



# Agriculture

The plains spanning throughout eastern Sendai are where the staple crop of rice, as well as various vegetables, are grown. At the time of the Great East Japan Earthquake, the tsunami flooded 1,860 hectares of farmland, submerged them in mud and debris and salinated the soil. Through reconstruction efforts, the debris was cleared, the area desalinated, and repairs made to farmland and equipment. In order to enhance the management of farms that sustained damage, farmland development for larger zoning is underway.



Reconstructing damaged farmland and starting up rice production again



A new agricultural firm dedicated to growing vegetables in large greenhouses



The Sendai Agriculture and Horticulture Center restored after the tsunami

## Bringing Back Vitality to the Region by Restoring Agriculture



**Yasunori Suzuki**  
Ido Agricultural Cooperative

In the earthquake and tsunami, my home was washed away, and my farm, which was on a plain, was covered in mud and debris. Many of my friends were also lost to the disaster. I was despondent for some time, but I worked together with 15 colleagues with the same passion for agriculture and we founded an agricultural cooperative in 2013. After the soil was desalinated, we began testing crops. Through trial and error such as losing all the lettuce crops, we planted green onion and succeeded in harvesting a crop of sweet and delicious plants. The Green Onion Festival celebrates the harvest, and it was lively with many guests. Going forward, we want to continue making the venture more profitable in order to increase employment and long-term residents of the area.



The Green Onion Festival (December 2016) lively with families

## Supporting Affected Farmers from Their Perspective

Soon after the earthquake and tsunami, I set about volunteering to clear the mud and debris in the tsunami-affected areas. In April 2011, I launched a group with the students I had worked with at that time, and we began helping the disaster-affected farms rebuild. We brought on young volunteers from around the country and worked together. We aimed to look at things from the perspective of the disaster-affected people and to support their lives and livelihoods.



Harvesting plentiful crops from the disaster-affected agricultural land

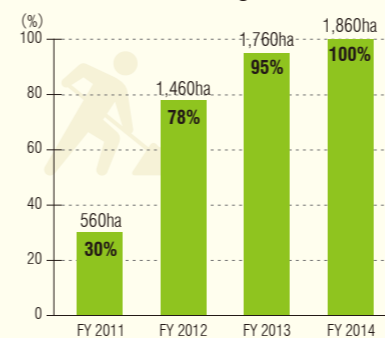


**Tsuyoshi Hirose**  
ReRoots Foundation

Since farming has resumed, various programs like farm work, sale of crops, and events have allowed us to continue engaging with local residents towards reconstruction and vitalizing the region.

SENDAI INFORMATION

### Restoration of Damaged Farmland



### Farmland Development



Right of the road: farmland pre-development  
Left of the road: rezoned larger farmland

Eastern Sendai's farmlands, which were struck by the tsunami, are pursuing increased productivity and more efficient management, with smaller farms congregating together to rezone into larger one hectare plots. In 2014, farming began in the rezoned areas.



# Disaster Risk Reduction in Communities

Drawing on the lessons learned from the 1978 Miyagi Offshore Earthquake, Sendai has been continuing its efforts to foster the creation of volunteer disaster-prevention organizations to act as the core for mutual assistance in a disaster. Following the 2011 earthquake, while aid from public organizations was delayed and there were some limits to what could be done, a range of independent activities were carried out to meet demand, raising awareness of the importance of local disaster preparedness. After the disaster, training and support for the Sendai City Community Disaster Preparedness Leaders was pursued. This resulted in the development of operation manuals tailored to each evacuation center, taking the actual situations of each community into consideration.



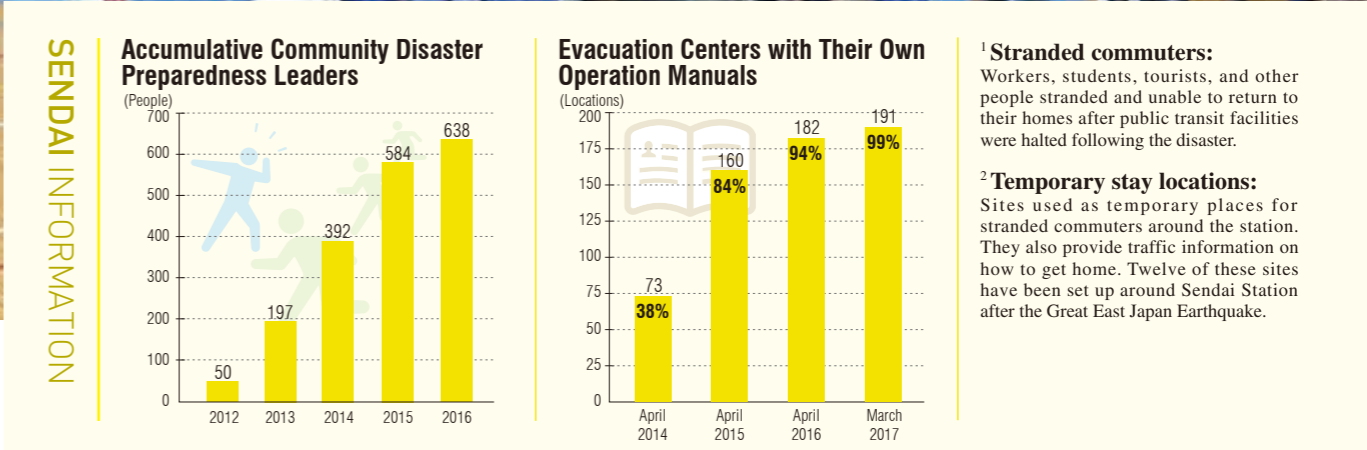
An evacuation center opened in the gymnasium of an elementary school (March 2011)



The Sendai Station bus stop area filled with stranded commuters right after the earthquake



Sendai hosts workshops training Community Disaster Preparedness Leaders



**<sup>1</sup> Stranded commuters:** Workers, students, tourists, and other people stranded and unable to return to their homes after public transit facilities were halted following the disaster.

