

# **Report of the Investigative Research on the Reconstruction of Schools in Conjunction with Community Development**

– Records and Examination of the Process of School Facilities’ Reconstruction from Tsunami Damage  
after the Great East Japan Earthquake –

March 2014



Educational Facilities Research Center, National Institute for Educational Policy Research of  
Japan

Working Group for “The Investigative Research on the Reconstruction of Schools in  
Conjunction with Community Development”

## Introduction

The huge tsunami that followed the Great East Japan Earthquake on March 11, 2011, caused immense damage to the entire region, including schools on the Pacific Coast of the Tohoku and Kanto regions.

Upon the situation where some schools needed to relocate their facilities due to tsunami damage, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) advocated “Reviving towns starting from our schools,” under the idea that reconstruction of these schools as the center of local communities will enable residents who have spread to various places to return around their schools and restore their community and community ties, which will help the reconstruction of the entire afflicted areas.”

To further promote “Reviving towns starting from our schools” the MEXT cooperated with the Ministry of Agriculture, Forestry and Fisheries (MAFF) and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) to compile “Reconstruction of Schools in Conjunction with Community Development” for comprehensive support for efforts made by local governments of disaster-hit areas. The document was published on December 6, 2011.

Meanwhile, a shortage of experts and knowhow concerning school reconstruction and town development was pointed out in local governments that had suffered immense damage caused by the tsunami.

In light of these circumstances, the National Institute for Educational Policy Research (NIER) set up the Working Group for “The Investigative Research on the Reconstruction of Schools in Conjunction with Community Development” on February 6, 2012, in cooperation with the Architectural Institute of Japan, the City Planning Institute of Japan and the Japan Society of Urban and Regional Planners and with the participation of observers from MAFF, MLIT, and MEXT. The purposes of the working group are to support efforts for school reconstruction and town development by dispatching experts to the local governments of disaster-hit areas, conduct surveys of schools considering relocation, etc. of their facilities due to tsunami damage, and share the knowledge obtained from the surveys with other local governments, etc.

The Working Group carried out a questionnaire survey of 53 public schools that were considering relocation, etc. of their facilities due to tsunami damage after the Earthquake in order to understand the reality of the reconstruction process including relocation planning. It also conducted interview surveys of five schools that had already decided their relocation sites, and dispatched school and town development experts in order to draw up basic plans for two schools at the request of Ishinomaki City that were planning relocation of school facilities in response to tsunami damage. Based on the insight obtained through the activities, the Working Group examined “issues and countermeasures in the process of resuming schools”, and “issues and countermeasures for reconstruction of schools in conjunction with community development”, then compiled the results as this report: “Records and Examination of the Process of School Facilities’ Reconstruction from Tsunami Damage after the Great East Japan Earthquake.”

All members of the Working Group wish to share their specialized expertise as much as possible to help reconstruction because the areas devastated by the tsunami are still in the process of reconstruction.

We hope that this report will prove helpful for reconstruction efforts by the local governments of the disaster-hit areas and the preparedness of the regions that face tsunami risk.

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## **1. Background to the Investigative Research**

### **(1) Damage to public school facilities**

The Great East Japan Earthquake and Tsunami caused damage to facilities of 6,484 public schools across Japan. Among them, 2,310 schools\* were planning to apply for a government subsidy for disaster restoration projects for public school facilities as of the end of November 2013, while 2,161 of them (94%) have already completed their projects. The schools yet to complete their projects also resumed education activities, using emergency temporary school buildings or borrowing space at other schools, etc.

Schools that are located in a tsunami disaster area and need integrated planning with town reconstruction as well as schools located in areas under evacuation orders are expected to require more time to complete their projects.

\*Excluding schools located in areas under evacuation orders

(Data provided by the Office for Disaster Prevention, Facilities Planning Division, Department of Facilities Planning and Administration, Minister's Secretariat, MEXT)

### **(2) The government's measures for reconstruction of schools in conjunction with community development (efforts in collaboration of three ministries)**

On December 6, 2011, MEXT, MAFF, and MLIT jointly announced "Reconstruction of Schools in Conjunction with Community Development" as a measure for comprehensive support for efforts by local governments of disaster-hit areas.

"Reconstruction of Schools in Conjunction with Community Development" comprehensively promotes the reconstruction of afflicted areas in combination of the measures by the three ministries from the following perspectives.

1. Ensure safe and secure sites by relocation or ground raising of the entire disaster-hit communities including their schools
2. Form the center of local communities for life-long learning and disaster protection functions by constructing a building complex of school facilities and other public utilities.
3. Strengthen disaster protection functions and environmental measures in accordance with local circumstances.

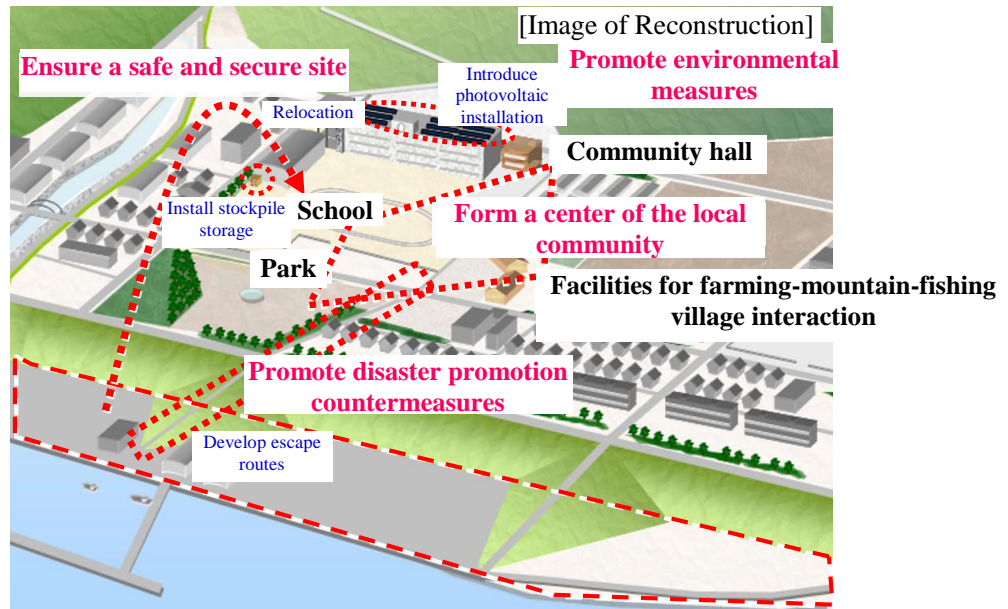


Figure “Reconstruction of Schools in Conjunction with Community Development” in collaboration among three ministries

(Data provided by the Office for Disaster Prevention, Facilities Planning Division, Department of Facilities Planning and Administration, Minister's Secretariat, MEXT)

### **(3) Building a support system for efforts on reconstruction of schools in conjunction with community development**

A shortage of experts and knowhow on school reconstruction and town development was pointed out in local governments that had suffered immense damage caused by the tsunami.

In the light of these circumstances, NIER has built a system to dispatch school and town development experts to the local governments of disaster-hit areas in order to understand the actual state of the schools hit by tsunami and study issues, countermeasures, etc. while at the same time supporting the efforts made by the local governments considering relocation, etc. of school facilities in response to tsunami damage.

