



# Tsunami Defense

The tsunami that far exceeded prior estimations caused extensive damage—both to citizens and structures—in Sendai City, flooding an area larger than 4,500 ha. Since the disaster, in order to prepare for another potential tsunami, we have developed multiple lines of protection against tsunamis, such as a coastal levee, disaster prevention forests, and an elevated road. The areas that are still not guaranteed to be safe have been designated as Disaster Risk Areas<sup>1</sup>; in such locations, the construction of homes is prohibited and former residents have moved to safer inland areas.



Enormous tsunami engulfing the coastal areas of Sendai



Evacuation Hill, recently developed in the Kaigan Park area



One of the Disaster Prevention Collective Relocation sites developed inland

## Achieving Collective Relocation with Active Participation of Residents



**Kaoru Suenaga**  
Arahama Relocation Town Planning Council

The Arahama area, where we used to live, was destroyed by the tsunami. In order to prevent our children from having to endure the same hardship, we decided to move to a safer inland area by utilizing the Disaster Prevention Collective Relocation Promotion Project<sup>2</sup>. The former residents established a council to conduct negotiations with the City of Sendai and to hold study sessions on building houses. We also organized a festival to facilitate the exchange and sharing of information among former residents who were evacuated to various locations. The council disbanded in 2014, when the handing over of housing land at the relocation site was completed for every member of the council, followed by the rebuilding of their houses. We all strongly feel it is crucial for disaster-affected people to take action themselves, and that was what made it possible for us to rebuild homes at such an early stage.



The summer festival organized by the council in 2013. The former residents got together and enjoyed the occasion.

## Safe Living Thanks to Multiple Defenses



**Shinetsu Hirayama**  
Shinham Neighborhood Association

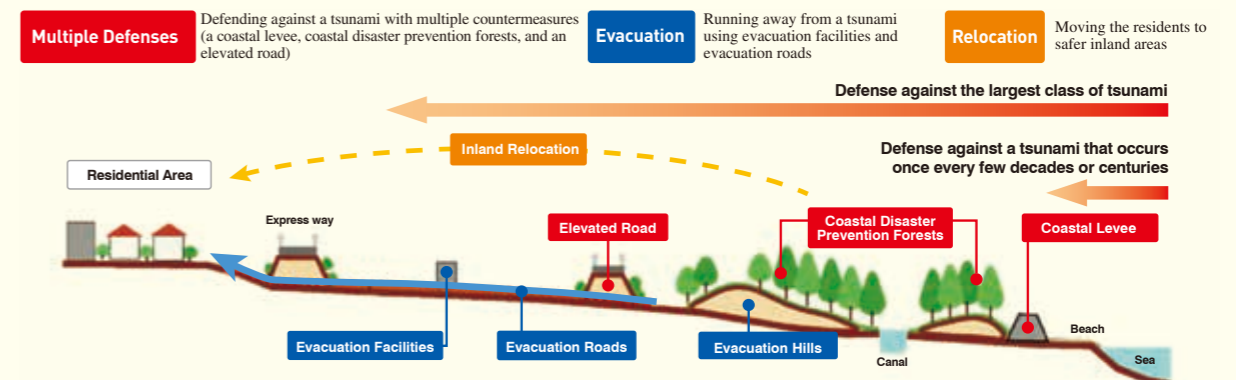
The tsunami engulfed the Shinham area. Some residents lost their lives and the disaster left the district covered with mud and debris. Following the tsunami, the area closer to the sea was designated as a Disaster Risk Area, although the zone that is inland from the elevated road remained available for rebuilding homes. The City of Sendai decided to build tsunami evacuation towers. As the representative of the area, I attended meetings to express opinions on matters such as the appropriate location for the tower. Now that the tsunami evacuation tower has been completed, the residents can evacuate on foot when an emergency arises. There are about 70 households in the area and, thanks to the multiple defenses including the coastal levee and the elevated road, we are feeling safer and safer each day.



This tsunami evacuation tower, completed in 2016, makes it possible to evacuate to levels above 6 meters, which is high enough in relation to the estimated height of inundation.

