# Regional Revitalization Through ICT

Regional Communications Development Division
Information and Communications Bureau
Ministry of Internal Affairs and Communications

## 1. Role of ICT in regional revitalization

### 1.1 Overcoming population decline and revitalizing the local economy

After Japan's population peaked in 2008 at 128.08 million, the population has continued to fall, and according to median estimates is expected to reach 86.74 million by 2060. This sharp decline is attributed to ultra-low fertility rates in major cities, outflow migration from rural areas into the cities, and a number of other factors. To deal with these challenges, Japan will attempt to reverse the population decline by neutralizing the excessive concentration of population in the Tokyo Metropolitan area and by offering policies that fulfill the hopes of young couples for marriage and child-rearing, while seeking to restore the rural economy with a range of initiatives under the rubric of overcoming population decline and revitalizing the local economy.

An Overcoming Population Decline and Revitalizing the Local Economy Headquarters was established on September 3, 2014 with the explicit goal of promoting these initiatives and creating autonomous and sustainable communities that fully exploit the special attributes of each local area. This was followed a few months later with a new basic law, the "Overcoming Population Decline and Revitalizing the Local Economy Act," that was enacted by the Diet on November 21, 2014.

A "Special Committee for Regional Revitalization" was convened in the Lower House on October 22, 2014 while this bill was making its way through the legislative process, and committee members stressed the importance of ICT and building a viable ICT infrastructure, and again recognized the importance of ICT for regional revitalization.

### 1.2 Overcoming population decline and revitalizing the local economy: Long-term vision and comprehensive strategy

On December 27, 2014 two basic policies were approved by the Cabinet Council, the "Overcoming Population Decline and Revitalizing the Local Economy Long-Term Vision" (Long-Term Vision), a proactive vision of what can be done to reverse Japan's falling population, and the "Overcoming Population Decline and Revitalizing the Local Economy Comprehensive Strategy" (Comprehensive Strategy), a five-year strategic plan for dealing with the country's population woes and revitalizing the local economy.

The long-term vision encompasses three basic goals that will sustain the vitality of Japanese society into the future and help reverse the sharp decline in population: (1) to relieve the excess concentration of population and industry in the Tokyo Metropolitan area, (2) to provide incentives for young people to marry and have children, and (3) to overcome and resolve the specific issues faced by different local communities.

And if we can somehow reverse the downward trend in population, this would have a rejuvenating effect on the overall population structure. Communities that are able to revive their populations would have younger people would have richer resources available in that community, and this would give rise to new

**Photo: 2014 Rural ICT Excellence Awards . Scene at the awards ceremony.**

innovative ideas by exploiting ICT. Moreover, this would lead to a resurgence of vibrant local communities in which ICT plays a critically important role in regional revitalization.

In order to pave the way for Japan's long-term vision of "sustaining the vitality of Japanese society into the future," a comprehensive strategy is called for. The comprehensive strategy consists of four basic goals: (1) creation of stable employment opportunities in rural areas, (2) creation of incentives for people to move into rural areas, (3) creation of incentives for young people to marry and have children, and (4) additional regional development that reflects the times.

The comprehensive strategy also provides support measures needed by local communities to develop and implement their own "local comprehensive strategies," and "IT policy packages" are provided to support each of these basic goals. Here again, because ICT is unconstrained by time or distance, it is perfectly positioned to create innovation and new industries that fully exploit the originality and ingenuity of local communities. Because ICT can stimulate local industry, sustain and improve local services, and support flexible work environments, ICT is especially well suited to provide greater efficiencies across a great range of different fields including medicine, education, employment, politics, agriculture, and others.

More specifically, ICT is critically important for implementing a host of local initiatives such as telemedicine and distance learning, development of communications and broadcasting environments that support local socio-economic activities, leveraging ICT for new urban development and dissemination of regional information, to open up new telecommuting opportunities and other flexible working arrangements.

In terms of boosting the competiveness of local industries, another policy is designed to promote tourism by creating a more congenial environment with free public wireless LAN services, and in terms of accelerating local immigrations and increasing local jobs, one more policy is designed to promote *Hometown Telework* so people can live in rural areas and work in satellite offices.