## **2. Survey of school facility relocation plans, etc., in response to tsunami damage**

A questionnaire survey was carried out on 53 public schools that were hit by the tsunami after the Great East Japan Earthquake and are considering school facility relocation, etc. in order to grasp the state of damage and school resumption and the reconstruction process including reconstruction plans. In addition, interview surveys were carried out on five schools that answered in the questionnaire survey that they had decided a relocation plan, etc.

The questionnaire survey covered the period from the resumption of classes after the earthquake to the first term of 2013.

### **(1) Questionnaire survey (implemented in May 2013)**

The questionnaire survey was carried out on 53 public schools that were hit by the tsunami after the Great East Japan Earthquake and are considering school facility relocation, etc. in order to ask the state of damage and school resumption and the reconstruction process.

#### **[Questionnaire items]**

State of damage caused by tsunami, the classes resumed after the earthquake, classes, etc. in

first term of 2013, and the content, decision process, study system, progress, etc. of reconstruction plans, etc.

## **(2) Interview survey (August 6 to 22, 2013)**

An interview survey on school establishers and community development departments was carried out for five cases where the relocation site of school facilities had been decided.

### **[Cases subject to the interview survey]**

Case research 1: A plan to gather and relocate multiple districts to an elevated area

Case research 2: A plan to relocate to an elevated area where public facilities, etc. are concentrated

Case research 3: A plan to relocate a damaged junior high school next to a nearby elementary school

Case research 4: A plan to reconstruct the facilities at the old site with multiple defenses against tsunami

Case research 5: A plan of relocation as a school for unified elementary and lower secondary education within a land readjustment project district

## **3. Examination of school resumption and school facility reconstruction plans**

Based on the results of the survey of the public schools planning relocation, etc. of their facilities in response to tsunami damage, we sorted out their actions concerning school resumption, relocation plans, and other matters.

### **(1) Damage to school facilities for which relocation, etc. are planned**

The public schools planning relocation, etc. due to tsunami damage have experienced flooding of their school buildings, gymnasiums, or schoolyards. About 50% of the schools experienced immense damage from flooding above floor level of the second floor in the school building.

#### **1) Flooding of school buildings**

- Flooding above floor level: 53 schools

    ( Flooding above floor level of the second floor: 28 schools  
    Flooding between the floor levels of the first floor and the 2<sup>nd</sup> floor: 25 schools )

#### **2) Flooding of gymnasiums**

- Flooding above floor level: 49 schools

#### **3) Flooding of schoolyards (especially playgrounds)**

53 Schools

## (2) Actions when resuming school

### [School building]

- A large number of schools borrowed space at another school for first classes after the earthquake disaster, but the number has decreased as a result of the development of emergency temporary school buildings and consolidation of schools.
- Schools borrowing space at another school have problems including limited space and time constraints in using special classrooms, etc. but are coping by ensuring close communication and coordination between the schools and other efforts.
- Emergency temporary school buildings have problems of echoing, room temperature adjustment, cramped space (insufficient storage space), etc. but are coping by spreading carpet on the floor, introducing electronic whiteboards to compensate for the limited space, for example.

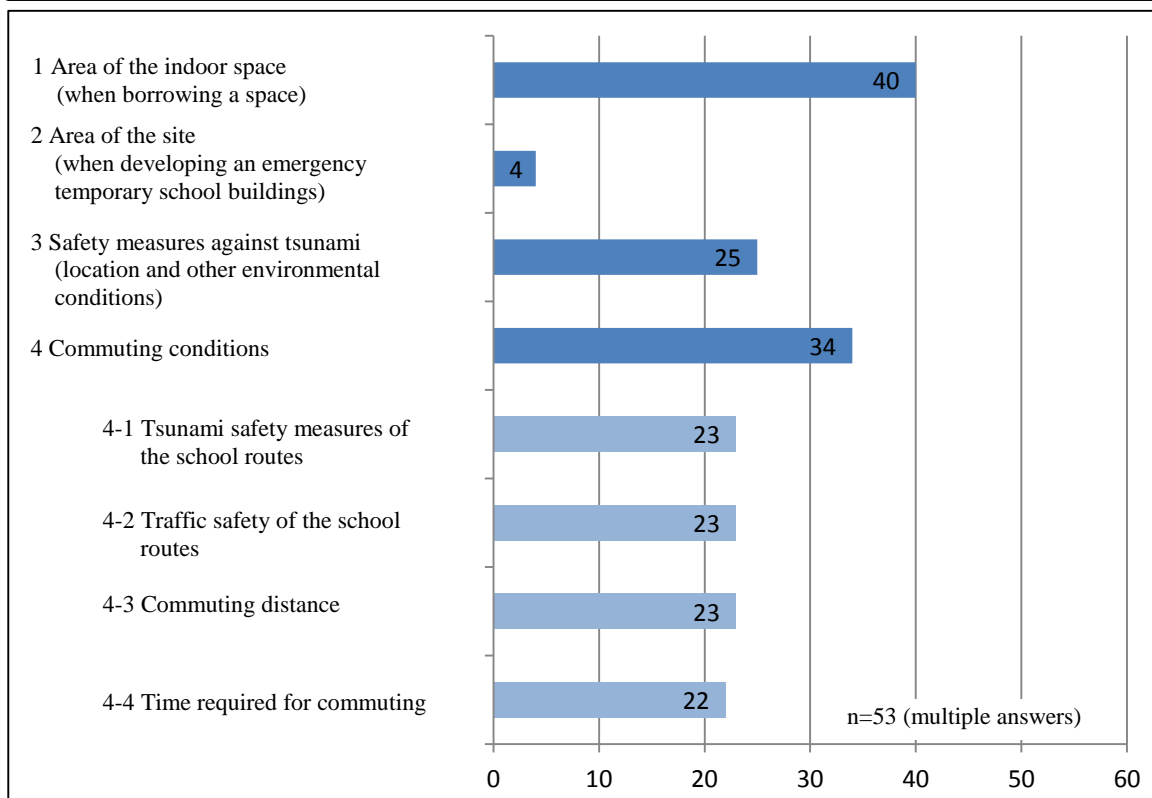
### [Space for exercise]

- Just after the disaster, there were schools that could not use their gymnasium because it was used as shelter, and schools that could not use the outdoor exercise space as it was used as a temporary housing site, but they have secured exercise space by sharing with other schools, using a community playground, developing a temporary playground and other means.

