

# Chapter 2

## Utilizing ICT to Solve Social Challenges

Part 1

### Section 1 Electronic Administration and Open Data

#### 1. Promoting electronic administration

##### (1) Strategic initiatives for enhancing electronic administration

We have proceeded with various initiatives for electronic administration and made certain achievements. Nevertheless, some problems have been cited, including the computerization of administration not being fully felt by citizens. In order to solve these problems, we will have to further improve the convenience of administrative services and thoroughly cut costs.

Based on the circumstances, the Ministry of Internal Affairs and Communications (MIC) has provided the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society with a proposal for measures to realize three visions – “more convenient and less expensive administrative services for users,” “thorough cost cuts and efficient administrative operations” and “administrative infrastructure invulnerable to disasters and security problems” – under a mission to “create a convenient life.” The proposal has been reflected in the “Declaration towards Creating a World-leading IT Nation: the Second Abe Cabinet’s New IT Strategy” (hereinafter referred to as the New Strategy). The proposal and New Strategy call for promoting the following initiatives.

##### a. Providing highly convenient electronic administrative services

Future challenges for the online use of administrative procedures may include increasing the efficiency of administrative management by figuring out citizens’ needs, improving convenience and promoting online procedures.

The MIC proposal seeks to promote an administrative service reform to review services from the viewpoint of users and reduce time, labor and costs as burdens on the people. In response, the New Strategy urges the government to “develop a guideline for improving the convenience of online procedures in consideration of past best practices within FY2013” and “systematically implement business process re-engineering (BPR) to provide one-stop services favored by users, services that can be customized through mobile devices and other highly convenient online services and realize efficient administrative management.”

##### b. Administrative information system reform covering central and local governments

On information system reform, the MIC proposal, from the viewpoint of promoting even more efficient ad-

ministrative management, offers plans to integrate information systems of government agencies, to accelerate government information systems’ shift to cloud computing and to build resilient system infrastructure invulnerable to disasters and cyber attacks.

The New Strategy calls on the government “to nearly halve the number of information systems (about 1,500 in FY2012) by FY2018, to introduce cloud computing for all government information systems other than those subject to special considerations such as large-scale renovation based on business reforms in principle by FY 2021, to distribute information centers, to build administrative infrastructure invulnerable to disasters and information security problems and to reduce system operation costs (by 30%).”

Local governments are urged to “position the next four years before the introduction of the personal identification number system as a period for intensifying cloud computing initiatives at local governments and accelerate the initiatives while implementing communalization and standardization in line with the introduction.”

The social security and tax number system (hereinafter referred to as the number system) will be used for identifying personal data at multiple organizations. It will become a social infrastructure for enhancing the efficiency and transparency of the social security and tax systems and realizing an equal and fair society. Under the act for the use of a number for personal identification in administrative procedures that was enacted during an ordinary session of the Diet in 2013, the use of personal numbers will be launched in 2016.

In administrative areas introducing the number system, relevant government agencies will cooperate to work out and steadily implement plans to re-engineer administrative services and business practices and reform information systems under the instruction of the government’s chief information officer. The government will also provide personal services using personal portal sites to be developed in the future, one-stop and push-type services meeting users’ personal needs, and other highly convenient online services through various channels including personal computers and mobile terminals.

##### c. Enhancing government ICT governance

Common challenges that have been cited for promoting various electronic administration measures include

the insufficient working of the PDCA (plan-do-check-act) cycle under weak electronic administration governance and assessment systems in the government, ICT-using personnel shortages and low consciousness about ICT-using reforms.

To address these challenges, the MIC proposal calls on the government (1) to introduce a framework for assessment from the viewpoint of third parties and secure specific cost-benefit performance, effectiveness and efficiency under the government's chief information officer, (2) to develop common rules as guidelines for the maintenance and operation of information systems and the management of assets to improve quality levels, and (3) to foster government officials' ICT capabilities and information system management (by training a total of 10,000 officials annually) to turn out electronic administration promoters.

In a manner to respond to the proposal, the New Strategy instructs the government (1) to prepare and promote government information system investment plans under the government's chief information officer for the steady implementation of a roadmap for government information system reforms in line with the formation of budgets starting from the FY2014 budget and to develop a new assessment arrangement under the Strategic

Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society, (2) to develop common rules for procuring information systems and managing projects and to create and operate databases for managing government information system assets, and (3) to implement a cross-sectional initiative for revising and expanding training programs to foster ICT personnel in the government.

#### **d. Enhancing future initiatives for promoting electronic administration**

While appreciating traditional electronic administration initiatives as having made certain achievements in expanding computerized and one-stop services, the New Strategy points out that over-the-counter and paper-based administrative services have been given priority with online and computerized services remaining auxiliary and that the vertically divided structure of the government or each government agency has prevented convenient services for users from being provided. Regretting these problems, the government is required to provide more convenient and less expensive administrative services while building administrative infrastructure invulnerable to disasters and information security problems and implementing thorough cost cuts and efficient administrative management.

## **2. Promoting open data**

### **(1) Japan's open data promotion initiatives**

#### **a. Initiatives at IT Headquarters**

On July 4, 2012, the Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society compiled an electronic administration open data strategy including four basic principles – (1) the government should proactively release public data, (2) public data should be released in machine readable forms, (3) public data use should be promoted irrespective of whether the purposes are commercial or noncommercial, and (4) the government should promptly begin with public data release initiatives for data available for release and accumulate achievements.

