

Creating New Relationship between School and Local Community from the Lesson of East Japan Earthquake 3.11

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Abstract

On March 11, 2011, the Great East Japan Earthquake hit northeastern Japan. One year and eight months have passed and post-quake recovery is being accelerated. During this period, many schools produced and submitted the records of the earthquake and their recovery process. The records contain lots of information useful for school's disaster prevention and provide much information about how schools could play its role for the local community at the time of disaster. Each school had different experiences and behaved differently during and after the earthquake and the tsunami. However, the roles of schools are categorized into three: the ones in the middle of the flooded area, the ones on the verge of the flooded area, and the ones at the hinterland. We would like to summarize by category the lessons learned immediately after the earthquake and the tsunami. I would like to pick up and present in this thesis information that is universal and useful for local disaster prevention from the lessons learned in the field of school and local community.

Introduction

On March 11, 2011, the Great East Japan Earthquake hit northeastern Japan. With a magnitude of 9.0, it was extraordinarily large and strong, leaving 15,854 dead and another 3,155 missing. Miyagi University of Education, which I belong to, is located in the center of the area devastated by the earthquake. As a teachers college rooted in the local community, it has been engaged in the restoration of local education since immediately after the disaster.

The damage in the educational community, for example, in Miyagi Prefecture, 380 people were dead, including 64 kindergarten children, 142 elementary school children, 126 junior and senior high school students, 29 university students, and 19 school staff members. The buildings (including dormitories, kitchens, etc.) of 754 schools were damaged by the disaster.

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The theme of the APEID conference this year is collaboration and learning communities. Although there are some differences between the nation and the local community, I would like to pick up and present in this thesis information that is universal and useful for local disaster prevention from the lessons learned in the field of school and local community. As a core institute of the

Regional Centres of Expertise (RCEs) on Education for Sustainable Development which the United Nations University promotes, the University has sought how the relationship between local communities and schools should be. In this discussion, I will refer to how sustainable community development proposed by the U.N. would be helpful in community building after disasters.

1. Overview of the Tsunami Flood Areas

To consider the relationship between local communities and schools at the time of and after a disaster, I chose the following areas as examples: four areas in Kesennuma City, the mouth of the Kitakami River, the Ishinomaki City, Yuriage Area in Natori City. The chart below indicates the geographic relationship between the areas flooded and submerged by the tsunami and schools.

Chart1: Kesennuma City (Inside the red line, submerged area)

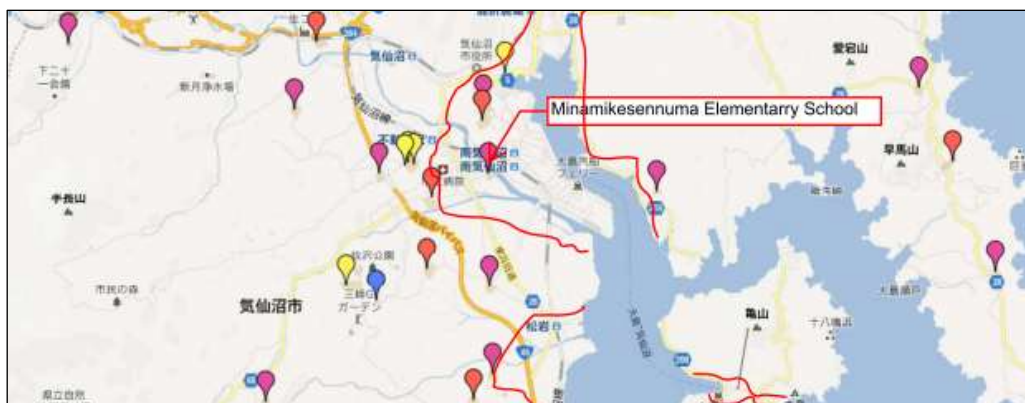


Chart2: The mouth of the Kitakami River



Chart3: The Ishinomaki City



Chart4: Yuriage Area in Natori City



Large parts of the lowlands were flooded. Examples include the Sendai Plain, Natori City, and Yamamoto-cho. What is characteristic of this geography is that the tsunami ran up rivers and narrow valleys. If you look at the map of the Kitakami River, you will find that schools along the river were severely damaged. At Ishinomaki Municipal Okawa Primary School, which is known for the devastating damage caused by the earthquake, out of 108 children evacuated to the schoolyard, 70 were dead and four were missing (as of January 23, 2012). Eleven school staff members out of 13 were in the school with 9 dead and one missing.

