

Sendai's disaster preparedness education

[Background]

The lessons of the Great East Japan Earthquake must be conveyed to the next generation, as the number of children who have not experienced or who have no memory of the earthquake disaster will continue to increase.

[Response]

Sendai City is promoting disaster preparedness education based on an original plan that aims to develop children's ability to prepare against disasters even during ordinary times and to protect their own lives in the event of a disaster. It is also engaged in a project to convey the lessons of the disaster in cooperation with an academic institution and other organizations.

1 Pre-disaster situation

Before the Great East Japan Earthquake, there was a total of 199 schools (excluding private schools) in Sendai City, including 127 elementary schools, 63 junior high schools, and 9 high schools and other upper secondary schools.

As Sendai City has experienced large-scale earthquakes (such as the Miyagi Offshore Earthquake) once every few decades, construction work for earthquake resilience works has been

systematically implemented since fiscal year 1996. By the time of the disaster, the earthquake resilience work had been completed at all schools except for one elementary school.

Additionally, regular evacuation drills assuming that an earthquake or fire had occurred were carried out at all schools, and some schools also participated in community disaster prevention drills.

2 Post-disaster situation

① Damage situation

Schools and other similar buildings were able to avoid collapsing, but every school had parts of building fall, crack, or otherwise be damaged, and three schools suffered tsunami flood damage.

Although school had ended and some students had gone home as the earthquake occurred at 14:46 on the day of the disaster, the rest of the children and staff who stayed at school, in other words everyone under the supervision of the school, all remained safe. It is thought that the earthquake resilience work done on the buildings and disaster prevention drills were effective to a certain degree.



▲ School gymnasium converted to an evacuation center

② Designation of schools as evacuation centers

In Sendai City, schools are designated as evacuation centers, so many schools were turned into places of refuge in the wake of the Great East Japan Earthquake. In order for school to be resumed, it was necessary for people taking shelter to return home or relocate to a new home.

By the end of March, a considerable number of evacuees were able to return home owing to the restoration of the water supply and other utilities. Evacuation centers were integrated with the purpose of improving the living environment and public health environment, based upon hearing the respective wishes and individual situations of evacuees who could not return home due to the magnitude of the damage to their homes, and preparations for resuming schools were proceeded.

Schools which had damage to their buildings secured classrooms temporarily at nearby schools and public facilities, allowing more than 80% of schools to resume by April 11, and all schools by April 22.

In some communities, junior high school students in particular who were taking shelter in schools actively sought to do what they could by carrying relief supplies and keeping their evacuation centers clean, lending much help to those taking refuge.

③ Restoration of school buildings

At schools where the school building could not be used due to damage from the earthquake, space was borrowed in nearby schools while waiting on restoration work and the construction of temporary school buildings. Temporary school buildings were constructed at ten schools in Sendai City, and were sequentially deconstructed following restoration. Ultimately, the use of all temporary buildings was terminated approximately four years after the disaster, in March 2015.



▲ Newly completed temporary school building (Nishitaga Elementary School)

3 Support for disaster-affected school children

① Financial support

In Japan, there is a school financial aid system that provides a subsidy for school supply expenses, to parents who find it difficult to enroll their children in school due to financial reasons. This system was also applied to parents who became unable to keep their children in school after the Great East Japan Earthquake.

There is another system that subsidizes a portion commuting expenses to parents of children who live far away from school. This system was also applied to parents whose children were forced to commute to school from afar as a result of the disaster.

② Mental care [FY2020 budget: approx. 36 million yen]

The disaster had a large impact on children's mental health, so there was an urgent need to provide mental care so their growth and development were not affected. There were also concerns about the more than 1,000 people transferred from disaster-affected areas particularly along the coastal areas in and outside the prefecture after the disaster, as such a situation was likely to bring rapid changes to lifestyle environments. The Board of Education placed emphasis on mental care that was

based on lessons obtained from past disasters and knowledge acquired from experts.