A panel of electronic administration open data experts has been established at the headquarters to consider specific measures based on the strategy. The panel is dealing with basic matters including (1) developing rules required for using public data, (2) developing data catalogues, and (3) promoting the standardization of data forms and structures.

The Declaration towards Creating a World-leading IT Nation, as decided in June 2013, states that in order to promote making public data open to the private sector, the government should (1) draft and publish a roadmap based on the electronic administration open data strategy, (2) revise public data use rules to admit the free secondary use of public data from FY2013 and expand the release of data in international standard forms suitable for machine reading, and (3) launch practical versions of catalogue sites for public data opened by government agencies within FY2013 and implement their full opera-

tion in FY2014. The Declaration sets a goal of realizing open data conditions equivalent to those in other developed countries by the end of FY2015.

#### **b. Initiatives at Open Data Promotion Consortium**

On July 27, 2012, the industry, government and academia jointly founded the Open Data Promotion Consortium to promote developing infrastructure for realizing an open data distribution environment. The consortium conducts (1) research on solutions to problems with open data promotion and (2) the diffusion and enlightenment of open data promotion. The MIC is cooperating with the consortium to consider technical specifications for open data and rules for the secondary use of open data and to send information about the significance and potential of open data.

#### **c. MIC initiatives for open data promotion**

##### **(a) Developing an open data distribution environment**

From the viewpoint of allowing a wide range of parties to use open data and promoting the creation of various ingenuity-based ways for using such data, the information distribution priority is shifting from the vertical informatization of individual areas to horizontal or cross-sectional cooperation. Under such background, the MIC, in a bid to develop an environment where data used within organizations or industries can be exploited openly in society, has implemented (1) the development and international standardization of common APIs (application programming interfaces) for information distribution cooperation infrastructure, (2) the preparation of rules for the secondary use of data, and (3) demonstra-

tion tests for visualizing the advantages of open data since FY2012.

(b) Building an environment for advanced use of statistical data through API functions

The MIC Statistics Bureau was to test launch in June an advanced data use environment where API functions are employed to easily acquire various massive statistical data from programs regarding the data under its jurisdiction.

The environment will allow users (1) to have statistical data automatically reflected in their information systems and (2) to conduct advanced statistical data analyses linked to their own and Internet-provided data. The API functions will be added to the e-Stat government statistics portal site within FY2014, allowing the statistical data of all government agencies to be provided. This measure is expected to further contribute to invigorating business operations, promoting new business development and improving administrative services.

### 3. Electronic administration promotion and recognition by people and local governments (questionnaire survey)

#### (1) Utilization and awareness of electronic administrative services

Questionnaire survey results in Japan, the United States, the United Kingdom, France, South Korea and Singapore are compared here regarding the use of electronic central and local government services and e-commerce online purchases of and trade in goods and services. E-commerce users' share in Japan is 78.3%, the highest among the six countries. But e-government and e-local government service users' share in Japan is 16.2%, the lowest among the six countries. The share is less than half the U.S. level that is fifth among the six (Figure 2-1-3-1).

#### (2) Local governments' awareness and initiatives

##### a. Analysis of local governments' initiatives as found in questionnaire survey results

The United Nations' e-government surveys use four online service development stages for e-government services (Table 2-1-3-2). While referring to this approach, we would like to analyze a questionnaire survey of local governments.

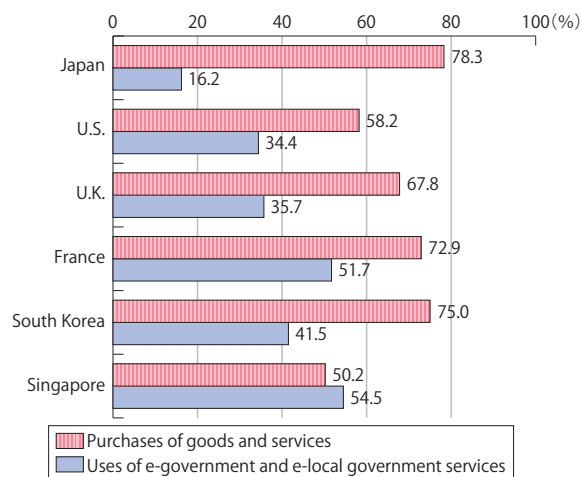
We classified local governments by stage based on the questionnaire survey results. Those in Stage 1 or 2 accounted for 75.8% of Japan's local governments responding in the survey. Those in Stage 2 (enhanced information service) alone accounted for 76.2%. Thus, three quarters of Japan's local governments have reached Stage 2. The share stood at 32.4% for Stage 3 (transactional service) and 16.0% for Stage 4 (connected service).

A comparison of Stage 3 and 4 local governments indicated that about a half (8.3%) of local governments in Stage 4 (16%) said they were not in Stage 3. This means that some of the local governments engaging in interactive ICT communications through websites have yet to implement online procedures (Figure 2-1-3-3).