## 1) Selection of the place for resumption

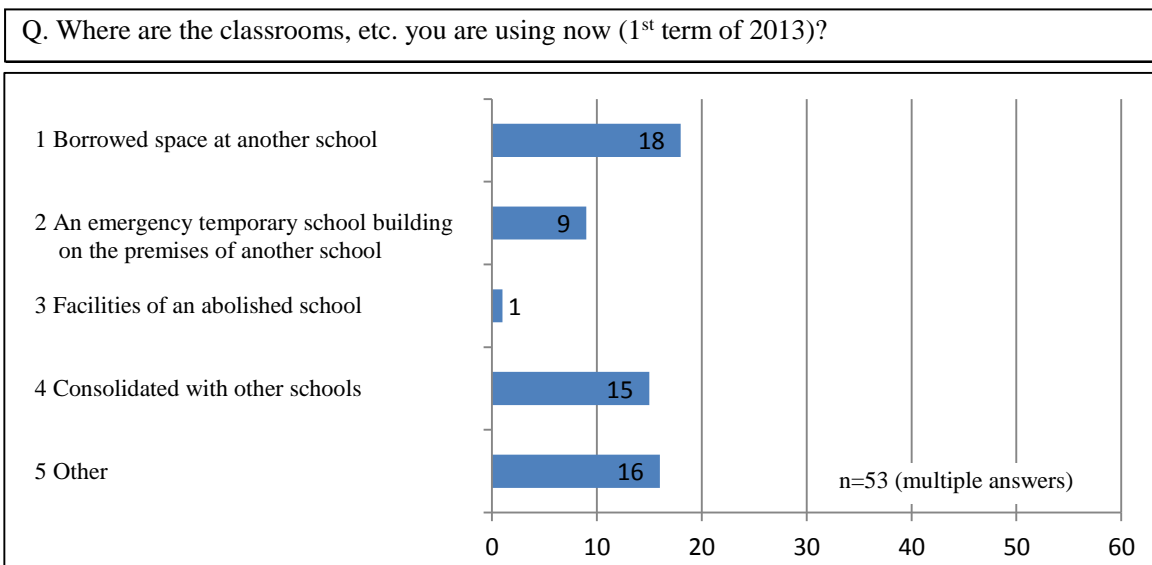
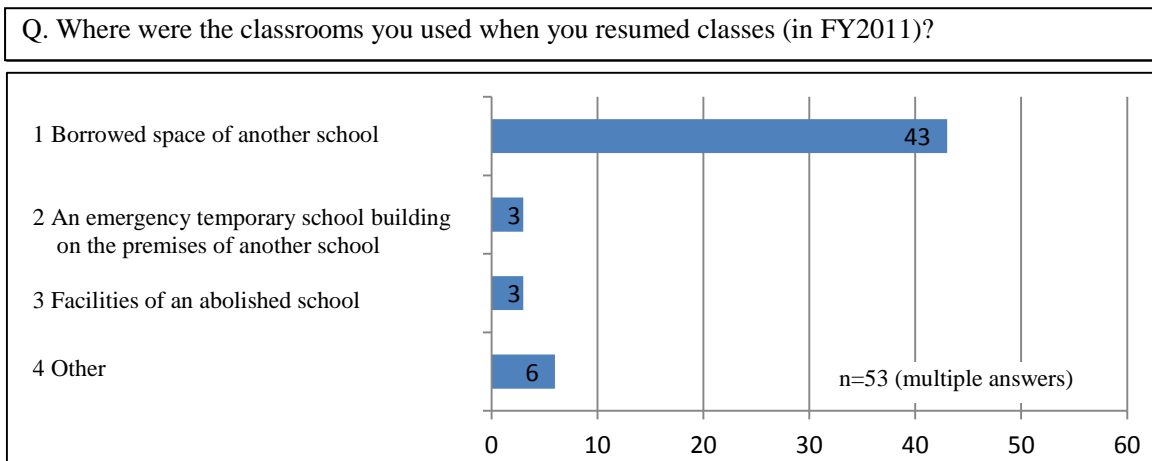
- Facilities and sites for resuming classes were selected based on the area of the indoor space (40 schools), commuting conditions (34 schools), and safety measures against tsunامي (25 schools).
- In terms of commuting conditions, selection was made based on the tsunami safety measures and traffic safety of school routes and the distance/time of commuting.

Q. What did you take into consideration when selecting the facilities/site to resume classes (FY2011)?



## 2) Securement of school buildings

- Out of the schools planning relocation, etc. about 80% (43 schools) borrowed space at another school at first for resuming classes after the disaster, but the ratio dropped to about 30% (18 schools) in the first term of 2013 as a result of the development of emergency temporary school buildings and consolidation of schools.
- Schools borrowing space at another school named as problems cramped (shortage of) available space, time constraint in using special classrooms, etc. and long commuting time.
- When borrowing spaces of another school, much effort was made such as close communication and coordination between the schools to ensure smooth classes.

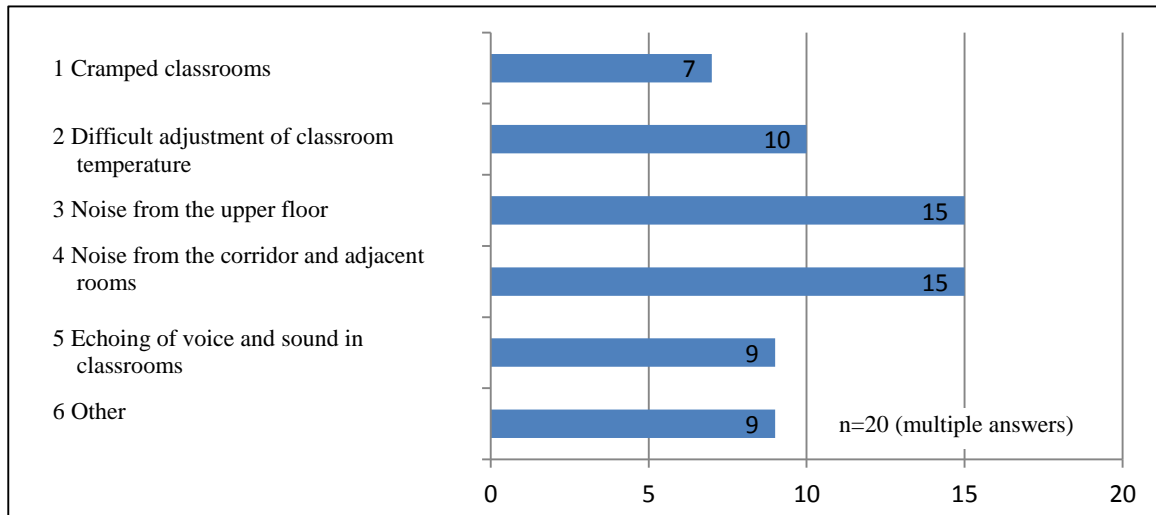


## 3) Emergency temporary school buildings

- Emergency temporary school buildings have many problems including echoing in classrooms and noise traveling from the upper floor. Classroom temperature adjustment and cramped space (insufficient storage space, etc.) were also named as problems. Schools using an emergency temporary school building are making efforts including soundproof measures such as spreading carpet and attaching tennis balls to chair legs, as well as introducing electronic whiteboards to compensate for the limited space.



Q. What problems are there in using an emergency temporary school building?



#### 4) Securing space for exercise

- Indoor exercise space: When resuming classes after the disaster, 40 schools were able to secure indoor exercise space of some kind, whereas 13 schools were not able to, but all the schools were able to secure indoor exercise space of some kind for the 1<sup>st</sup> term of 2013.
- Outdoor exercise space: When resuming classes after the disaster, 40 schools were able to secure outdoor exercise space of some kind, whereas 13 schools were not able to, but all the schools were able to secure outdoor exercise space of some kind for the 1<sup>st</sup> term of 2013.
- Schools secured exercise space by sharing with other schools, using community playgrounds, developing temporary playground and other means, but cite cramped space and other problems.

#### 5) Other

- For commuting, 26 schools newly introduced school buses when resuming classes after the disaster.
- When operation of school buses was difficult, some schools partially subsidized the commuting expense.
- In the interview survey, schools named as problems the need for multiple-route operation due to dispersed evacuation places of students, time constraints for club activities, etc. due to the pickup schedule of the school bus.

