

After Fukushima: Japan's new model for farms

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Japan's government hopes to promote indoor farms in the aftermath of the earthquake and tsunami that wiped out irrigation canals, roads, and other infrastructure on 60,000 acres in Japan.

By Winifred Bird, *Correspondent* / March 11, 2013



In this photo taken last month, workers who survived the March 11, 2011 earthquake and tsunami take lettuce seedlings to plant at a domed greenhouse in Rikuzentakata, Iwate Prefecture, northeastern Japan.

Junji Kurokawa/AP

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On a frigid morning this February, a man drives a turquoise power shovel across the windswept coastal plain that lines the eastern edge of Sendai, Miyagi Prefecture.



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All around it, dry weeds covered fields that have gone uncultivated since a three-story-high tsunami soaked them in salt and rubble on March 11, 2011. Most fields will go unplowed again this year – but not those where the power shovel was at work.

That land is being rented by a newly-formed agricultural corporation called Michisaki. The company is building just under seven acres of indoor hydroponic “plant factories” where tomatoes, spinach, and other vegetables will grow under precisely regulated conditions starting in April. Farm manager Tetsuya Ishii says he plans to hire 10 full-time and 50 part-time workers this year, and market the produce to convenience stores and chain supermarkets. He's also looking into using recycled heat from a

nearby sewage treatment plant and fish byproducts from the port as fertilizer.

It's exactly the kind of farm Japan's government hopes to promote in the aftermath of the earthquake and tsunami that wiped out irrigation canals, roads, and other infrastructure on 4,500 acres of farmland in Sendai alone, and 60,000 acres in total.

“We don't want to go back to what we had before. We're aiming for something new that addresses the basic problems facing the agriculture sector,” says Taro Sasaki, an employee in Sendai city hall's agriculture reconstruction office.

The “new” model Sasaki and his colleagues have in mind is an industrialized agriculture sector whose efficient corporate farms link closely with the food processing and service sectors. Despite government reform efforts beginning well before the tsunami, that model

has yet to take hold in Japan. Most farms are still small (5.6 acres on average) and family-run.

'Clean slate'

With the average farmer now 66-years-old and few successors in line, however, almost 1 million acres of farmland have already been abandoned. Trade liberalization deals currently in the works add another potential threat to Japan's farms: competition from cheap food grown on foreign mega-farms.

Now officials at the local, prefectural, and national levels are seizing on the disaster-ravaged Tohoku coast as the perfect "clean slate" for implementing industrial agriculture as a solution to these problems. They are using a wide range of regulatory and financial incentives to achieve the triple goal of farm expansion, incorporation, and integration with other industries.

Sendai is leading the way. The city has established a special economic zone that provides tax breaks to certain farms in the disaster area, and has launched a new 3.7-billion-yen (\$38.5 million) Agriculture and Food Project at city hall.

Ishii says the tax breaks will likely save Michisaki several million yen annually for the next five years. The corporation has also received 1 billion yen (\$10.4 million) – the bulk of its start-up money – in disaster recovery subsidies.

Changes

But the changes in Sendai go further than that.

This fall, the central government will begin reshaping small, irregular rice fields along the city's eastern fringe into uniform 2.5-acre blocks. Farmers who own less than 2.5 acres will be forced to rent or share a field with others. Because landowners must exchange scattered holdings for the plan to work, officials need approval from two-thirds of farmers in the area before they can move forward. Mr. Sasaki says the city has already reached that target – though he admits that some locals don't want to farm such large fields.

To reduce public spending and urge farmers to join together in new ventures, the government also limited free leases of farm machinery to groups of three or more disaster victims.

The plan has worked, according to Takeo Sato, assistant director of the disaster recovery department at JA Sendai, a cooperative association to which nearly all local farmers belong. Stripped of home, land, and capital by the tsunami, many farmers have formed partnerships in order to access desperately-needed government support, he says.

Sendai's East Agri Rokugo is one of these new companies. Ten aging farmers formed the partnership just one month after the tsunami obliterated their seaside community. Four of the men eventually dropped out, but six continue to grow vegetables together on about two hectares of land.

"We're all used to being the boss, so it's hard to work together," says Yoshiichi Miyura, a 63-year-old member of the group, as he sits on an upturned crate trimming greens on a recent afternoon.

Benefits of partnership

The men work 12-hour days and pay themselves 700 yen (\$7.28) an hour, but Miyura says the benefits of partnership are clear. Before the disaster they owned a total of six expensive tractors; now they share one, and invest the savings elsewhere.

Mr. Sato sees that as an important change. But Steven McGreevy, a scholar of sustainable farming at Kyoto's Research Institute for Humanity and Nature, worries that Sendai's strategy is taking agriculture in the wrong direction.

"You have to ask, does rebuilding Tohoku agriculture in an industrialized, high-efficiency mode really offer long-term food security, viable farming-based livelihoods, and living rural communities? Instead of addressing root problems of agriculture and food in Japan, such as overexposure to globalized food markets, we're moving toward an attempt to corner niche agricultural markets for export," he said in an e-mailed comment.

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