(re)Building a Post-Earthquake Japan

Big ideas must often wait their moment. For many ideas bubbling just under the surface in Japan, their moment is March 11, 2011. On this Friday afternoon, A.T. Kearney’s Tokyo office feels the first tremor of what will come to be called the Great East Japan Earthquake.
On the Richter scale, the quake is 9.0, the most powerful ever to strike Japan. Even as the aftershocks rumble, none of us imagines the approaching tsunami traveling behind the quake, across the Pacific, toward Japan’s eastern coast. When the waves break, the news is immediately horrifying, and only grows more so. More than 20,000 people are dead or missing.

The catastrophe is not over. Three reactors at the Fukushima Daichi nuclear plant flood and suffer core meltdowns. Radiation levels rise. An estimated 150,000 people move out or are evacuated while municipal officials impose a 20-kilometer exclusion zone around the power station. Around the world Fukushima becomes a household name for the worst possible reasons.

Reconstruction Begins

Standing amid the rubble, the need for emergency aid is overwhelming. People are suffering tremendously, and although we are here to help, everything we do seems insignificant compared to what needs to be done. We decide to put our expertise to work. Within days, as the nation begins to think about reconstruction, we convene a meeting of experts proficient in agriculture, urban planning, community design, energy, and environmental policy, both inside and outside A.T. Kearney. Within two weeks, we are bringing our initial recommendations to representatives of Japan’s ruling Democratic Party and the cabinet.

The disaster helps to crystallize ideas already emerging from our work in the months preceding the earthquake. Just the year before, we were an active partner in a consortium with the University of Tokyo and four other universities in developing a Japanese perspective on sustainability for rural areas. We were a key contributor in the formulation of “Industrial Structure Vision 2010,” working with Japan’s Ministry of Economy, Trade, and Industry (METI) to develop a growth strategy for the next decade.1 These engagements are now instructive, allowing us extensive insight into such pressing issues as Japan’s food security and aging population, into energy and environmental policies, and into the competitiveness of Japanese industries in the global arena.

In terrible events there is a power that has a way of changing minds. From the devastation of March 11 may come a new birth for Fukushima and Japan.

As we discuss redevelopment plans for several prefectures, our focus quickly narrows to Fukushima, where the need seems greatest. While other affected prefectures embark on their redevelopment plans, Fukushima struggles to control its radiation problem and is barely able to imagine rebuilding. Yet by early May, we secure strong buy-in from the mayors of two municipalities in southern Fukushima prefecture: Nishigo Village and Shimogo Town.

Both Nishigo and Shimogo are well suited for rebuilding. Safely away from the Daiichi nuclear plant—more than 80 kilometers distant—they have easy access to transportation networks,

1 Industrial Structure Vision: The way forward for Japanese Industry
including the Tohoku Shinkansen bullet train, Tohoku Expressway, and Fukushima Airport (see figure 1). They are also close to metropolitan Tokyo, the largest consumer of agricultural products, and home to several industry clusters that could serve as springboards to reconstruction.

Jobs: Building a Platform for Global Growth

Fukushima’s immediate concern is local job creation. Jobs will serve as the engine of recovery. Jobs will give evacuees a reason to return to Fukushima, and newcomers a reason to make a life there. But any lasting regeneration plan will have to build on a vision of where those jobs come from.

Fukushima is at a distinct disadvantage with much of its coastal infrastructure in wreckage, and the prefecture’s name now forever associated with nuclear disaster. We find some comfort in the knowledge that the repair of the Fukushima plant is being accomplished with Japanese technology, and that the solutions developed in the course of our work may represent the birth of vital new industries. Even as we are immersed in the disaster, and still helping to respond to emergency needs, we see characteristics that make Fukushima an ideal place to develop two particular industries that will be central to Japan in the coming decades. The first is care of an aging population—Japan’s population is the most rapidly aging in the world. The other is food security.