### (3) Actions concerning reconstruction plans

- When planning reconstructions of school facilities, many schools cooperated with the town development department. Many schools conducted a questionnaire survey or set up a review committee in order to incorporate the opinions of local residents.
- Almost all schools that are planning relocation have already decided on their reconstructing plans, etc. Some of them are considering improvement of school facilities as the center of the local community with disaster prevention functions or construction of a complex with other facilities or parallel establishment of school facilities and other facilities. Other schools position their schools as the core of the community and are promoting their reconstructing plan in a unified manner as a part of town development.
- Many of the challenges for relocation of school facilities involve negotiations for and acquisition of land. There were examples such as failure to reach agreement with the land owner due to disagreement on the land price and time-consuming procedure due to existence of multiple land owners.

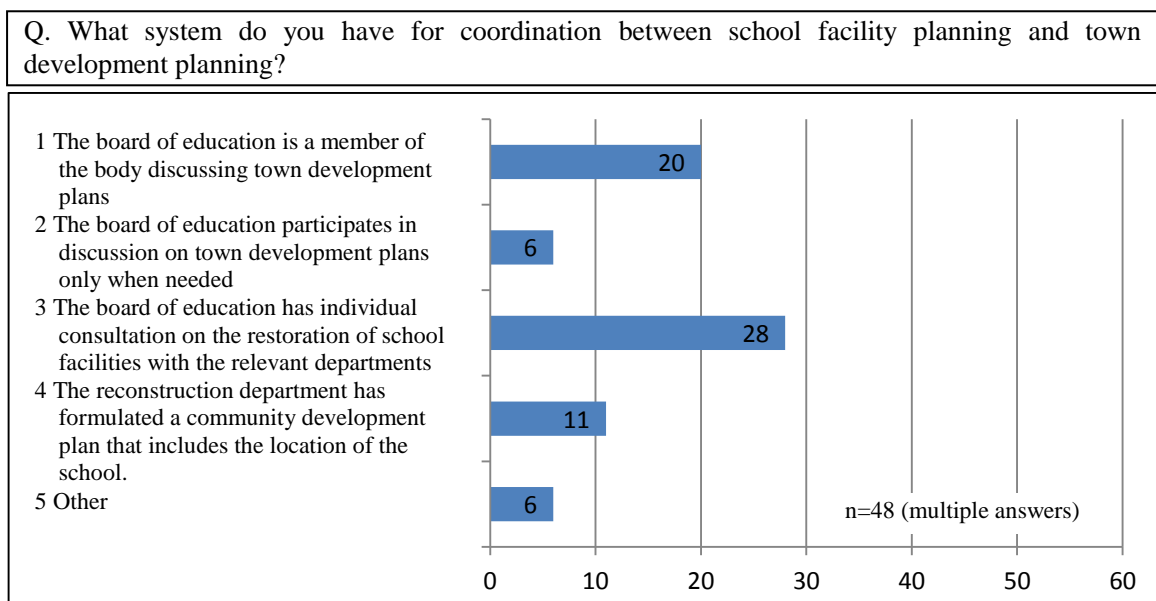
## 1) School facility reconstructing plans and town development

### i) Status of school facility reconstruction plans

- At the point of the questionnaire survey, 38 schools were considering relocation, two schools were considering reconstruction, etc. at the current site, four schools were considering the use of the school building of their consolidation partner, five schools had restored the old school building or reconstructed facilities at the site of consolidation, and four schools were yet to decide on a policy.
- Among 48 schools excluding the schools that had restored the old school building or reconstructed facilities at the site of consolidation, 13 schools were considering unified elementary and lower secondary education or joint establishment of elementary and lower secondary schools.

### ii) Coordination system between school facility reconstructing plans and town development planning

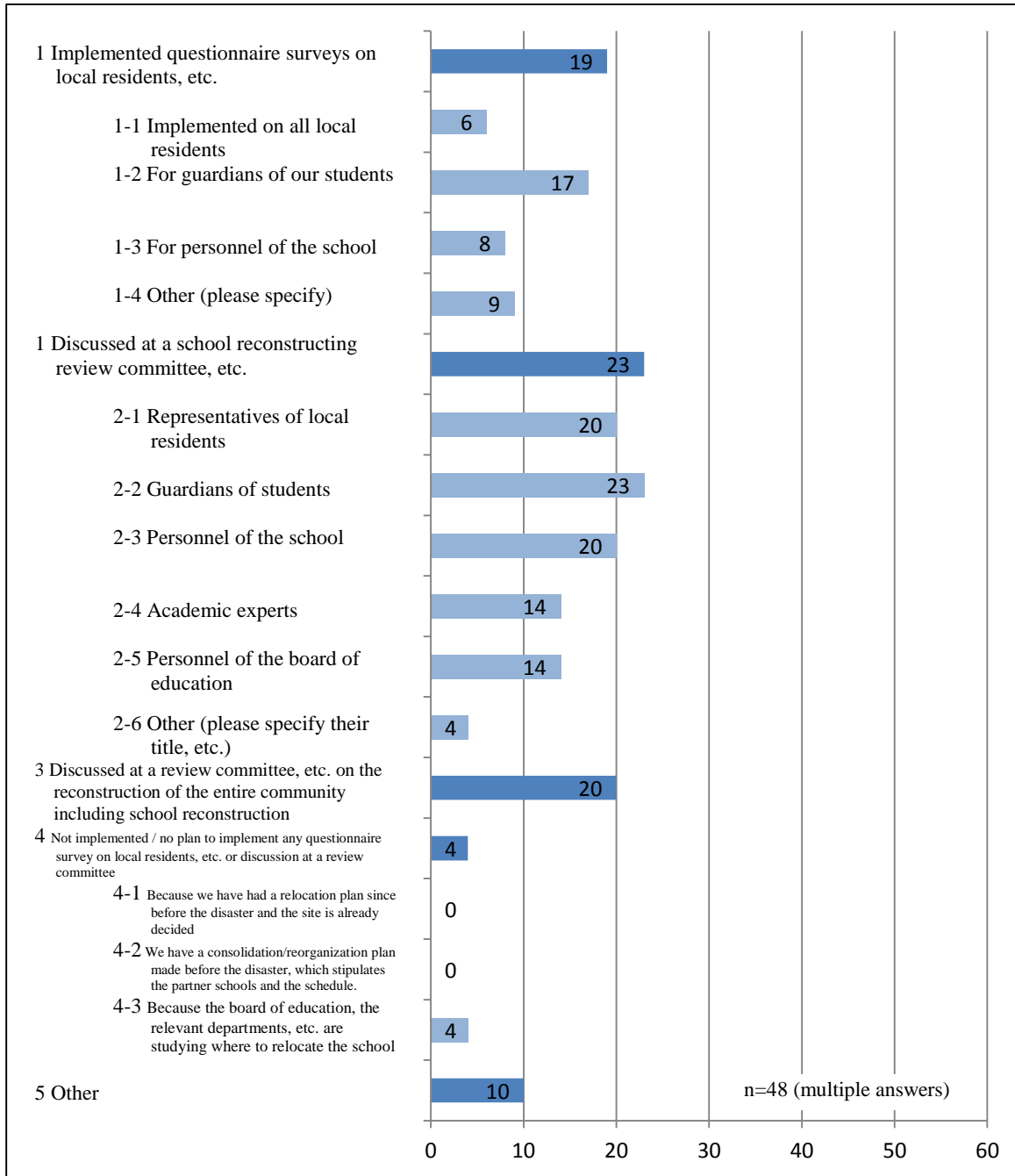
- While studying plans to reconstruct their school facilities, all 53 schools considering relocation, etc. after suffering damage caused by the tsunami have built a coordination system with a town development plan including participation of the board of education in the body discussing town development plans and individual discussions with the relevant department.
- For 11 schools, the reconstruction departments had formulated town development plans that included the location of the schools.