One of the reasons why damage in the lowlands was extraordinarily serious was that people could not expect such a massive tsunami even though they lived near the sea. Many tsunami warnings had been issued but the height was from 10 to 60 centimeters at maximum. This fact melted away the cautiousness with tsunami in people's minds. In addition, many of the areas along rivers were away from the coast. As people could not look at the sea, they could not feel that the tsunami was really happening. It can be said that lack of cautiousness multiplied the damage.

2. Schools as Shelters of Communities

Each school had different experiences and behaved differently during and after the earthquake and the tsunami. However, if we look back, the roles of schools are categorized into three: the ones in the middle of the flooded area, the ones on the verge of the flooded area, and the ones at the hinterland.

We would like to summarize by category the lessons learned immediately after the earthquake and the tsunami.

2.1. Schools directly damaged by the tsunami

They mean schools that students and local residents were evacuated to from fear of the tsunami, and then the first and second floors of the school buildings were submerged and therefore isolated.

- Although evacuation from the tsunami was called for over the community wireless system after the earthquake, people could not catch what was said in actuality.
- Mobile telephone lines were tied up immediately after the earthquake and no wireless station was available. There was no communication method to seek help from police, fire station, or school board and they became isolated.
- When floods came, tragedy took place in front of them; their houses or family members were swept by the tide. Teachers made painful efforts to keep such dreadful scenes away from children's eyes.
- Local residents evacuated to the school. Relief supplies in stock, including blankets, emergency food, drinking water, and electric torches, were not enough at all, and they were not supplied to all evacuees.
- It snowed but no heating was available. Evacuees used newspaper and curtains to ward off the cold.
- They must fight against not only submerging and isolation but also secondary disasters including burning floating debris and forest fires.
- While they were waiting for rescue, evacuees panicked in the psychology of crowds (in fear of explosions and electric shock).
- The flushing function of toilets became out of order. How to establish temporary toilets (e.g., using water in swimming pools) was important.

2.2. Schools that played the role of shelters

They mean schools located between a flooded area and a safe area and accommodated many evacuees, including local residents who made a harrowing escape from the flooded area.

- A contingency planning manual says that a shelter shall be established by persons dispatched from a city office when a disaster strikes. In actuality, no transportation was available, no one was dispatched to support the shelter, and the school had to accommodate a number of evacuees on its own.
- It was difficult for school staff members to operate shelters. Whether evacuees themselves, i.e. the members of local residents' organizations, including residents association and fire-fighting teams, could voluntarily operate it determines the quality of the operation.

- The volume of relief supplies in stock, including blankets, emergency food, and drinking water, was not enough at all compared with the number of evacuees. Whether stores and residents in the vicinity of the school worked together to provide food, blankets, etc., also determined the environment of the shelter.
- It was too cold in shelters with no heating equipment. Some shelters asked evacuees to stay in cars parked in schoolyards to ward off the cold.
- Measures to prevent group infection were required when a number of residents stay together in school buildings.
- Mutually supportive relationships were the key to the smooth operation of shelters. Examples include the help of local residents to recover the functions of school and the support for residents by the students of junior and senior high schools that were used as shelters.
- Accommodating all local residents means accommodating people with mental disease or the homeless. In addition, precautions against crime were required.
- Some schools in the heart of a city or along railroad lines had to accommodate as many as 2,500 evacuees, if only temporarily.

2.3. Schools that did not play the role of shelter

They mean schools outside the area flooded by the tsunami where no local residents came to be sheltered.

- Some schools outside the disaster-stricken area had no damage and did not need to provide shelters. They played the role of a relay point for relief goods at first. Later, after the Self-Defense Forces had arrived, they became lodges and bases of operation.
- Corpses were carried into the schools that had no other role and were vacant. Many of them had to be used as mortuaries.

3. Relationship between local communities and schools

3.1. Loss of local community and school districts

When several months had passed after the disaster and after residents had moved from shelters to temporary housing, an important issue related to the existence of local communities and schools was raised. The submerged areas in the above figure mean the ones where communities were affected by the tsunami. Many residents moved to temporary housing remote from the areas or to new houses they found by themselves. If we look at school environments, students moved and the school itself moved. As a result, it became difficult to maintain the school district and the school itself. Some schools were to be abolished because the school buildings were submerged and communities were lost.