##### b. Local governments' awareness of the number system as indicated by questionnaire survey results

Local governments' progressing use of the number system may be the key to advancing and diffusing their services for residents. Therefore, they were questioned about their expectations and challenges regarding the system in the questionnaire survey.

**Figure 2-1-3-1 Internet use trends (comparing purchases of and trade in goods and services with the use of e-government and e-local government services)**



\* The figures indicate percentage shares for respondents using these services among 1,000 people covered by the Internet survey in each country.

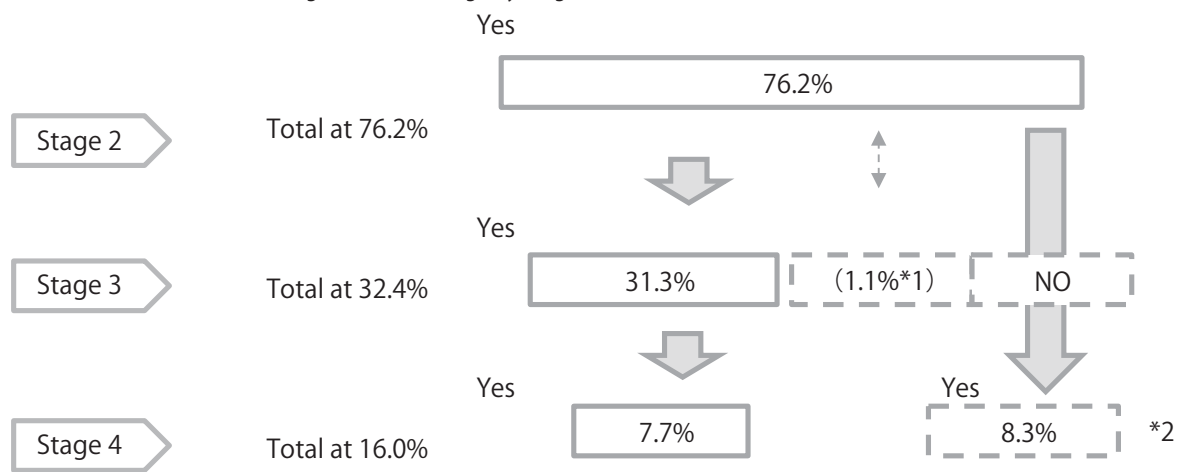
\* Purchases of and trade in goods and services represent the uses of Amazon and other Internet shopping sites (excluding financial transactions). Uses of e-government and e-local government services mean electronic applications, declarations and reports.

(Source) MIC "Survey Research on New Challenges for Advancement of ICT Infrastructure and Services" (2013)

**Table 2-1-3-2 Four e-government development stages in U.N. surveys**

Stage	Outline
Stage 1	Emerging Information Service Government websites provides information on public policies, governance, law, regulations, relevant documents and types of government services to be provided. The websites provide links to ministries, branches and other government units. Citizens can easily acquire information on new developments at the national government and ministries and find links to archived information.
Stage 2	Enhanced Information Service Government websites provides one-way or two-way enhanced electronic communications between the government and citizens. For example, forms for government services and applications are available for downloading. The sites feature audio and video functions and are adapted to multiple languages.
Stage 3	Transactional Service Government websites engage in two-way communications between the government and citizens, allowing the government to request and receive opinions on government policies, programs, regulations, etc. They are required to successfully handle citizens' electronic personal identification. The websites handle nonfinancial transactions, including electronic elections, uploading and downloading of application forms, online tax returns, online personal identification, and online applications for licenses and permits. They also handle financial transactions including money transfers to the government through a safe network.
Stage 4	Connected Service Government websites can change the ways of communications between the government and citizens. These websites use Web2.0 and other interactive tools to proactively request information and opinions from citizens. Electronic services and solutions seamlessly go across bureaus, departments and ministries. Information, data and knowledge are sent through unified application forms from government agencies. The government shifts from a government-oriented approach to a citizen-oriented approach. Under the latter approach to provide appropriate services, the government selects electronic services for citizens or classified groups over a life cycle. The government has created an environment where citizens are encouraged to further participate in government activities to have opinions in decision-making.

**Figure 2-1-3-3 Stage-by-Stage E-Local Government Service Ratios**



1: Stage 3=YES, Stage 2=NO \*2: Stage 4=YES, Stage3=NO

(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

Of the options for which local governments hope to use the number system, the most frequently cited was the "comprehensive over-the-counter services." This option was chosen by 71.2% of the respondents in the survey, followed by 63.7% for "unified guidance and procedures for various systems" and 62.8% for cuts in administrative matching and on-site inspection operations." The percentages exceeded 50% for options other than "the implementation of advanced services" and tended to be higher for options related to improving services for residents. The results indicated that local governments place great expectations on the number system as a tool to not only improve services for residents but also reduce administrative operations and improve the administrative efficiency (Figure 2-1-3-4).