### iii) Implementation status of stakeholder survey, review committee, etc.

- 19 schools implemented questionnaire surveys on local residents in the process of deciding on their facility reconstruction plans, etc.
- 23 schools set up a school reconstruction review committee, etc., where representatives of local residents, guardians, academic experts and other members participate in discussion.
- There was a case where the town development department and the school establisher cooperated to implement a questionnaire survey for town development including school reconstruction.
- In some interview surveys, efforts were contrived by examining the results of the questionnaires followed by another survey with expanded targets, in order to accurately understand residents' intentions.

Q. How do (or will) you incorporate local residents' opinions in the decision on the school facility reconstructing policy?



**iv) Consideration of construction of a complex or parallel establishment with other facilities**

- 20 schools were planning strengthening of disaster prevention functions as the center of the community. Five schools were planning construction of a complex or parallel establishment with a day-care center, children's clubs for after school activities, space for community cooperation or other facilities.
- Through the interview surveys we found many schools trying to create an attractive school as a measure to maintain the school and the community. They are planning development of distinctive schools featuring unified elementary and lower secondary education or joint establishment of elementary and lower-secondary schools, cooperation with a day-care center, development of functions as the center of the local community, for example.

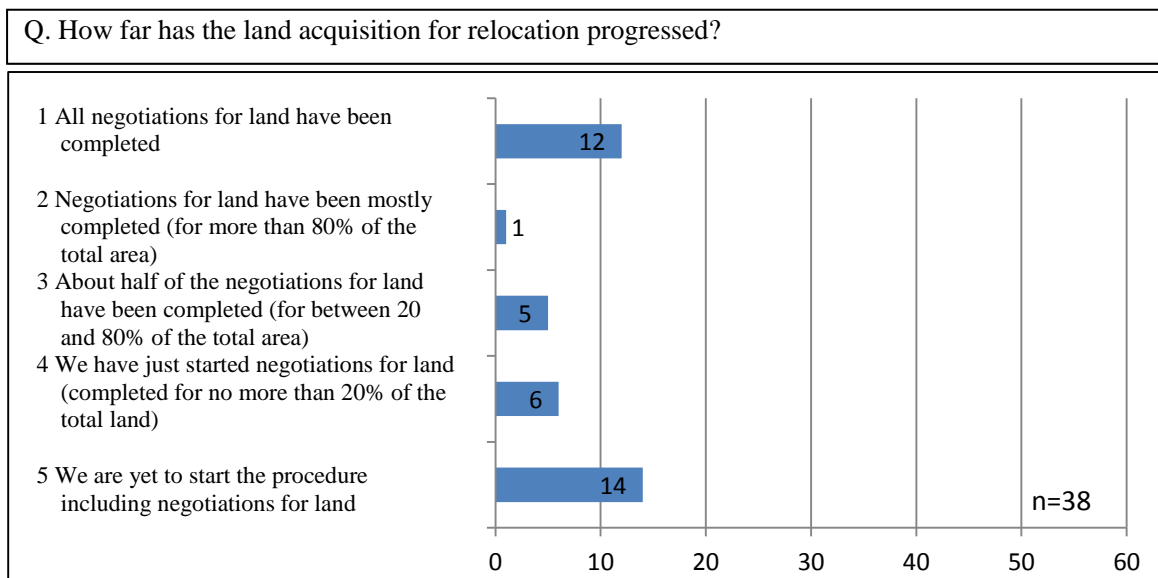
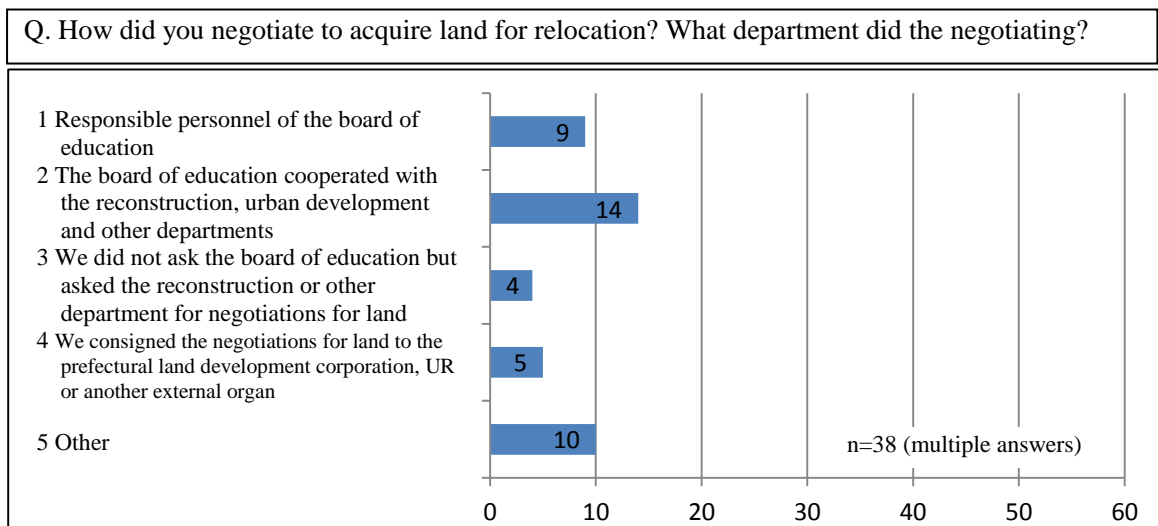
## 2) Progress of school facility relocation plans, etc.

### i) Decision on the relocation site

- At the time of the questionnaire survey, 13 schools had decided on a relocation site including its scope, 19 schools had decided on a relocation site but not on its scope, and 6 schools had candidate sites but had not yet made a decision. Three schools were planning school facility relocation in an integrated manner as a part of a collective disaster prevention relocation project, and eight schools as a part of a land readjustment project.
- The interview surveys found plans that were advanced separately from a land readjustment project involving a large-scale land formation in order to ensure early construction of disaster public housing and school reconstruction.

### ii) Status of negotiations for and acquisition of land

- Many schools made negotiations for land acquisition in cooperation with relevant departments. Eight schools made negotiations through the board of education, 14 through cooperation of the board of education and the reconstruction department, and 10 schools asked the reconstruction department, the Urban Renaissance Agency, or another organization, rather than the board of education, to do negotiations for them.
- 12 schools had already completed negotiations for land at the time of the questionnaire survey.
- Many schools stated negotiations for and acquisition of land as the challenges for relocation of school facilities. Specifically, they cited as problems failure to obtain consent of the land owner due to disagreement on the land price, time-consuming procedure due to existence of multiple land owners, for example.



#### 4. Dispatching experts to local governments planning relocation of school facilities

##### (1) Request for support from Ishinomaki City

At the request of Ishinomaki City the Working Group dispatched school and town development experts in order to draw up basic plans for two schools before the end of 2015.

