLA loneliness indicator) *NSLP fiscal year 2010 (the Cabinet Office)	It may contain too many questions.			age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
		individual	all age group	the existence of the person who can be totally trusted and who would give some help in the time of crisis	*Preliminary survey of young people *The National Institute of Population and Social Security Research established the commission of the comprehensive survey on social life.	It should ask both "if they have someone who would help them in the time of need" and "if they have someone who gives unconditional love".		*Social Survey 2010 (South Korean Government, Statistic Bureau) (asking: how many people would help them when they are in trouble such as having flu, having trouble with money, feeling depressed, and etc.) *EU SILC 2009 (asking: if they have anyone who would help them when they are in trouble)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report
		household	all age group	satisfaction on family life	none			*Social Survey 2010 (South Korean Government, Statistic Bureau) (asking: the degree of satisfaction on family life, partner, children, parents, step parents, brothers, and step brothers)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective
		individual	children	the number of children and youth who feels isolated	none			*OECD PISA	age, sex, types of household composition, household income, parents' occupations, living area, and etc.		
		individual	elderly	the number of elderly living alone without family staying nearby	none				age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	objective
household	adult	the number of household living far from family members	*Preliminary survey of young people				age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report		

domain	factors	target	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology		
Relatedness	Bonding with community	individual	all age group	self-perceived usefulness in the society	none	There are surveys conducted by the private institutions such as the Homeless Survey in Kita Kyushu. Also, there are researches in the filed of development psychology.	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective		
		individual	all age group	general trust	*Preliminary survey of young people	It needs to consider whether to use general trust or trust to the neighbors.	*Bhutan GNH (asking: how much they trust the people of Bhutan)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		individual	all age group	number of people who think it is natural to help people in trouble	none		*Gallup World Survey (asking: if they helped strangers who are facing problems)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		individual	all age group	intergenerational communication in the community	*The Cabinet Office conducts the Opinion Survey on the Community Participation of Elderly every 5 years, which includes the question of intergenerational communication			age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report	
		household	all age group	community engagement	*Preliminary survey of young people		*Bhutan GNH (asking: how strongly do you feel you belong to the community/if the community treat you equally/if you have worked for the community in the past 12 months).	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		society	all age group	degree of internet-based community formation	*Trend Survey on Usage of Information Technology (MIC) for the number of private HP and blogs, and participation in Social Network Service	It needs to consider if the participation rate is appropriate indicator.		age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		community's society	all age group	share of people who want to continue to live in the current place	none	There are some surveys carried out by municipality such as Kamama city (Tochigi), Hino city (Tokyo), Chigasaki city (Kanagawa), Kutano city (Osaka), Kumatori-cho (Osaka), Atani city (Fukushima) etc..	*Gallup World Poll (asking: If they will recommend their community or your town to your friends to live in if they are planning to move out from the community)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		individual	all age group	altruism (blood donation, giving)	none			age, sex, household income, educational attainment, and etc.	objective	self report	
		individual	children	rate of hikikomori	*The Survey on Hikikomori (the Cabinet Office)	It is done only once.				objective	self report
		individual	children	feelings of alienation	none	NEET and hikikomori can be used for children as well.				subjective	subjective
		individual	children	places for recreation	none	It needs to consider if the indicators can be exactly same as the U.S., or it should include other aspects such as the communication with other children.	*National Survey of Children's Health (Department of Health and Human Services, the U.S.)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report	
		individual	children	community security (neighborhood effect)	*Preliminary survey of young people (crime and violence in the community)				age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	subjective
		individual	adult	frequency of participation in activities of NPO, NGO, and sports group and hobby group	*NSLP fiscal year 2009 and 2010 (Cabinet Office) *Basic Survey on Social Life (MIC, Statistic Bureau)	The Basic Survey on Social Life (MIC, Statistic Bureau) is only conducted every 5 years. The NSLP (Cabinet Office) has relevant indicator only fiscal year 2009 and 2010, and it does not include activities of hobbies and supports. Also, the rate of participation is the rate of people participated in those activities more than once a month. This may not be sufficient time of participation to measure relatedness.	*Social Survey 2009 (South Korean Bureau of Statistics) (asking: number of times, and length of hours people participated in volunteer activities for the past year) *Gallup World Poll (asking: whether they have used their time for volunteering in the past month)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	objective	self report	
	Closeness to nature	individual	all age group	degree of reverence for nature	none	Some investigation have been conducted during the environment education. (Do you think nature is very important?, Do you think nature is powerful?, Do you have fear against nature?, Do you feel you are alive thanks to nature?, Do you some time think your life is led by some powerful energy?, Do you feel you are secured by nature?, Do you think to nature?)		age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		individual	all age group	degree of understandings of local nature and culture	none		*Bhutan the National Gross Happiness (asking: to name one of the most important festival in your community to name plants and animals living in the community)	age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		individual	all age group	degree of recognition towards local tradition (whether people heard and understands old sayings)	none	It is very important during the natural disaster. Old saying includes the knowledge to save themselves from natural disasters such as tsunami or earthquakes.		age, sex, types of household composition, household income, educational attainment, employment history, living area, and etc.	subjective	subjective	
		individual	all age group	degree of understandings of environment issues	none	The Chamber of Commerce introduced the exam for the certificate of environment	*World Economic Forum, the Environmental Sustainability Index *Gallup World Poll (asking: how much do you understand global warming/how serious global environment is for you and your family, and etc.)	age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	subjective	
		community's society	all age group	evacuation rate in disasters	municipality			age, sex, types of household composition, household income, educational attainment, living area, and etc.	subjective	self report	