SENDAI INFORMATION

### Three Measures for Tsunami Defense



<sup>1</sup> **Disaster Risk Area:** These areas are designated by local government regulations as being highly vulnerable in a disaster situation. Building new residential structures is prohibited in the area.

<sup>2</sup> **The Disaster Prevention Collective Relocation Promotion Project:** This is a project to promote collective relocation to safer areas for those who used to live in a Disaster Risk Area. The national government's fund is used to develop residential land at the relocation destination and for subsidies to those who relocate.



# Rebuilding Everyday Life

Many people lost their homes as a result of the Great East Japan Earthquake. These individuals were forced to live in temporary housing, and the number of displaced households exceeded 12,000 at its peak. After the disaster, the City of Sendai and NPOs collaborated to provide support to those households by responding to actual situations and requests. After individuals rebuilt their everyday lives via the Disaster Prevention Collective Relocation or Disaster Reconstruction Municipal Housing, a number of activities in various locations were also created to prevent isolation in a new environment and to build a new community.



By June 2011, 1,505 units of prefabricated temporary housing had been built



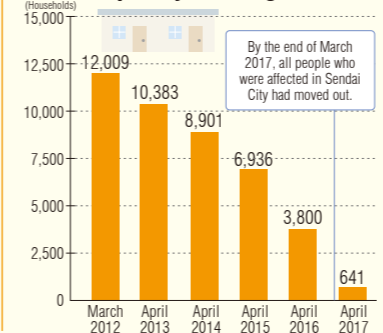
A student volunteer gives a moment of relaxation to a disaster-affected person with a hand massage



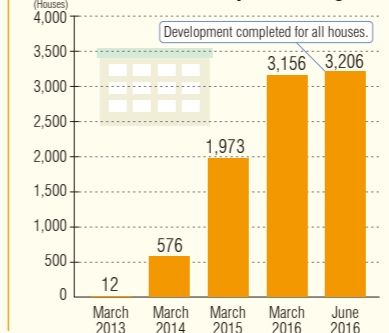
Disaster Reconstruction Municipal Housing built for disaster-affected people

SENDAI INFORMATION

### The Number of Households Living in a Temporary Housing



### The Number of Households in Disaster Reconstruction Municipal Housing



### The Number of Registered Disaster Volunteers

**56,063**  
People  
(From March to August 2011)

## Joining Forces for a New Life



Katsunori Sugawara (pictured in center) and residents of the Asuto Nagamachi Disaster Reconstruction Municipal Housing

After living in evacuation centers and temporary housing following the Great East Japan Earthquake, we moved into municipal housing that was developed in 2015 for disaster-affected people. This is an apartment-style municipal housing structure with 13 stories and 163 houses; it also accommodated those who evacuated from disaster-affected areas outside of Sendai. Following advice from the ward office that "It is crucial that people get to know each other so that you can live safely in a new area," residents began drinking tea together. As they got to know each other, their exchanges became more active and led to a variety of collaborative, spontaneous activities, such as passage cleaning, summer festivals, and visiting single elderly people.



Talking while cleaning makes it a fun activity

## Supporting the Disaster-Affected People Psychologically by Keicho (Attentive Listening) Activities

We have been conducting attentive listening to people's problems and anxieties since 2008. After the Great East Japan Earthquake occurred, we learned that mental care for disaster-affected people was essential; we then began visiting evacuation centers. By talking, people are able to cleanse what has accumulated in their mind; as a result, they feel lighter. We have regularly visited prefabricated temporary housings and meetings for disaster-affected people, conducting activities to support those who have problems. We believe that seeing more and more people who are overcoming sorrow and living positively is the real reconstruction.



Support for disaster-affected people continues with roughly 200 members



Eiko Moriyama  
Sendai Keicho Society



# Economy

Sendai is the economic center in the Tohoku region, with a population of 1.08 million people. Numerous major corporations have branches here. Many of the local companies are small/medium enterprises and have developed around a focus on the service industry. The Great East Japan Earthquake caused damage to vast numbers of facilities and equipment of private companies, caused a loss to sales channels, and a decrease in tourists, leading to serious damage to the local economy. As part of the reconstruction, administrative policy and a range of ideas and initiatives by business operators came together to revitalize the local economy.