**<sup>2</sup> Temporary stay locations:** Sites used as temporary places for stranded commuters around the station. They also provide traffic information on how to get home. Twelve of these sites have been set up around Sendai Station after the Great East Japan Earthquake.

## Leading Disaster Risk Reduction on a Community Level

I live in the Fukuzumimachi area, which was subject to flooding before. This led local residents to create an independent disaster preparedness manual and work with local organizations to hold drills. Thanks to these efforts, when the Great East Japan Earthquake struck, we were able to smoothly confirm the safety and whereabouts of elderly residents and other people needing care. After the earthquake, I took part in training courses put on by the City of Sendai, and now I am active as a Community Disaster Preparedness Leader. The disaster prevention and disaster risk reduction skills learned are put to use in operating the neighborhood association.



Collaborating with junior high schoolers on disaster prevention drills organized by the neighborhood association



**Yukiko Ouchi**  
Sendai City Community Disaster Preparedness Leader

I believe that local safety is something residents are responsible for. To that end, interacting with others through local festivals and other events is important, as is conveying to children the importance of safe community building, both now and into the future.

## Public and Private Sector Come Together for Measures Against Stranded Commuters<sup>1</sup>

The Great East Japan Earthquake caused railroads and other public transportation to come to a halt, with JR Sendai Station being forced to close. The number of people who congregated at the station reached 11,000. The roads were overflowing with people, and the near by evacuation centers were also creating havoc. Based on this experience, in 2013 a council to plan measures against the possibility of stranded commuters in future disasters was launched.



Training held around Sendai Station had 350 participants based on a stranded commuter situation scenario.

This council consisted of the City of Sendai, railroad companies, businesses in local shopping arcades, universities, and other organizations and firms, twenty in total. A protocol for dealing with stranded commuters has been put in place, and temporary stay locations<sup>2</sup> have been secured within private sector buildings, with drills being held each year. Going forward, we want to get more collaborators and enhance our ability to cope with these cases.



**Osamu Yokoyama**  
Council for Countermeasures for Stranded Commuters around Sendai Station



# International Community

In Japan, where the majority of the population speaks Japanese, providing information and communicating with foreign people in the event of a disaster is a major issue. Multi-lingual disaster support centers were opened during the disaster, with radio stations and other networks used to send out multi-lingual information. At the same time, in evacuation centers, where people struggled to communicate with foreign people, the prepared multi-lingual sheets were not used effectively. Since the earthquake, based on the lessons learned from this experience, international students, universities and local communities have worked together to pursue a range of disaster prevention initiatives.



Explaining hazard maps to foreign people



Disaster prevention workshops for foreign people



Multi-lingual disaster prevention video: "It's an earthquake! What should we do?"

## Distributing Disaster Information in Multiple Languages

For foreign people in Japan, obtaining accurate information at the time of a disaster can be difficult. Since 2005, Sendai FM Broadcasting has been working with the Sendai Tourism and Convention and International Association (SenTIA<sup>1</sup>) to offer space on radio programs where foreign residents discuss their own experiences with the earthquake and with disaster prevention. Since we knew each other, when the earthquake occurred, SenTIA members fluent in other languages came to the studio right away to help us convey disaster-related information



Noriko Ishigaki  
Sendai FM Broadcasting, Inc.

in English, Chinese, Korean, and easy Japanese. In this way, these day-to-day efforts helped in the actual event of a disaster. We plan to continue broadcasting the program.



Recording the program in March 2011

## Disaster Prevention in a Multicultural Community



Hitoshi Konno  
Katahira Area Community  
Planning Group

The Katahira area is located close to the center of Sendai and is where many foreign people such as international students live. During the Great East Japan Earthquake, foreign people came to the evacuation centers, but differences in culture and customs caused some confusion with local residents. What we learned was the need to pursue mutual understanding and interaction on a daily basis in order to prepare for emergencies. Seeking to have international students more actively take part in the disaster prevention drills after the earthquake, we have them engage directly from planning the drills to distributing rice and food on the days of the drills. We would like to keep creating an environment that is open and fosters better communication between residents.



Foreign residents taking part in local disaster prevention drills

SENDAI INFORMATION

Foreign Residents in Sendai  
(Population based on basic resident register)

**11,582**

Estimated Population of Sendai  
**1,080,263**

(as of April 1, 2017)



Multi-lingual sheets prepared in evacuation centers



Disaster prevention pamphlets in 11 languages

<sup>1</sup> SenTIA: a public interest organization that supports foreign people, promotes international understanding, and organizes various tourism-related programming. It is engaged in the work introduced on pages 18 and 19.