Questioned about challenges for the future expansion

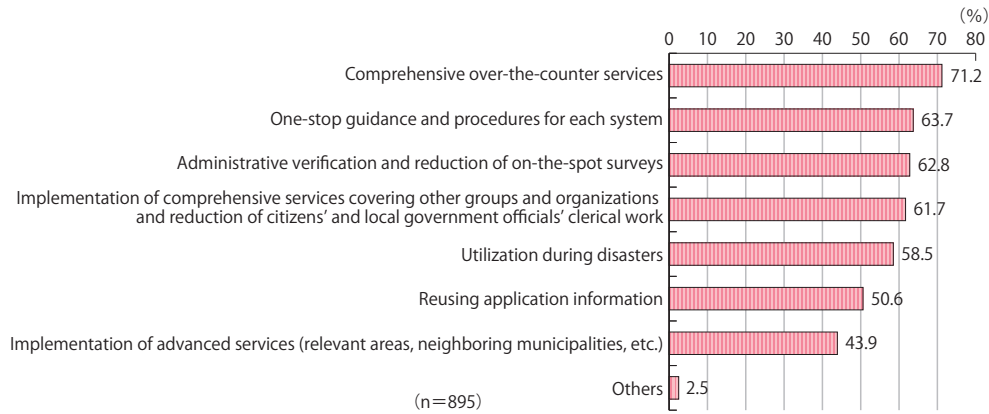
of the use of the number system, around 50% of the respondents in the survey said that the expansion would be "financially difficult," that "specific visions of use or usages are not clear" or that "it would be difficult to build systems common to all sections and regions" (Figure 2-1-3-5).

**c. Open data initiatives**

Among local governments, prefectural governments have promoted open data initiatives to a relatively high extent. But most municipal governments have yet to do so. Those answering that they have no interest in and have yet to implement such initiatives accounted for 43.1% of city and special ward municipal governments and 65.8% of town and village municipal governments (Figure 2-1-3-6).

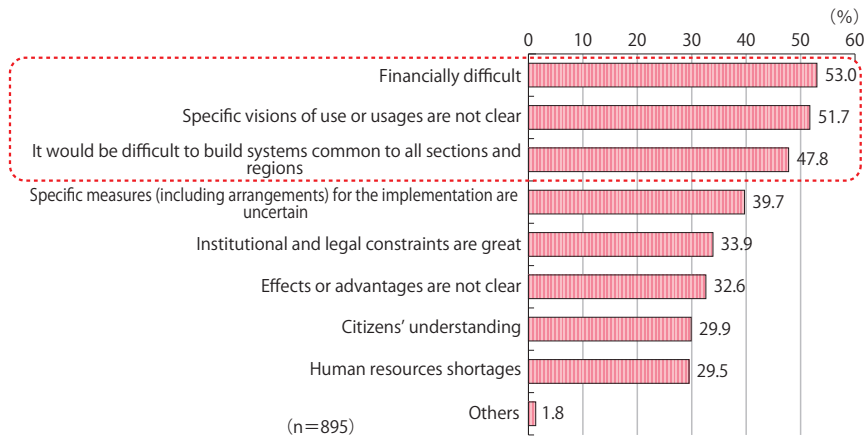


**Figure 2-1-3-4 Services for which local governments hope to use the number system (multiple answers allowed)**



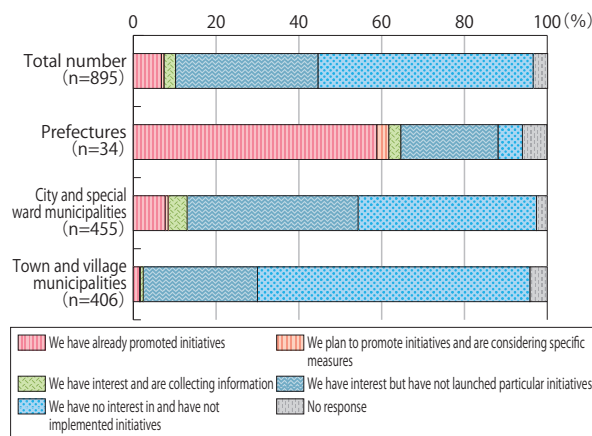
(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

**Figure 2-1-3-5 Local governments' awareness of challenges for expanding number system use in future**



(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

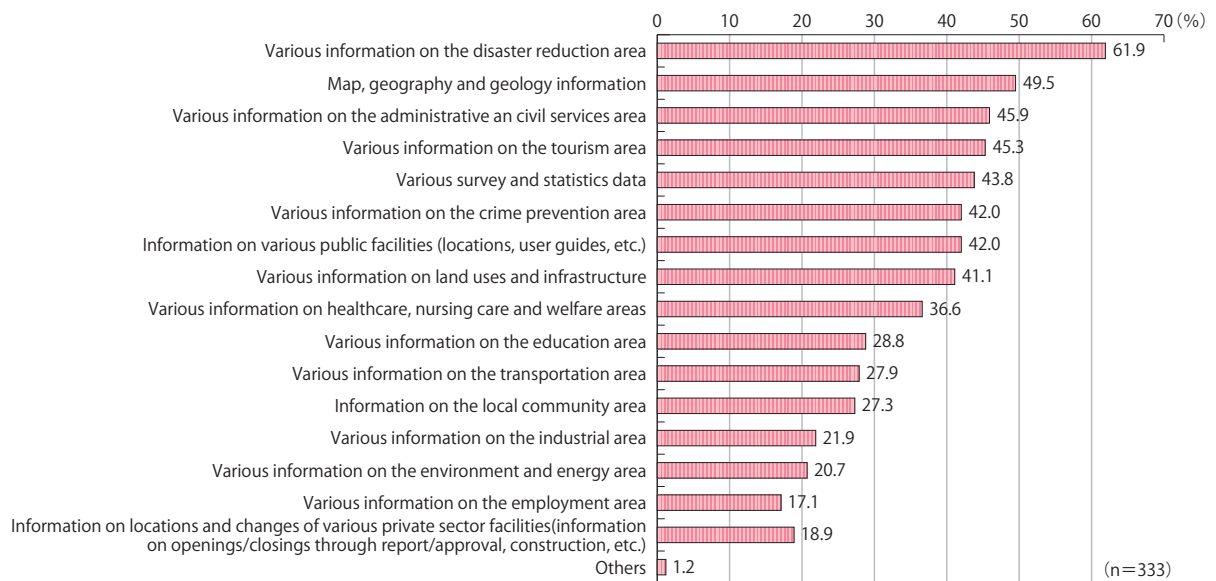
**Figure 2-1-3-6 Local governments' open data initiatives**