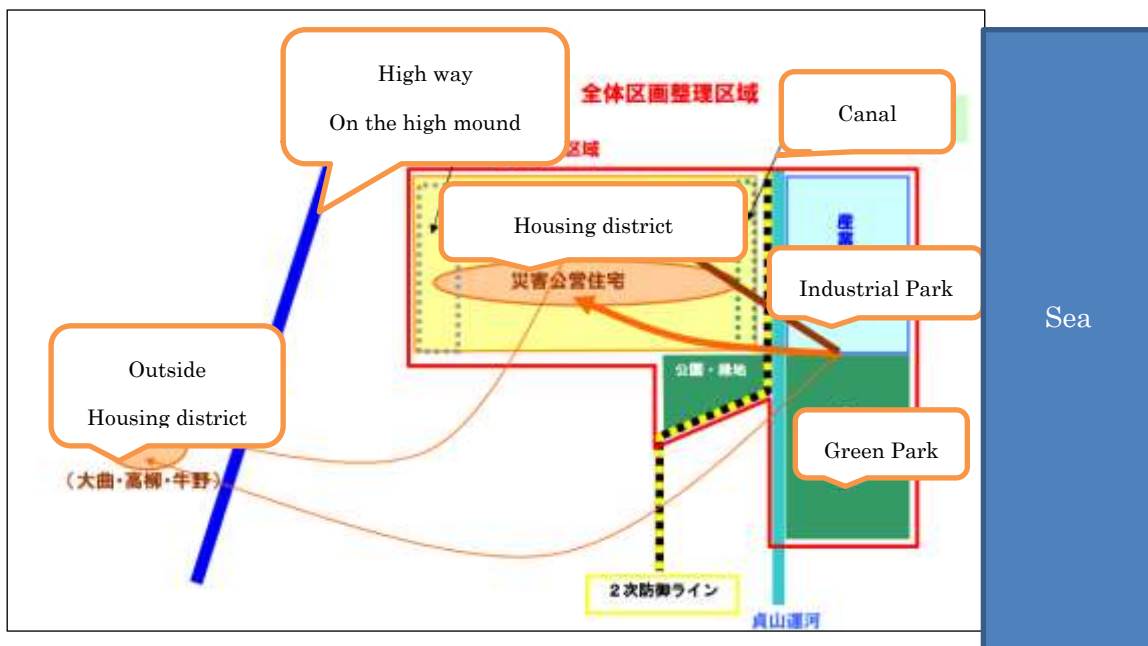
3.2. Recovery of local communities

It is difficult to return to and live in flooded areas again, because the ground subsided and, above all, people know that the area will be submerged again if another tsunami comes. The only way to recover local communities in the same place is to raise the ground level.

It was revealed that twelve coastal municipalities in three prefectures damaged by the tsunami have a plan to fill soil and raise the ground level of the submerged urban district. After the ground is raised, lands will be subdivided, and housing and business districts will be rearranged.

A typical example is the Yuriage area of Natori City. The 121.8-hectare damaged area is subject to the plan, and they aim at recovery on the same site. Approximately 80 hectares are designated as a housing district. The ground to the west of the canal will be raised by some three meters, and public housing (for 700 to 800 households of sufferers), public facilities, and schools will be constructed. On the other hand, the 42-hectare area to the east is designated as non-residential, and fish processing and other facilities, marine sport facilities and green spaces will be built.

Chart5: Yuriage area of Natori City land recovery



[http:// www.city.natori.miyagi.jp/content/.../file/jigyoushouin.pdf](http://www.city.natori.miyagi.jp/content/.../file/jigyoushouin.pdf)

3.3. Issues concerning recovery of communities

There are some problems if they want to rebuild communities in the areas hit by the tsunami. One is the difficulty in building a consensus due to the conflict of opinions between the residents who want to return and those who do not. The other is the relationship with the schools. If there is no prospect for the recovery of local communities, there is no prospect for the rehabilitation of schools. No municipality has yet started to raise the ground level at the moment. The schools moved from the damaged area cannot describe the future. If they do not return to the original location, more and

more of the population will leave the community. It will become more and more difficult to rebuild the community completely.