In addition, a range of other initiatives have been described that leverage ICT to promote regional revitalization—a local version of the Cool Japan campaign that supports the dissemination of information promoting local tourism, local special products, and the like through overseas broadcasts, dissemination of Geospatial Information (Advanced Geospatial Information Utilization Society), an early-detection L-Alert system (Disaster Information Sharing System), and so on—so obviously ICT has a critically important role to play in regional revitalization.

Note that when settling upon regional comprehensive strategies, it is incumbent on prefectures and municipalities that they make a sincere effort to draft their provisions (deadline was the end of March 2016) in line with Articles 9 and 10 of the "Overcoming Population Decline and Revitalizing the Local Economy Act," and that they take the countrywide comprehensive strategy into account in implementing their local strategies. In fact, many rural communities that have enacted local-version comprehensive strategies based on ICT measures have been studied, and it is apparent that ICT-driven regional revitalization is a major challenge in rural districts as well.

### 1.3 Basic policy on overcoming population decline and revitalizing the local economy 2015

A "Basic Policy on Overcoming Population Decline and Revitalizing the Local Economy" (Basic Policy) was approved by the Cabinet Council on June 30, 2015, which not only spells out the direction of strategies and measures for the rest of FY 2015 but, with some minor revision of strategies at the end of the year, the direction of initiatives and strategies for next fiscal year and beyond.

As the circumstances surrounding local revitalization have become increasingly tough, the Basic Policy is intended to draw out the earning power, the total collective strength of communities, and the knowhow and wisdom of the people to achieve Abenomics at the local level, and constructing new frameworks, leaders, and spheres are all critically important to extend and deepen regional revitalization.

In order to amplify regional revitalization, the Basic Policy highlights more specific ways of thinking and things that need to be addressed in line with the four policy goals upon which the comprehensive strategy is based.

Especially regarding ICT, bold sustainable initiatives proposed by local reform-minded governments were supported across the country based on the "Plan to Promote IT Use for Regional Revitalization" that was enacted the same day by the Strategic Headquarters for the Advanced Information and Telecommunications Network Society (IT Strategic Headquarters, June 30, 2015) as an effective program for stimulating local industries and boosting the quality of life in rural areas.

Recognizing that IT can provide effective solutions to the various challenges faced by rural communities, the "Plan to Promote IT Use for Regional Revitalization" ("Plan to Promote IT Use") outlines strategies for local governments to actually deploy IT and presents policies and measures for improving the effectiveness of IT. The "Plan to Promote IT Use" not only helps define and implement "local comprehensive strategies" drafted by local governments to deal with local problems, it also promotes regional revitalization through IT by pushing measures that are detailed in the plan through close cooperation between governments at the local level and at the national level.

The "Plan to Promote IT Use" aims to promote IT use for regional revitalization throughout the country by focusing on three specific initiatives and measures: (1) deployment of information-sharing platforms that promote use of IT by local governments, (2) better support for human resources for local government and revitalization of local industry, and (3) break down barriers that hinder use of IT in rural areas. The goal is that by promoting these measures throughout the country this will establish a benevolent cycle that reverses the falling population trend and vitalizes the local economies of reform-motivated local governments to enhance the quality of living conditions and revitalize local industry, and we expect to see the benefits or regional revitalization by the year

2020. Moreover, by sharing the results of these bold IT initiatives throughout Japan, this will lend support to the overall revitalization of Japan's economy.

## 2. ICT-based regional revitalization initiatives

### 2.1 Dissemination of regional digitization best practices

It should now be apparent that ICT has an enormously important role to play in Japan's regional revitalization. Japan's Ministry of Internal Affairs and Communications (MIC) has already conducted many regional ICT projects and trials to assess how effectively ICT can deal with the issues and challenges faced by Japan's rural districts. These initiatives have proven quite effective for addressing local problems, for training personnel who can solve problems using ICT, and for promoting regional revitalization.