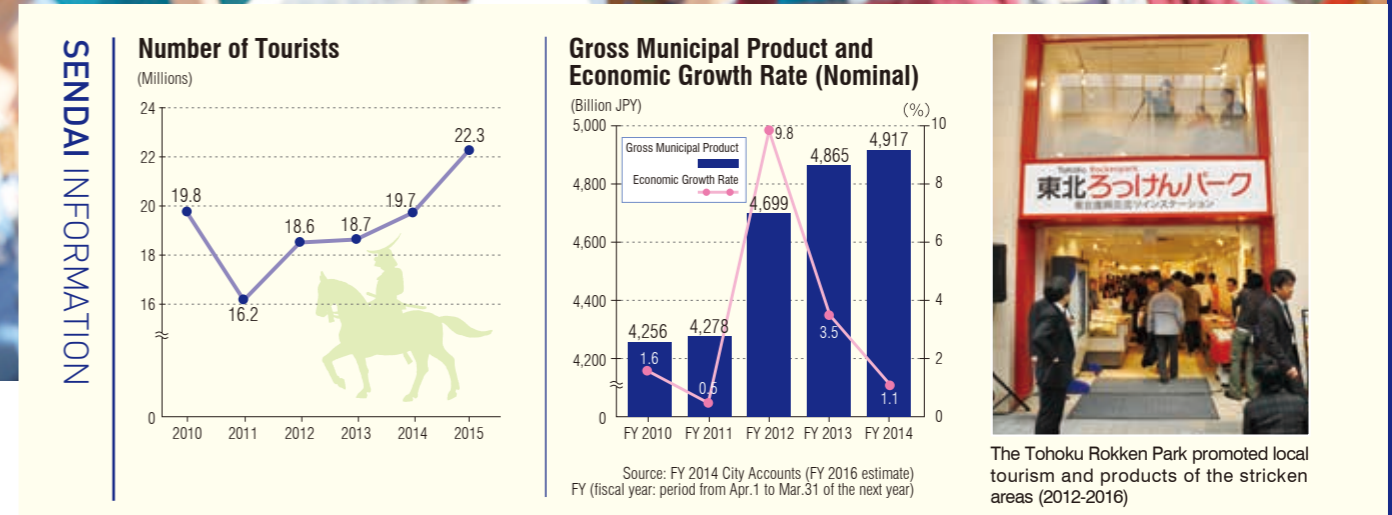
The City of Sendai and private sectors coming together to support entrepreneurs



Developing new sales channels at a trade fair



Aiming for an increased exchange population through inviting conventions



The Tohoku Rokken Park promoted local tourism and products of the stricken areas (2012-2016)

## Initiatives to Support Recoveries of Businesses

In June 2011, the Sendai Chamber of Commerce and Industry drew on the nationwide network of chambers of commerce and industry to launch a project to provide machinery that disaster-affected businesses needed. Over five years, more than 3,200 spare pieces of machinery were utilized to make major contributions to restarting business and restoring the enthusiasm company operators had towards their businesses. In addition, many firms lost ties to their trading partners and clients as they had to suspend business or downsize their operations. To that end, we are organizing trade fairs to allow them to carve out sales channels anew.



Restarting business with donated equipment



**Mitsuaki Sato**  
Sendai Chamber of Commerce and Industry

## The Joy of Working with Colleagues

My home, farmland, warehouse, and equipment were all damaged by the tsunami. I had almost given up hope of restarting agriculture, but the female farmers said they wanted to continue working together and voiced their support. Thanks to their enthusiasm, we restarted making miso that we had been working on since before the tsunami. In 2013, we opened a new restaurant-cum-market together. The large rice balls and homemade side dishes have built up a reputation by word of mouth, and the shop is always packed. I am so grateful to have a place to work that the busy schedule doesn't feel like a bother at all. I feel that what those affected by the disaster need is work.



The signature large rice balls



**Chikako Sasaki**  
Onigirichaya (rice ball tea house)  
Chikachan