Category	We have already promoted initiatives	We plan to promote initiatives and are considering specific measures	We have interest and are collecting information	We have interest but have not launched particular initiatives	We have no interest in and have not implemented initiatives
Total number (n=895)	6.8%	0.6%	2.8%	34.4%	52.0%
Prefectures (n=34)	58.8%	2.9%	2.9%	23.5%	5.9%
City and special ward municipalities (n=455)	7.7%	0.7%	4.6%	41.3%	43.1%
Town and village municipalities (n=406)	1.5%	0.2%	0.7%	27.6%	65.8%

(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

Figure 2-1-3-7 Open data areas of concern to local governments



(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

In the survey, local governments interested in open data were questioned about areas of concern to them. Among frequently cited options, disaster prevention information was cited by 61.9%, map, geographical and geological information by 49.5%, and administrative and resident service information by 45.9%. But no heavy concentration in particular information was seen (Figure 2-1-3-7).

#### d. Implications from survey results

The survey results indicate that local governments in general have some interest in the number system and open data. Highly convenient services using the number system and various public services taking advantage of

open data and private sector ideas are expected to produce greater advantages than the present real services, encouraging citizens to use these services and accelerating their expansion.

Great expectations are placed on new usages of social media including commercial SNS (social network services). If information is more widely shared about their advantages and their cost and labor reduction effects, their diffusion may be accelerated.

As for open data, local governments in general have yet to become aware of specific visions of use or advantages. Therefore, we may have to encourage a wide range of local governments to deepen their awareness of the significance of open data.

## Section 2 ICT to Advance Social Infrastructure

### 1. Promoting ICT Town Development

#### (1) Survey of local governments on ICT Town Development initiative

##### a. Awareness of and efforts for ICT Town Development

Questioned about local governments' awareness of the "ICT Town Development" initiative, nearly 50% of respondents answered that they heard about the initiative but were unaware of the details (Figure 2-2-1-1).

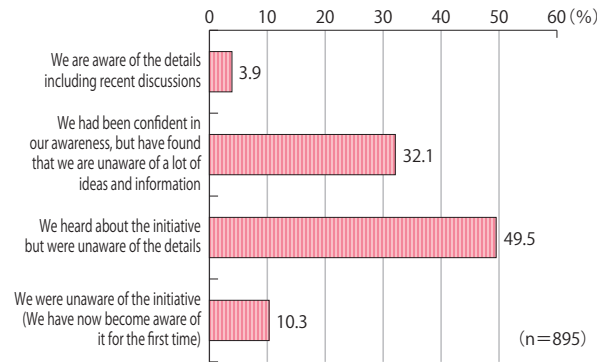
When questioned how they actually had implemented the "ICT Town Development" initiative, only 9.3% of respondents were implementing or considering implementing the initiative. The tendency remained unchanged from the previous year. Meanwhile, local governments having no interest in the initiative declined substantially from the previous year, indicating local governments' growing interest in the initiative (Figure 2-2-1-2).

##### b. Expectations on and challenges for ICT Town Development

Questioned on expected areas for the ICT Town Development initiative, 49.8% of respondents cited the "safety/security area" and 40.8% chose "healthcare, nursing care, education, welfare and other life-related areas." The top two remained unchanged from the previous year. But 34.5% selected a new option that was not present in the previous year's survey – "Hoping to implement ICT Town Development commonly for all areas without sticking to any individual areas." The survey thus indicated that local governments are willing to use ICT extensively for town development (Figure 2-2-1-3).