We have already seen several cases in a number of different areas where the results of a local ICT project have been successfully transferred to another community where the innovations worked just as well. Since many local communities face similar problems in trying to revitalize their economies, it's important to identify successful ICT solutions that help resolve common problems and transfer those solutions to other communities as quickly as possible.

With this idea in mind, the MIC is moving quickly to disseminate ICT project success stories to other communities as best practices that might be adapted to solve similar problems in other areas. To do this, the MIC sends out ICT utilization advisors to communities with similar problems, offers a range of tools for disseminating information including websites and DVDs, and hosts seminars on how local communities might capitalize on ICT.

A number of ICT projects are now underway in different rural areas throughout the country in an effort to solve some of the problems faced by rural communities: falling population, low fertility, poor economic prospects, shortage of physicians, lack of disaster preparedness, and so on. With the goal of disseminating the best ICT-based models for regional revitalization, the MIC has been screening advanced regional digitization success stories from around the country to identify those that are especially commendable, and established the Rural ICT Excellence Awards in 2014 as a way of recognizing the projects that are most conducive to regional revitalization. A total of 94 projects were submitted in the first year, and 13 projects were singled out by a screening panel made up of experts in the field to receive the prize.* The following four prize-winning projects are featured in this special issue.

① Grand Prize, Minister of Internal Affairs and Communications Award, Pocket Karte and a smart ID card for regional healthcare (NPO Sustainable Community Center Japan, Kyoto)

Pocket Karte is a personal medical record archive service that enables users to store their records in the cloud, keep track of medical records and prescriptions via smartphone, cable TV, or other device over the Internet, and share those records with doctors and hospitals. The smart ID card gives users the ability to make appointments and meet with doctors at all local clinics and hospitals that accept the card and supports an efficient, care-free healthcare environment for local residents.

② Grand Prize, Minister of Internal Affairs and Communications Award, Forestyle website offers the benefits and vibrant life of the forest (Village Office of Higashishirakawa, Gifu Prefecture)

Forestyle is a dedicated one-stop website that connects customers in the village or on the other side of Japan with foresters and builders who can handle the entire process of harvesting trees, designing, and building quality homes using locally grown hinoki cypress. Forestyle has produced a dramatic uptick in orders for new homes and revitalized the entire agricultural sector of the village with a so-called *sixth-order* industrialization solution that combines growing (primary industry 1) with processing (secondary industry 2) and distributing and selling (tertiary 3) to produce remarkable synergies (1 + 2 + 3 = 6).

③ Community Revitalization Section Prize, the *Satellite Office Project* that has completely transformed Japan's countryside into a congenial place to live and work (NPO Green Valley Inc. of Kamiyama Town, Tokushima Prefecture).

The *Satellite Office Project* created new employment and brought people into this formerly depopulated area while introducing new ways of work and breathing new life into Kamiyama by deploying a high-speed broadband environment throughout the town, by building satellite offices in the area, and by enticing ICT venture firms into Kamiyama.

④ Special Award, Wildlife damage control by sensor network (Shiojiri, Nagano Prefecture)

A system with a sensor network has been developed that detects animal intrusions into cultivated areas and villages. This drives them away quickly with loud sirens or flashing lights, or contributes to help capture them by sending messages and maps to local farmers and hunting clubs. The results of a two-year trial show that areas damaged by wild animals consequently has been dramatically slashed from 85% to near zero.

We are continuing this tradition of awarding prizes, and a new slate of innovative projects has received the prize for 2015.

### 2.2 MIC's ICT regional revitalization budget FY 2016

The MIC has appropriated funds out of its FY 2016 budget to support various ICT-related regional revitalization activities. Here we will briefly consider three areas where funds have been allocated.

#### (1) Projects to promote ICT overcoming population decline and revitalizing the local economy (¥250 million)

The MIC is subsidizing regional revitalization by covering initial investments and costs associated with ongoing system maintenance (spending on equipment, costs for collaborative meetings required to build and maintain systems) enabling local governments and businesses to adopt new technologies derived from "ICT town" trial projects and advanced regional digitization success stories (successful models). Projects include wildlife damage control using a sensor network, sharing forestry resource data in the cloud, and digitization of maternal and child healthcare data using the "Individual Number Card."