4. What the U.N.'s sustainable community development suggests

4.1. Efforts by Greater Sendai RCE

In greater Sendai, the RCE was established in 2005 through the liaison of local communities and organizations, which had made efforts to develop human resources and local communities to create a sustainable future, in other words, efforts to realize education for sustainable development (ESD). The objective of the ESD is to recognize today's unsustainable situation in each region or Miyagi Prefecture, to solve problems one by one, and to create the future from the hands of all persons concerned. To be concrete, it is to help the community and its schools develop human resources who can conserve the local environment or create a new one.

The Greater Sendai RCE promotes ESD not only by a single municipality but also by the network of one university and three regions at the moment. For this purpose, we paid particular attention to connecting the activities for realization of a sustainable future individually conducted by schools, citizens, private companies, and the administration in each region. To be concrete, we have promoted sustainable community building using the following procedure.

- 1) Investing in the region to find and sort out the issues identical to an unsustainable community
- 2) Finding the ability that can create a sustainable community, such as accumulated resources, activities, and human resources.
- 3) Seeking and finding out an immediate theme that is required to build a sustainable community
- 4) Connecting the abilities of the community, including human and other resources and various activities, to put the theme into practice
- 5) Expanding the liaison to expand the scale of the practice
- 6) Transferring and expanding the practice of sustainable community building adopted by each region through interchange with other communities

4.2. Execution of ESD in the Kesennuma Area

In the Kesennuma Area, the municipal school board took the lead as the secretariat and the Kesennuma ESD RCE Promotion Committee was organized in 2005, establishing a network among primary, junior, and senior high schools; the UNESCO Association; the Chamber of Commerce and Industry; Slow Food Association; and other related organizations. What is characteristic of Kesennuma is that 90 percent of primary, junior, and senior high schools are members of UNESCO Associated Schools and promote education for sustainable development. The number of associated

schools is 32, which is one of the largest on a municipality basis. A variety of ESDs concerning the environment, disaster prevention, food, traditional culture, and international understanding are put into practice at the member schools.

Continuation of these practices resulted in deepened mutual understanding and communication among children and students, parents, community residents, and social education facilities, such as community centers. After the earthquake, the relationship between communities and schools played an important role in establishing and operating shelters. As they have consciousness that a school is an imperative part of a local community, many local residents depended on schools without anxiety to live during the period immediately after the earthquake and provided help for the restoration of the functions of the school in turn.

5. Conclusion

The idea of the sustainable development of society proposed by the U.N. gives important suggestions to relationship building between local communities and schools. We learned through the Great East Japan Earthquake how effective it is when we cope with natural disaster to have had a cooperative relationship between the two and have deepened such liaisons and communications. How the relationship between the two would be depends on which concrete community we talk about. For example, for schools in urban areas that are highly fluid, it may be difficult to have the consciousness to contribute to community building in liaison with the local people. However, for local communities where residents and students know each other, it is easy for the two to work together to further develop the community. We are committed to tackling the local issues, strengthening the ability to fight against disasters, and contributing to the restoration of local communities through the activities of RCE and UNESCO.

<Reference>

Tomonori ICHINOSE, "An Observation on the Deployment of Education for International Understanding and Education for Sustainable Development through the Practice of Miyagi University of Education", *14th UNESCO-APEID International Conference Education for Human Resource Development*, 21-23 October 2010, Bangkok, Thailand

Tomonori ICHINOSE, "ESD Activities of UNESCO Associated School Project Network and Cooperation with Local Universities", *Synergies and Linkages EFA, ESD and ASPnet Final Report of Asia-Pacific Forum on Educational Cooperation: Synergies and Linkages of EFA, ESD and ASPnet for Sustainable Asia and the Pacific*, 19 -21 February 2011, ACCU, Tokyo, pp.296-297.

Yoshikichi Abe and Tomonori Ichinose, "Volunteers and Youth Role in Post disaster Scenario: Role of Miyagi University of Education", Rajib Shaw and Yukiko Takeuchi, *East Japan Earthquake*

and Tsunami, Evacuation, Communication Education and Voluntarism,2012, Research Publishing Press, Singapore,pp.223-238.

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