##### 1) School reconstruction plan and review system of Ishinomaki

- The city is conducting restoration and development of school facilities devastated by the Great East Japan Earthquake based on the “Disaster Recovery and Reconstruction Plan for Ishinomaki Municipal Schools” (formulated in March 2012.)
- Based on the plan it was decided to draw up basic plans for two schools (Watanoha Lower Secondary School and a group of elementary and lower secondary schools in Ogatsu district) among schools needing relocation due to tsunami damage before the end of FY2015.

[Watanoha Lower Secondary School]

Planning relocation to an inland area before the end of FY2016

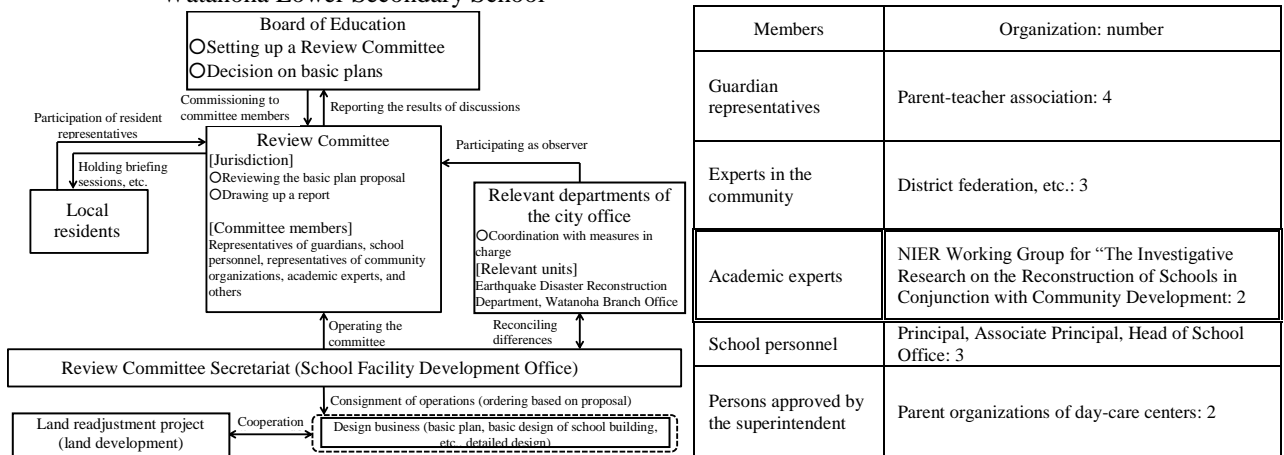
[Integrated elementary and lower secondary schools in Ogatsu district]

Planning relocation of three elementary and two lower secondary schools as a joint establishment of elementary and lower-secondary schools.

- For review of the basic plans, Ishinomaki City set up a basic construction plan review committee (“Review Committee”) consisting of representatives of guardians and community organizations, academic experts, school personnel and others to discuss the development of a new school.

[Watanoha Junior High School]

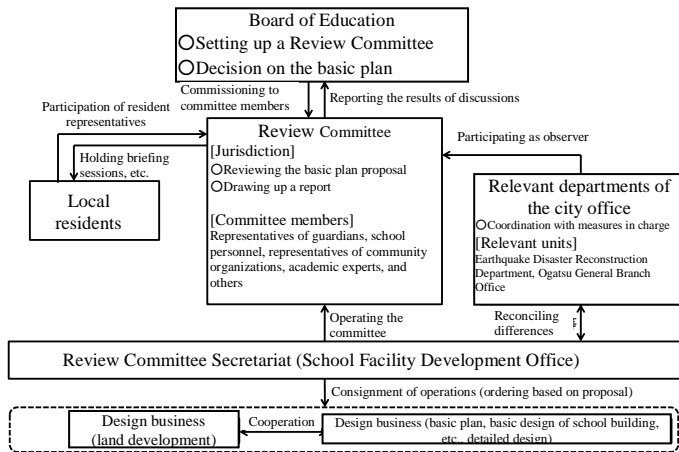
Organization chart for construction of Watanoha Lower Secondary School



Members	Organization: number
Guardian representatives	Parent-teacher association: 4
Experts in the community	District federation, etc.: 3
Academic experts	NIER Working Group for “The Investigative Research on the Reconstruction of Schools in Conjunction with Community Development: 2
School personnel	Principal, Associate Principal, Head of School Office: 3
Persons approved by the superintendent	Parent organizations of day-care centers: 2

[Integrated elementary and lower secondary schools in Ogatsu district]

Organization chart for construction of the integrated elementary and lower secondary schools in Ogatsu district



Members	Organization: number
Guardian representatives	Parent-teacher association: 4
Experts in the community	District association, etc.: 3
Academic experts	NIER Working Group for “The Investigative Research on the Reconstruction of Schools in Conjunction with Community Development: 2
School personnel	Principals: 4
Persons approved by the superintendent	Parent of preschool children: 1

2) Request from Ishinomaki City

- To study the basic plans for the schools that will relocate their facilities, the city asked for advice and technical support concerning the scale, functions, contents, etc. of the facilities based on their town development plans and from the viewpoints of school construction and post-earthquake town development respectively.
- Upon request of the city, the Working Group decided to send two members: Satoru Nagasawa, Professor at Toyo University, who is a school construction specialist, and Yasuaki Onoda, Professor at Tohoku University, who is a town development specialist.

3) Schedule

- The Review Committee held its first meeting in June 2013 toward compilation of the basic plan in December 2013 in order to start designing before the end of the fiscal year.

[Watanoha Lower Secondary School]

- FY2013: Developing the basic plan for construction
- FY2013-2015: Land readjustment project
- FY2013-2014: Architectural design
- FY2015-2016: Construction work
- FY2017: Scheduled start of service

[Integrated elementary and lower secondary schools in Ogatsu district]

- FY2013: Developing the basic plan for construction
- FY2013-2014: Measurement and survey, land forming design, architectural design
- FY2014-2015: Land forming work
- FY2015-2016: Construction work
- FY2017: Scheduled start of service

(2) Support for Ishinomaki City

Working Group Member Satoru Nagasawa was elected to head the Review Committees of the two schools and took the lead in compiling basic plans by providing advice illustrated by case examples on how to conduct discussions from the viewpoints of school construction and town development.

## 1) Advice on how to conduct discussions

- Keeping in mind the importance of incorporating the thoughts of guardians, community representatives, school personnel and other members of the committee as much as possible, suggestions on ways to conduct discussions in an easy-to-understand manner by preparing development policies and essential features, for example, were held and this proposal was implemented.
  - Preparation of the development policy of the basic plan
    - Compiling a development policy showing the direction of the discussion of the basic plan by reference to education policies, requests from the community and other matters
    - i) Purpose of the basic plan
    - ii) Concept of school development (education, community and disaster prevention)
    - iii) Development policy (functionality, barrier-free design, operation and maintenance, symbol of the community)
    - iv) Planning policy (functions necessary for the school based on the concept and the development policy)
    - v) Consistency with the town development plan
    - vi) Size of the facilities and schedule
  - Preparation of the essential features of the basic plan
    - The essential features of the basic plan were compiled by conducting discussions in an easy-to-understand manner in order to incorporate the thoughts of members, while all parties confirmed the complete picture of the basic plan.
    - i) Purpose of the basic plan
    - ii) Coordination with upper level plans
    - iii) Current status of the elementary and junior-high schools in the area
    - iv) Concept of school development
    - v) Planning policy
    - vi) Necessary rooms
    - vii) Considerations for construction
    - viii) Outline of the development plan
    - ix) Project schedule
- With the recognition that involvement of non-member school officials and children was also important, setting up of public meetings and other forums was proposed and implemented.
  - Because schools are places for education, set up forums to exchange opinions with school personnel concerning the goals of and wishes for school development including the nonphysical side.
  - Hold workshops to think about school development together with children who will play important roles in the community.
- It was also proposed to create an environment to incorporate all opinions of committee members, and a forum of group discussion was set up.
  - Second session of the Review Committee: discussion on “The school we aspire to develop”
  - Third session of the Review Committee: discussion on “Necessary rooms”

## 2) Advice from the viewpoint of school construction

- Information was provided incorporating case examples to facilitate an image of school

development. At the 1<sup>st</sup> session of the committee, Satoru Nagasawa gave a lecture on “recent examples of elementary and lower secondary school development” to set the stage for discussion on school development.