Figure 1
Nishigo Village and Shimogo Town in southern Fukushima

Source: A.T. Kearney analysis


How to achieve global food security, East Asia Forum, 2 May 2011
We decide to build on the Vision 2010 work to ensure potential investors see a platform for
global growth, so they will invest in the prefecture. Consequently, our vision for Fukushima is to
make it a center of “exportable expertise” in elder care and agriculture. We believe that
nurturing growth in these two areas will also nourish Japan’s nascent potential in renewable
energy, operations know-how in service and facilities management, and—unlikely though it may
seem—tourism (see figure 2).

Care of an Aging Population

As recently as 1989, 11 percent of Japanese were older than 65; today the percentage is
23 percent and rising. While Japan’s population is aging faster than any other, falling birthrates
and increased longevity are resulting in growing numbers of elderly citizens worldwide.

Nishigo has the advantage of being home to the largest cluster of nursing care facilities in
Fukushima. These, we believe, are a potential platform for the expansion of nursing care in
Fukushima and the training of caregivers throughout Japan and beyond. In addition, we think
the facilities in Nishigo will lure leading robotics companies focused on research and develop-
ment in elder care.

* In its Vision 2010 plan, the Ministry identifies several sectors as Japan’s potential growth engines—including healthcare and nursing, renewable energy, food and tourism, and robotics, among others.
This last point is not as futuristic as it might sound. A variety of elder-care robots are already in development and some are close to commercialization. For example, Panasonic has a robotic bed that transforms into an electric wheelchair at the touch of a button, and Toyota is developing a robot to help patients out of bed and onto a toilet. Robotics solutions will reduce the burden on caregivers.

On its own, southern Fukushima is not large enough to attract major investment in nursing-care businesses. Before the earthquake, Nishigo had barely 19,000 people and Shimogo had a population of only 6,500. To attract the sort of investment necessary to change the economic face of the region, our vision of reconstruction centers on the idea of Fukushima as a laboratory for innovative responses.

In brainstorming sessions with potential investment partners, we are adamant in stressing the need to develop elder-care “industry systems” that can be exported across Japan and to other countries—to China, for example, which is rapidly becoming a rival to Japan in the aging of its population.

### Food Security

Fukushima’s agricultural products are being denied export to countries worried about the exposure of the prefecture’s produce to radiation. The situation is reminiscent of the bans on British beef following the “mad cow” scare of the mid-1990s, an event that can be viewed as the start of a worldwide conversation about international food security.

The Fukushima earthquake occurred amid a years-long debate about agricultural reform in Japan. It is a wide-ranging topic, touching on, among other issues, food safety, import barriers, the roles of agricultural cooperatives and agribusinesses, and the system of assigning farm subsidies. (Japan’s aging population is affecting agriculture, too, as older farmers die or sell their land, taking it out of production.)

With our partners in Fukushima’s reconstruction, our vision is to create an efficient agricultural sector, which we dub “Green Valley.” Green Valley has its inspiration in earlier efforts by METI and the Ministry of Agriculture, Forestry, and Fisheries. Their aim is to improve efficiency and profitability in Japan’s agriculture sector by employing a single-system approach—integrating the production, processing, and packaging of vegetables.

The heart of this vision is next-generation clean technologies, where “clean” refers to food safety. One method to be introduced in Fukushima is hydroponic farming, where no soil is employed, water is filtered through clean containers, and light and air are controlled—in short, an almost entirely artificial growing environment kept safe from contamination.

We are fortunate to obtain an initial commitment from Spread Co., a Kyoto-based vegetable producer, to build an integrated clean plant in Nishigo, and the village secures initial demand for the vegetables, with catering services at local schools and families in nearby municipalities as the clean plant’s first customers.

Similar to the exportable “industry systems” envisioned for elder care, Green Valley offers export opportunities and the potential to spawn support industries.