domain	factors	indicator	existing data	consideration	examples of overseas	category	types of indicator	survey methodology
Sustainability	global warming issues	total emission amount of greenhouse effect gas	•Greenhouse Gas Inventory Office of Japan publishes the data on the greenhouse gas emission.	The calculation and its boundary has been revised regularly.	•National Statistics (various countries) •OECD •UNDP	except household	objective	objective
	material cycle	resource productivity	•Ministry of Environment	The calculation and its boundary has been revised regularly.	•National Statistics (various countries) •OECD •UNDP		objective	objective
		cyclical use rate	•Ministry of Environment	This is not suitable simple comparison with other countries because they differ depending on the stages of economic development, industrial structure, the currency value, and data availability.	•National Statistics (various countries) •OECD •UNDP	main material recycle rate	objective	objective
		final disposal amount	•Ministry of Environment	same as above	•National Statistics (various countries) •OECD •UNDP	except disposal from household	objective	objective
	air environment	achievement rate of Environmental Quality Standard for air pollution	•Ministry of Environment	Many standards have already been achieved.	•National Statistics (various countries)		objective	objective
		annual hours exceed 30 °C in urban area/A hot night when the temperature does not fall below 25°C outdoors	•Ministry of Environment •Japan Meteorological Agency	The data differs largely depending on the year.	•National Statistics (various countries)		objective	objective
	water environment	maintenance and achievement status of Environmental Quality Standard of public water	•Ministry of Environment	Many standards have already been achieved.	•National Statistics (various countries)		objective	objective
		maintenance and achievement status of Environmental Quality Standard of ground water	•Ministry of Environment	Many standards have already been achieved.	•National Statistics (various countries)		objective	objective
		amount of imported virtual water	•Ministry of Environment •NPO Japan Water Forum	It may be easier to understand to use the ratio against fresh water rather than amount of imported virtual water.	•UNEP •Global Environment Outlook		objective	objective
	environmental risks from chemical substances	emissions of chemical substances which is categorized as Pollutant Release and Transfer Register (PRTL) chemicals and established its environmental standard and reference value	•the Ministry of Environment	Although there is an international guideline on the PRTL, substances differs from country to country.	•National Statistics (various countries) •OECD		objective	objective
	biodiversity	proportion of endangered species to reference number of species in a vertebrate animal, insects and vascular plants.	•the Ministry of Environment	There are different recognitions on the number depending on creatures. There are creatures needs to be depend on qualitative evaluation.	•the International Union for Conservation of Nature •National statistics (various countries)		objective	objective
		overall indicators focusing on conservation of endangered species and biodiversity	none	There are various indicators proposed such as the Simpson Index and the Shannon Biodiversity Index, and there is no indicator firmly established. Also there are discussions on importance of diversity of microorganism.	•Bhutan GNH (asking: if there are any changes in plants in the surrounding area)		objective	objective
	ecological footprint	ecological footprint	•Ecological footprint Japan	The Ministry of Environment is considering own project for ecological footprint.	•WWF publishes the regular report on international comparisons of environment.		objective	objective
	consumer behavior	environmentally friendly housing	•The Survey on Housing and Land (MIC) for solar power generated housing, and doubled window	There is no standard of environmentally friendly housing.			objective	objective
consumption of fair trade products		none	NSLP fiscal year 2007 (Cabinet Office) has survey on the recognition of fair trade	•Fair trade Labeling Organizations		objective	objective	
Corporate Social Responsibility	Number of companies publish CSR report	none	The Ministry of Health, Labor and Welfare surveyed the situation of the publishing CSR report.			objective	objective	

Translator:

Midori Matsushima (Ph.D. Candidate at Osaka School of International Public Policy)

BA in Development Studies, University of East Anglia, the U.K.

MA in International Public Policy, Osaka School of International Public Policy, Osaka University, Japan.

Lived in Egypt, the U.K., Nicaragua and Japan.