- Examples of local community participation
- Examples of unified elementary and lower secondary education schools
- Examples of development of distinctive schools

### **3) Advice from the viewpoint of reconstruction of schools in conjunction with community development**

- Working Group Member Yasuaki Onoda, who had been party to Ishinomaki City Reconstruction and Town Development Plan from the very beginning, provided advice and information on the progress of the town development plan and consistency of the plans in order to facilitate discussion on school development.

- Contents, progress, etc. of tsunami countermeasure projects, program to relocate houses, etc. and land readjustment projects
- Examples in other local governments

### **4) Advice on selection of designers**

- A method to select designers who can handle difficult issues including site conditions and school reconstruction was suggested and adopted.

- Suggestion of a proposal method for decision based on assessment of technical capability

### **(3) Outline of basic plans**

Based on the advice of the school and town development experts, the review committee compiled basic plans for the new schools after six sessions of discussion by representatives of guardians and community organizations, academic experts, school personnel and other members.



# 1) Outline of the basic plan for the construction of Watanoha Lower Secondary School

(Website of Ishinomaki City: Basic plan for the construction of Watanoha Lower Secondary School)

<http://www.city.ishinomaki.lg.jp/cont/20102000/5075/20131022170438.html>

Outline of the basic plan of the construction of Watanoha Lower Secondary School draft  
(Create a fun and dream-inspiring school together with the community)

## Disaster Recovery and Reconstruction Plan for Ishinomaki Municipal Schools

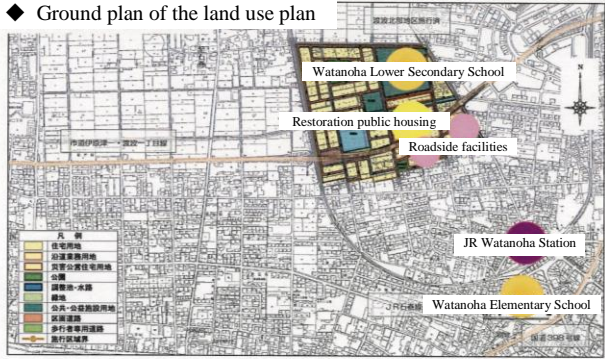
- Repair the existing school buildings of Watanoha Elementary School to start their use before the end of FY2013
- Construct new school buildings in an inland area to relocate Watanoha Lower Secondary School before the end of FY2016.

## Content of the basic plan (preliminary draft)

Concept of the school development	Planning policy	Necessary rooms
<ul style="list-style-type: none"> <li>○ School with an effective education environment symbolizing the reconstruction of the district</li> <li>○ School enabling vigorous sports activities transmitting our tradition to the future</li> <li>○ School that is the center of community development and open to the community</li> <li>○ School that protects children and local residents from disasters</li> </ul>	<ul style="list-style-type: none"> <li>○ Response to diversifying education contents                             <ul style="list-style-type: none"> <li>• Develop an ICT environment</li> <li>• Enable investigative learning</li> </ul> </li> <li>○ Sufficient facilities for sport activities                             <ul style="list-style-type: none"> <li>• Develop a gymnasium / martial arts hall that can be used for multiple sports</li> <li>• Create a space for practicing many club activities by effectively using the limited space</li> </ul> </li> <li>○ Facilities open to local residents</li> <li>○ Facilities to raise awareness of the global environmental problems</li> <li>○ Facilities in harmony with the new</li> </ul>	<ul style="list-style-type: none"> <li>○ Collaboration with the community                             <ul style="list-style-type: none"> <li>• Community use of library, computer room, gymnasium, playground, multipurpose room, and other facilities</li> </ul> </li> <li>○ Shelter of the community                             <ul style="list-style-type: none"> <li>• Gymnasium, stockpile storage, toilet, etc.</li> </ul> </li> <li>○ Sport activities                             <ul style="list-style-type: none"> <li>• Space for casual activities for physical fitness, etc.</li> </ul> </li> </ul>
<b>Points of attention in construction</b> <ul style="list-style-type: none"> <li>• Barrier-free facilities</li> <li>• Reduce the maintenance and operation cost</li> <li>• Harmony with the surrounding environment (new and old communities, day-care centers, etc.)</li> </ul>		
<b>Outline of the development plan</b> <ul style="list-style-type: none"> <li>• Roughly the area of the school before the disaster (about 5,800m<sup>2</sup>)</li> </ul>	<b>Matters necessary for effective utilization of the facilities</b> <ul style="list-style-type: none"> <li>• Specific study of distinctive education activities</li> <li>• Develop a system for children to be nurtured by the entire community</li> </ul>	

Opening of the school: scheduled in April 2017

## [Reference material] Outline of the land readjustment project for reconstruction of the afflicted urban area of new Watanoha District

<p>◆ Project overview</p> <p>[Project name] Ishinomaki Extensive City Planning Project Land readjustment project for reconstruction of the afflicted urban area of new Watanoha District of Ishinomaki</p> <p>[Project executor] Ishinomaki City</p> <p>[Project area] 17.8ha</p> <p>[Project period] From FY2012 to FY2018</p> <p>■ Purpose of the project Because there are areas facing a high risk of tsunami damage on the coast in light of the huge tsunami after the Tohoku-Pacific Ocean Earthquake on March 11, 2011, the city plans a collective relocation of citizens living in the area to an inland area. Based on the policy above, the project aims to develop a good and sound urban area for relocation of the citizens who have no choice but to move.</p> <p>Project schedule (draft)</p> <ul style="list-style-type: none"> <li>- December 28, 2012: Decision on the project plan</li> <li>- April 2013: Start of the site preparation</li> <li>- From the second term of FY2014: Start of housing supply in series</li> <li>- End of FY2014: Start of living in restoration public housing</li> <li>- by FY2015: Completion of major construction works</li> <li>- FY2017: Opening of the lower secondary school is scheduled</li> </ul> <p>*Construction work will start from the south side of the channel.</p>	<p>◆ Ground plan of the land use plan</p>  <p>Project overview</p> <ul style="list-style-type: none"> <li>- Planned population: 720</li> <li>- Planned number of houses: 271 (220 detached houses and 51 restoration public housings)</li> <li>- Total road length: about 5.8km (City Road Iharazu 1-Watanoha 1 Route, 9m/6m district roads and 4m pedestrian paths)</li> <li>- Land for residential use: about 6.7ha (including existing houses)</li> <li>- Business premises along the roads</li> <li>- Land for restoration public housing: about 1.3ha</li> <li>- Land for the Lower Secondary School: about 2.0ha</li> <li>- Land for day-care centers: about 0.4ha</li> <li>- Land for parks and other open spaces: about 1.0ha</li> <li>- Land for reservoirs and channels: about 1.1ha</li> </ul>
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## 2) Outline of the basic plan for construction of Integrated elementary and lower secondary schools in Ogatsu district