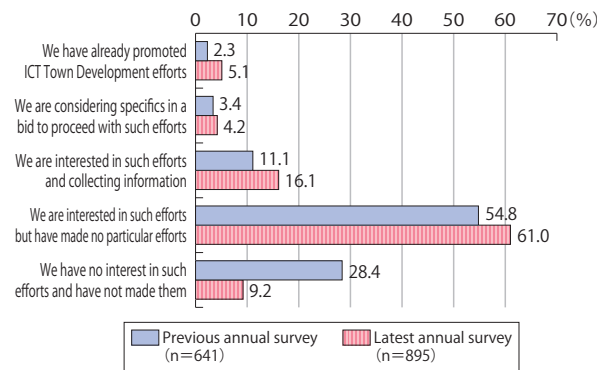
Asked about the challenges of and obstacles to the ICT Town Development initiative for local governments, nearly 70% of respondents answered, "Financially difficult." The second most frequently cited option was "Specific visions of use or usages are not clear." The third was "Effects or advantages are not clear." The survey

**Figure 2-2-1-1 Awareness of ICT Town Development initiative**



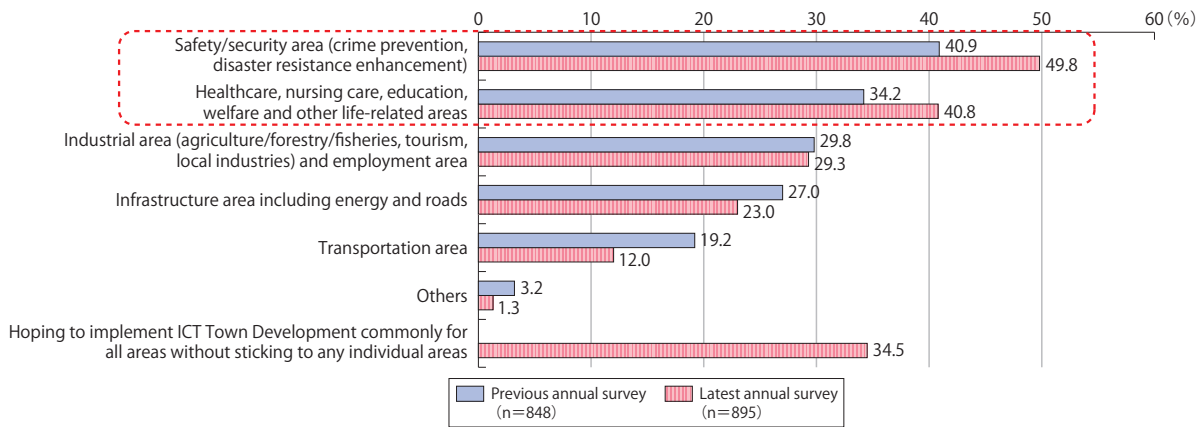
(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

**Figure 2-2-1-2 ICT town development efforts**



(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

**Figure 2-2-1-3 Expected areas for ICT Town Development**



(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

results indicate that visualizing specific images of use, usages, effects and advantages is a key challenge for promoting the ICT Town Development initiative (Figure 2-2-1-4).

**(2) ICT Town Development promotion efforts**

**a. Initiating ICT Town Development promotion council**

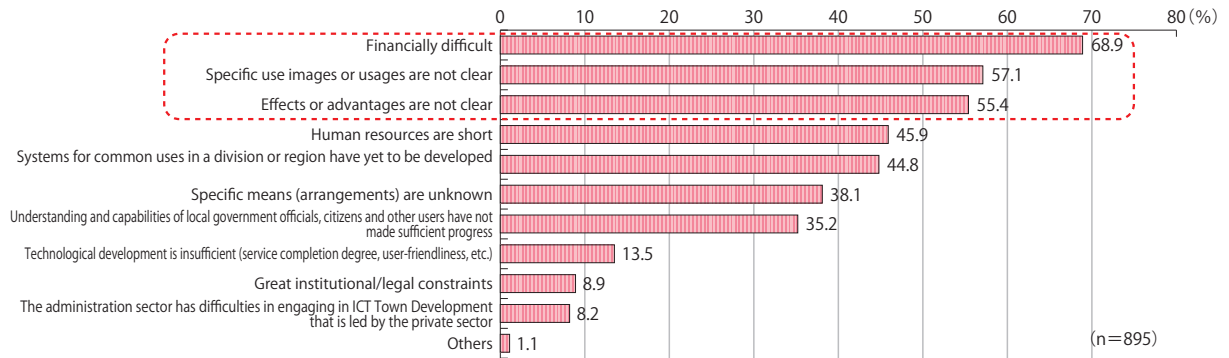
An ICT Town Development promotion council, which the MIC initiated in January 2013, has discussed the implementation and acceleration of the "ICT Smart Town" project at major bases for the diffusion of ICT Smart Towns around 2020, the realization in 2015 of a

common platform to use IDs for managing everything including goods, times and locations for wide-area and public-private cooperation, the development of arrangements for diffusing achievements of demonstration projects, measures for the global diffusion of these achievements, etc.

**b. Implementing local demonstration projects**

In order to realize ICT Smart Towns, the private, industrial, academic and government sectors should cooperate and collaborate under a specific strategy for sustainable towns to develop ICT systems that would

Figure 2-2-1-4 Challenges of and obstacles to ICT Town Development



(Source) MIC "Survey Research on Current State of Local ICT Utilization" (2013)

cooperate with disaster-resistant wireless networks, cloud computing services, common IDs and the like to allow a wide variety of data, such as sensor-provided real-time data and those held by the administrative sector including local governments, to support autonomous town development in ordinary times and disaster prevention and reduction efforts upon disasters.

In order to allow these systems to be installed in society, we should enable cooperation between towns in Ja-

pan and other countries, extract and solve challenges for using Big Data and other new ICT technologies and visualize these solutions to promote cooperation between relevant parties and eliminate concern about personal data handling.