* The winning projects for 2014 were announced on January 22, 2016. http://www.soumu.go.jp/menu_news/s-news/01ryutsu06_02000103.html

**(2) Tourism/disaster prevention Wi-Fi station maintenance project (¥260 million)**

To deploy a free public wireless LAN infrastructure, which is a pressing need among foreign visitors to Japan, the MIC is assisting with a portion of expenses for a local government project to deploy public wireless LANs at tourist destinations and disaster prevention facilities to promote regional revitalization. A Wi-Fi enabled mobile environment would be most convenient for foreigners and other visitors at tourist destinations.

**(3) Subsidiary project for overseas distribution of broadcast content (¥225 million)**

MIC encourages private business operators who produce broadcast content to collaborate with other industries (tourism, local industry, content providers) and local governments in the production and overseas distribution of content furthering the "Cool Japan," "Visit Japan," and "Regional Revitalization" campaigns while also supporting integrated development of various other cooperative projects.

**(4) *Hometown Telework* promotion project (¥720 million)**

MIC is subsidizing the introduction costs for local governments throughout Japan to introduce *Hometown Telework* that encourages workers to seek employment with companies located in rural areas and promote rural telework environments that are on a par with employment in larger cities. To ensure rapid dissemination of the telecommuting model, additional support is provided to conduct an enlightenment campaign by dispatching experts, holding seminars, and providing corporate telecommuting deployment adviser training sessions.

## 3. Conclusions

The MIC's 2015 White Paper on Information and Communications in Japan goes into some detail about the role ICT is expected to play in regional revitalization of Japan. Assuming that regional companies will continue to adopt ICT solutions in the years ahead and that regional offices will employ ICT to the same extent as regional ordinance-designated cities, the White Paper is able to verify how much employment is likely to increase in the future. Based on these findings, we can anticipate further growth of existing businesses and an influx of new companies, which will be accompanied by an estimated increase of roughly 200 thousand additional employees.

Based on this estimate, since ICT is not constrained by time or distance, we envision that ICT will create innovation and bring new industries that exploit the originality and ingenuity of local communities. While not mentioned among the prize-winning projects described earlier, local governments are currently working on three novel projects that exhibit extraordinary originality and ingenuity, and will be featured in the next special issue.

**(1) Emergency patient transport system (Saga Prefecture)**

By creating an emergency medical data system in which data can be entered into a tablet computer in the ambulance in real time—verifying which hospitals can accept the patient, obtaining medical records for the patient being transported, systematizing the preliminary findings of the medic or doctor who first examined the patient—then sharing this information with the medical staff at the hospital, emergency transport time can be markedly reduced, congestion at the hospital can be alleviated, and other benefits realized.

**(2) Improvement of forestry productivity (Maniwa, Okayama Prefecture)**

A cloud-based system has been developed that manages tree distribution data obtained from landowners and robotic sensors in radio-controlled helicopters and tree growth data on the cloud, that enables users to share this forest resource data with the local city office and forestry cooperative. Before this system was available, it took two staff members a full day to assess each parcel of forest resources, but now the work time has been dramatically cut to about one minute of simple on-screen manipulation on a personal computer.

**(3) Fukuoka City Wi-Fi (Fukuoka City, Fukuoka Prefecture)**

This new free Wi-Fi service is available to anyone at hubs installed at transportation and tourist sites. Providing tourist information in different languages, simple authentication, and international roaming, this is the first time that such a service has been made available in Japan. Local residents and tourists alike are encouraged to take full advantage of the service, which should promote tourism and the creation of innovative new businesses.

It will be apparent from these three new technologies that there is a very close affinity between ICT and regional revitalization. By promoting even more effective utilization of ICT, the MIC is seeking to create a benevolent economic cycle that will bring about regional revitalization.

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## *Cover Art*

**Nan'eki ha-jirushi Ha, of the Southern Station (Woman Relaxing after Her Bath)**

Kitagawa Utamaro (1753-1806)