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Exportable Expertise

For investors, and indeed for Japan, the growth strategy for Fukushima is the export story and the first chapter is being written in China. Fukushima's export opportunities include the following industries:

**Elder care.** By 2040, people over the age of 65 will account for more than 30 percent of China's population. Beijing has just announced that the nation will require five million new caregivers by 2015 just to deal with the current needs of its elderly; in 2010 there were only 220,000 caregivers and fewer than a third were properly certified. We believe that Fukushima has an opportunity to develop schools for caregivers, and attract Japanese and Chinese students to training programs in elderly care, dietetics, anti-aging, and other related topics.

**Tourism.** There is a new class of wealthy Chinese with the means to travel to Fukushima for medical services such as health diagnosis and preventive care—medical tourism, as the trend has come to be called. Shimogo, with its hot springs, is already a popular tourist destination and the hot springs could be a resource for rehabilitation services. The quality of Nishigo’s golf courses attracted Chinese tourists before the earthquake. Family members accompanying those seeking medical services may also enjoy skiing in winter not far from the site.

**Food security.** It is an irony that the shock suffered by the agricultural system as a result of the radiation problem may one day be looked upon as the ignition of a new era of growth—the soilless, filtered-water method of hydroponic farming has implications for food safety worldwide. While Tokyo is Fukushima’s first target market, the plan is to export a future agriculture model to overseas markets. Indeed, the most powerful attraction of Green Valley is that its method improves cost competitiveness—products do not have to be washed before processing, and require no transportation between production, processing, and packaging operations.

**Renewable energy.** It is clear to us that the success of both initiatives—food security and elder care—depends on affordable energy. Fortunately, the prefecture is rich in renewables. In addition to its large hydropower capacity, its geography includes broad, unused tracts of land suitable for wind and solar generation. Spread Co.’s proposed vegetable plant, for example, is being paired with a renewable energy project.

**Facilities management.** An export-class facilities-management sector is also being developed in Fukushima. Again, China tops the list of potential customers as there are many mega-projects for care of the elderly across China that are hobbled by the absence of operational know-how in service and facilities management. Even before the March 11 earthquake, many Chinese projects to build care centers for the elderly were turning to Japanese service providers for support. China is also developing more than 100 “eco-cities” across the nation. Eco-cities like the well-known one in Tianjin require sophisticated energy conservation and waste-management skills. They will turn to Japanese facilities-management providers for these skills.

In all of these areas, Fukushima has an opportunity to move to the center of Chinese interest.
Moving from Interest to Action

Our vision of a reinvented Fukushima is firmly rooted in the prefecture’s existing strengths, recognizing, of course, that it has suffered the worst natural disaster in Japanese history. We continue to be mindful of the extent of the damage. Japan and its citizens remain steadfast in their resolve, but rebuilding will take time and hard work.

Fukushima has an opportunity to rebrand itself to the world as the home of future industry models. Given how much of the vision moved toward reality in six months—a period, don’t forget, of political confusion and economic instability in Japan—progress to date has been good, with more than 20 companies formally expressing interest in participating in one element or another of the vision. In the next phase, the challenge will be moving from interest to action.

Jobs will serve as the engine of recovery. Jobs will give evacuees a reason to return to Fukushima, and newcomers a reason to make a life there.

Patience will be required on everyone’s part. Nishigo and Shimogo have applied for status as special economic zones to win tax and other incentives to lure investors from Japan and around the world. This is no small request in Japan, with corporate tax rates highest of all developed nations. Much will depend on coordination between Tokyo and the prefectural and municipal governments in Fukushima. That is made more difficult by the damage the earthquake and the nuclear accident did to the decision-making capability of local bureaucracies.

In a country whose identity is built on manufacturing there is also skepticism about any vision of economic growth driven by the service and agriculture sectors. But as with so many other things, changing this preconceived notion began well before the earthquake, traced back to the financial crisis of 2008. Japan’s financial sector weathered these shocks comparatively well, but its export manufacturing sectors—particularly consumer electronics and automobiles—were all seriously hurt.

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