To this end, the MIC is verifying the effectiveness of ICT Smart Towns in a real environment under the FY2012 ICT Town Development Promotion Project.

## 2. Promoting measures for life resources using ICT

### (1) Social situation surrounding life resources

#### a. Natural resources shortage and depletion under world population explosion and economic growth in emerging and developing countries

World population has increased year by year and has reportedly topped 7 billion. As population increases further with emerging and developing countries achieving rapid economic growth, demand is expected to expand rapidly for energy, minerals, water, food and other resources indispensable for human life.

Japan is also plagued with challenges regarding life resources.

First, Japan has heavy dependence on energy imports. It depends on imports for 96% of its energy supply excluding nuclear energy. This percentage is remarkably high among countries in the world.

Japan's non-revenue water rate is relatively low at present. As Japan faces the serious problem of water pipes' accelerated aging, however, the rate is expected to rise due to water leakage from aging pipes. Anticipating future developments, Japan must take water leakage prevention and other measures to address the aging of water pipes.

As for food resources, Japan's food self-sufficiency ratio on a calorie supply basis declined from about 78% to about 40% in 48 years between 1961 and 2009 due to substantial eating habit changes including a decline in consumption of rice in which Japan is self-sufficient and an increase in livestock product and fat consumption. Under the situation, Japan is required to expand domestic agricultural production and appropriately combine domestic output with imports to secure stable food supply.

#### b. Rapid aging of social infrastructure

Japan's social infrastructure was intensively developed in its high economic growth period and is expected to age en masse in the future. Japan's social infrastructure monitoring, maintenance and replacement are required to further improve their accuracy, efficiency and cost-effectiveness to protect the security in people's lives.

### (2) Life resources problems and ICT

ICT is expected to contribute to realizing a highly efficient, safe, secure and sustainable society by facilitating the real-time acquisition, sharing, transmission, accumulation, analysis and control of information beyond time and distance constraints in phases for the production, distribution, consumption, maintenance and management of life resources. ICT's role is expected to grow more important in detecting, predicting and preventing anomalies in the aging social infrastructure and making optimum operation plans.

In the ICT area, sensors, Big Data, M2M (machine to machine), cloud computing and other technologies have made progress and diffused further recently. These new ICT technologies are expected to be utilized for life resources measures.

### (3) MIC initiatives

Given the abovementioned situation, the MIC initiated a council on ICT for life resources in December 2012 to consider how ICT could contribute to the stable, efficient securement of life resources as a global challenge and a challenge linked directly to the people's safety and security. The council met eight times before compiling a report in May 2013.



## Section 3 How ICT should be Used in a Super-aging Society

### 1. Present state of super-aging society

#### (1) Japan becomes super-aging society

While the world is seeing the explosion and aging of the population, Japan has become an unprecedented super-aging society. The National Institute of Population and Social Security Research has projected Japan's population to slip below 90 million in 2060. Meanwhile, the population aging rate is expected to rise in Japan. The country that has become the first super-aging society in the world is projected to see the rate reaching about 40% in 2060.

#### (2) Challenges in super-aging society

As the aging of population makes progress, a decline in the productive population is expected to lower Japan's growth potential and seriously affect the sustainability of economic growth. The National Institute of Population and Social Security Research has estimated Japan's productive population to have continued declining since a peak in the 1990s and to post a drop of about 31 million from 2010 to 2050.

Social security benefit expenditure, which accounts for more than 30% of the general account budget, is also feared to expand along with nursing care costs.

### 2. New currents in super-aging society

#### (1) Changing elderly images - Emergence of active seniors -

The established concept that "elderly people see impaired physical and cognitive functions" should not be applied to all people aged 65 or more. Conditions differ from person to person. A survey on elderly people's social participation consciousness has found that more than 30% of job holders aged 60 or more are willing to continue working as long as possible. In order to realize a vigorous super-aging society, Japan will have to extend the human healthspan to allow more elderly people to remain independent as long as possible and take advantage of their wisdom and experiences for their proactive social participation irrespective of age.

more than 60% of people aged between 65 and 69 and more than 40% of those aged between 70 and 79. The percentage rose by more than 25 points from the end of 2008 for the 65-69 age group and by about 20 points for the 70-79 age group, indicating that the percentage has been rising year by year (Figure 2-3-2-1).

ICT utilization styles are also expected to change dramatically. Elderly people have less ICT utilization experiences and utilize SNS less than younger people (Figure 2-3-2-2). In the future, however, elderly people are expected to utilize ICT more routinely and take advantage of ICT for expanding their sphere of activities.