More specifically, steps were taken to provide counseling at all schools by strengthening the educational counseling framework through utilization of national systems. Additional counselors were assigned to schools along the coast that suffered particularly severe tsunami damage, and a "mental care emergency aid team" composed of psychiatrists, clinical psychologists and other such specialists was dispatched to schools on a continuous basis to interview children, understand their health condition, and otherwise provide ongoing support.

In addition to the above, a manual on providing emergency aid in the event of natural disasters was prepared, and a handbook for teachers was also compiled based on initiatives that were taken to provide mental care to school children over roughly one year following the Great East Japan Earthquake.

Furthermore, mental care workshops for educators are offered for each occupational category and position, such as principals, homeroom teachers, and school nurses in order to properly attend to children who suffer emotional wounds from the earthquake disaster.

4 Strengthening disaster response

① Review of the disaster response manual

After the Great East Japan Earthquake, the disaster response manual for schools was significantly revised. As disasters do not necessarily occur only when children are in school, major revisions centered on specifying responses for cases where an earthquake occurs when children are away from school on study trips. Additionally, the manual was revised to require all schools, not only in the affected region but all other regions as well, to implement an emergency framework for leaving school, such as handing over the children directly to their parents and returning children home in groups in cases where an earthquake of a certain magnitude or greater occurs in a region within the city.

Since the disaster, the Board of Education reviews and prepares a draft disaster response manual every year and distributes it to all municipal schools. In reference to this manual, each school prepares its own manual by taking into consideration various regional circumstances and characteristics.

② Enhancement of facilities at evacuation centers

At the time of the Great East Japan Earthquake, evacuation centers had been equipped with wireless devices for use during disasters, but there were not enough units, and various problems occurred, such as batteries running out. Therefore, Sendai City has endeavored to secure means of communication between schools and the Board of Education by increasing the number of units and building up supplies of batteries.

Additionally, a disaster-resistant solar power generation system that combines solar power generation and batteries was installed in all schools to prepare against power outages. In schools that are designated as evacuation centers, this would enable the use of wireless devices for disaster administration and lighting fixtures, and also contributes to reducing CO₂ in ordinary times [see case practice^⑤ for details].



5 Sendai's disaster preparedness education

① Concept of Sendai's disaster preparedness education

The experience of the Great East Japan Earthquake taught that disasters far beyond imagination do occur, and underlined the need to develop disaster education from a new perspective. Therefore, Sendai City has engaged in the promotion of “an original disaster preparedness education framework” aiming for following two objectives. One is to utilize the lessons of the earthquake disaster to nurture self-help skills, such as to prepare against disasters even in ordinary times, protect one's own life in the face of a disaster, and secure safety. The other is

to develop an awareness of mutual assistance, to be of help to other people and to the community also during ordinary times and to cooperate and participate in disaster response and regional reconstruction efforts.

As a specific initiative, the city prepares and disseminates a yearly guidance plan that mutually links teaching contents related to disaster risk reduction (DRR) in each subject from a cross-curriculum perspective based on the characteristics of each school and region and children's development stage.

Concept of Sendai's disaster preparedness education

	DRR in ordinary times	Disaster response in times of disaster
Self-help	Prepare against disasters	Protect one's own life and secure safety
Mutual assistance	Be of help to other people and the community	Cooperate with the community and participate in disaster response activities

② Assignment of disaster prevention chiefs

From fiscal year 2012, disaster prevention chiefs have been assigned to all schools, to prepare and execute annual plans for disaster preparedness education in each school and strengthen ties with the local community and children's parents.

Workshops intended for disaster prevention chiefs are held several times a year, to evaluate and exchange information on initiatives taken by each school, and to share and solve issues in disaster preparedness education that each school is confronting.

③ Supplementary Reading Material for Disaster Preparedness Education [FY2021 budget: approx. 6 million yen]

After the Great East Japan Earthquake, supplementary reading material was prepared, containing information on reconstruction initiatives taken by schools, details on the mechanism of earthquakes and tsunamis, knowledge about disaster risk reduction, and other such contents, to more effectively promote and further strengthen disaster preparedness education.