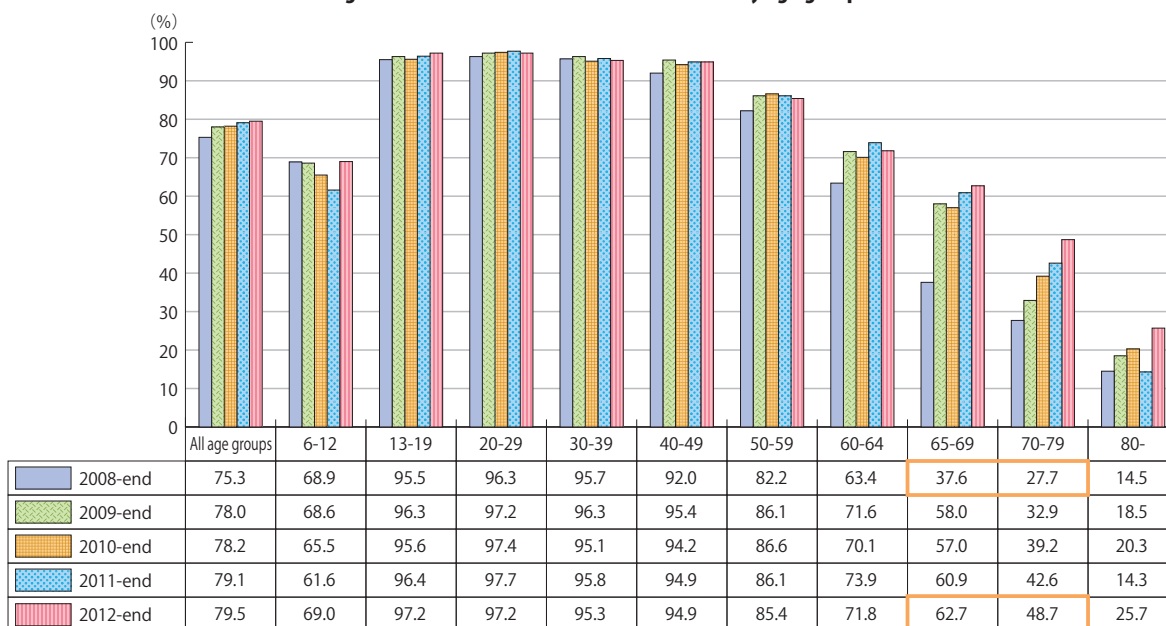
#### (2) Elderly people's growing ICT utilization

As ICT utilization has grown more widespread, we see changes in elderly people's views about and utilization of ICT. At the end of 2012, Internet users accounted for

#### (3) ICT utilization trends

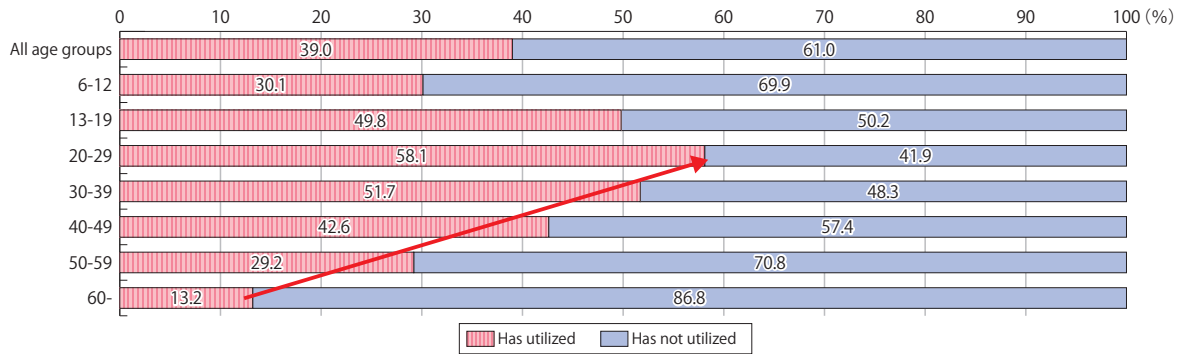
Various ICT utilization scenes are assumed for the super-aging society. While elderly people are projected to utilize ICT for learning, communications and social participation as mentioned above, ICT utilization is ex-

Figure 2-3-2-1 Breakdown of Internet users by age group



(Source) MIC "2011 Communications Usage Trend Survey"

**Figure 2-3-2-2 Present social media utilization and past experiences by age group**



(Source) MIC "2011 Communications Usage Trend Survey"

pected make progress widely for healthcare, nursing care, health, employment, social participation, community, accessibility, usability and robots to help solve challenges in the super-aging society.

**(4) Cooperation with foreign countries**

As the global population ages, foreign countries as well are enhancing initiatives to address super-aging society challenges. Given that global needs are high for

prescriptions for the super-aging society, Japan should establish and globally expand solutions to challenges. In line with enhanced initiatives in foreign countries, international organizations have activated discussions on the super-aging society. Japan should globally expand its initiatives and maintain and expand international networks to address global challenges along with foreign countries.

**3. MIC initiatives -Discussions at Super-aging Society Design Council-**

Many countries including those in Asia are poised to reach an aging society. Believing that Japan as a country that reached an aging society ahead of other countries should become a leader in solving challenges and demonstrate to the world that it can realize a vigorous society where each citizen can live a secure, healthy life and can achieve economic growth as well, the MIC initiated the Super-aging Society Design Council in December 2012 to consider ICT utilization measures required for realizing such society by 2020.

The council worked out a three-point vision for a super-aging society that Japan should pursue and suggested ICT utilization measures for realizing the society. Its report proposes that Japan proactively utilize ICT and achieve environmental improvements such as regulatory and social system reforms to attain a society where all of the people will maintain their health, with healthy and ambitious elderly people living together with younger people and working and participating in society with motivation.