The views of experts in natural science and psychology were taken into consideration, and a broad scope of subjects and fields was envisioned, to provide content that would develop children's capacity to judge and take action at their own initiative. The

supplementary reading material is issued in three versions—for school children in lower grades of elementary school, upper grades of elementary school children and junior high school students—to meet the developmental stages of the children, but all three versions are composed of the same 63 pages for uniformity.

The abovementioned “self-help” and “mutual assistance” objectives, which are related to the SDGs, are also discussed in the reading material, arranged to match each developmental stage of children.



▲ Supplementary reading material for disaster preparedness education

6 Projects born after the Great East Japan Earthquake

① Sendai Children's Experience Plaza [Facility operating expense: approx. 63 million yen/year]

August 2014 saw the grand opening of Sendai Children's Experience Plaza—Elem. The facility features a “city” reproduced by booths that represent the stores and offices of cooperating companies, and allows school children in upper elementary school grades and junior high school to experience programs that teach them about their connections with society and how the economy works. It was created with funding from the Qatar Friendship Fund, which was established in Qatar immediately after the Great East Japan Earthquake to provide assistance for child education and other priority areas in Japan, and was thereafter transferred gratis to Sendai City. Qatar gave the facility the name “Elem,” meaning

“education” in Arabic. In an era where large changes are taking place in social situations, the facility aims to develop children's attitudes and abilities needed for future social and occupational independence.

② Hometown reconstruction project

The hometown reconstruction project has been implemented by children in elementary and junior high schools in Sendai City since fiscal year 2011. It gives shape to children's thoughts on reconstruction, and aims to develop the power to give energy to the region through various activities and contribute to local communities into the future.

For implementation of the project, a promotion committee composed of children was established, and a “hometown reconstruction summit”

was held to exchange views on the goals of reconstruction. The summit was held once every year from fiscal year 2011 to 2014. In one of the summit meetings where an exchange of views was held among one representative from each elementary and junior high school, a number of schools proposed to create a song and sing it with everyone. Thus, a reconstruction song came to be created.

From fiscal year 2015, each school has been taking various initiatives which take local circumstances into consideration in order to achieve the goals defined in the summit.



▲ Sendai Children's Experience Plaza-Elem

7 Handing down experiences and lessons using diverse resources

① Collaboration with an academic institution, etc.

For further promotion of disaster preparedness education, a collaboration and cooperation agreement was signed among an academic institution for the development of teachers (Miyagi University of Education), Sendai City, and the Sendai City Board of Education.

Based on this agreement, activities have been implemented utilizing the knowledge of the academic institution, including the compilation of a teacher's handbook on disaster preparedness education and worksheets for children, and the implementation of training programs that take students who aspire to become teachers on a tour of disaster monuments.



▲ Teacher's handbook

② Utilization of disaster ruins, etc.[FY2020 budget: 4 million yen]

In order to pass on and widely share the lessons of the tsunami damage and minimize the numbers of victims of tsunamis that may occur in the future, the school building of Arahama Elementary School and foundations of residences that were struck by the tsunami are being preserved as disaster ruins. Particularly since the disaster monuments of Arahama Elementary School shows the remains of what was originally an elementary school, initiatives are being planned so that it could be used for disaster preparedness education. For example, to enable elementary schools to use the school as a study trip destination, there are plans to subsidize the means of transportation through the Board of Education.

Sendai City is also striving to provide customized methods to hand down the knowledge of post-reconstruction efforts in response to the needs of each school. For example, on-demand classes are provided in combination with the above study trip to teach the lessons of the disaster, in cases where the Great East Japan Earthquake and reconstruction efforts are used as themes in social studies and comprehensive learning classes.



▲ Disaster preparedness education using disaster ruins



▲ On-demand class