(Website of Ishinomaki City: basic plan for construction of integrated elementary and lower secondary schools in Ogatsu district)

<http://www.city.ishinomaki.lg.jp/cont/20102000/5075/20131022153831.html>

Outline of the basic plan of the construction of the integrated elementary and lower secondary schools in Ogatsu district (draft)  
(Project Ogatsu - Treasure box of hope for the future)

### Disaster Recovery and Reconstruction Plan for Ishinomaki Municipal Schools

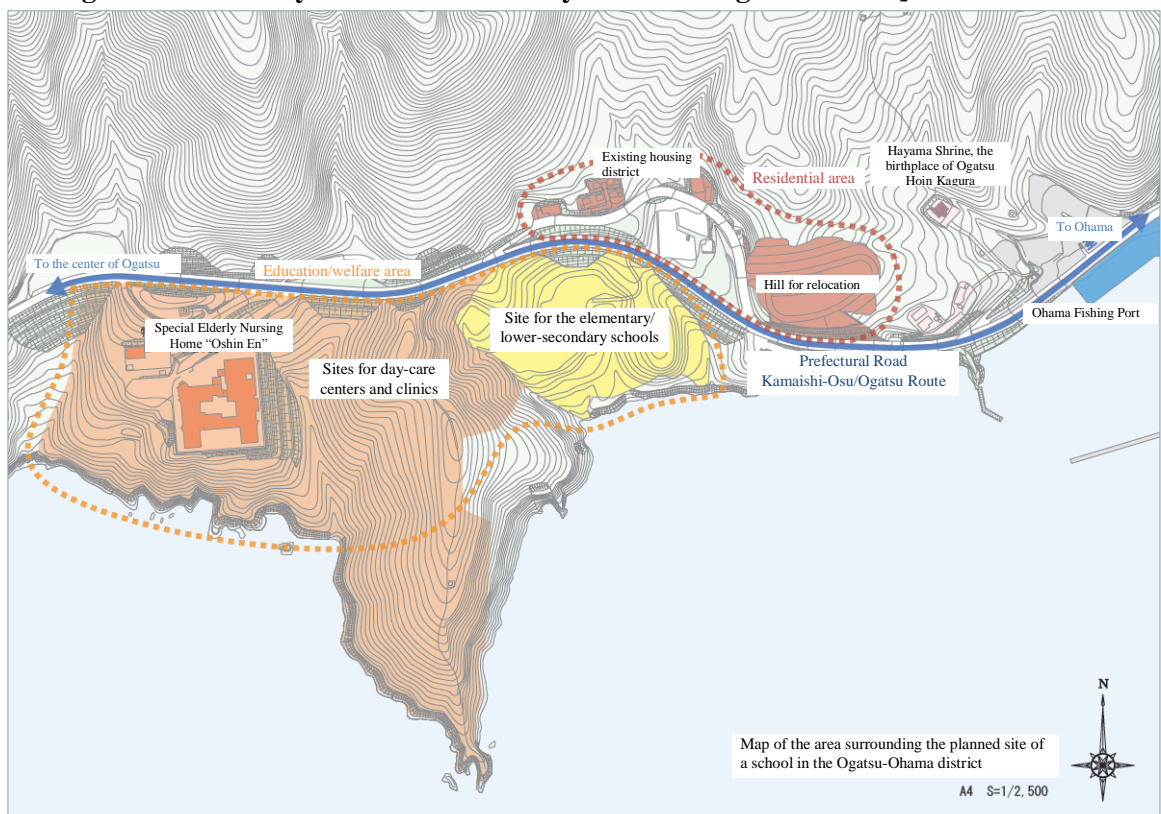
- Ogatsu and Funakoshi Elementary Schools will be merged into Ogatsu Elementary School in April 2013.
- The Ogatsu Elementary School after the merge and Ogatsu Lower Secondary School will be merged into a joint establishment of elementary and lower-secondary schools in Ohama District.
- When opening the joint establishment, Osu Elementary and Osu Lower Secondary School will be merged.

### Content of the basic plan (preliminary draft)

Concept of the school development	Planning policy		Necessary rooms
<ul style="list-style-type: none"> <li>○School with an effective education environment symbolizing the reconstruction of the district</li> <li>○School serving as a model of elementary and lower-secondary school cooperation taking advantage of the small scale</li> <li>○School that values the history, culture and natural environment of the community and advances together with the community</li> <li>○School that protects children and local residents from disasters</li> </ul>	<ul style="list-style-type: none"> <li>○Response to diversifying education contents                             <ul style="list-style-type: none"> <li>• Develop an ICT environment</li> <li>• Enable investigative learning</li> </ul> </li> <li>○Education consistent through 9 years of compulsory education                             <ul style="list-style-type: none"> <li>• Classroom arrangement enabling interaction between students of different grades</li> <li>• Shared use of teachers' offices and other rooms</li> </ul> </li> <li>○Facilities open to local residents</li> <li>○Facilities to raise awareness of the global environmental problems</li> <li>○Harmony with the surrounding environment</li> </ul>	<ul style="list-style-type: none"> <li>○Nurture children by the whole community                             <ul style="list-style-type: none"> <li>• Develop a space where students together with people of the community can learn how to perform kagura and drumming and nature in Ogatsu</li> <li>• Develop a center of school support volunteers and other activities</li> </ul> </li> <li>○Facilities with disaster prevention functions                             <ul style="list-style-type: none"> <li>• Earthquake-resistant structural and nonstructural members</li> <li>• Develop functions as shelter of local residents</li> </ul> </li> <li>○Ensure safety and security of students</li> </ul>	<ul style="list-style-type: none"> <li>○Interaction between students of different grades                             <ul style="list-style-type: none"> <li>• Multipurpose room, library, computer room, etc.</li> </ul> </li> <li>○Cooperation among teachers                             <ul style="list-style-type: none"> <li>• Teachers' office, meeting rooms</li> </ul> </li> <li>○Collaboration with the community                             <ul style="list-style-type: none"> <li>• Community use of library, computer room, gymnasium, playground, multipurpose room and other facilities</li> </ul> </li> </ul>
<b>Points of attention in construction</b> <ul style="list-style-type: none"> <li>• Barrier-free facilities</li> <li>• Reduce the maintenance and operation cost</li> <li>• Facility development with clinics, day-care centers and nursing homes in mind</li> </ul>			
<b>Outline of the development plan (rational and compact)</b> <ul style="list-style-type: none"> <li>• Roughly the area of the Osu Elementary school (about 3,000m<sup>2</sup>)</li> </ul>	<b>Matters necessary for effective utilization of the facilities</b> <ul style="list-style-type: none"> <li>• Specific study of education activities based on the characteristics of a small school</li> <li>• Develop a system to nurture children by the entire community</li> </ul>		

Opening of the school: scheduled in April 2017

### [Reference Material] Map of the areas surrounding the planned construction site of the integrated elementary and lower secondary schools in Ogatsu district]



### 3) List of the sessions of the Basic Construction Plan Review Committee

(Website of Ishinomaki City: Basic Construction Plan Review Committee of Watanoha Lower Secondary School)

<http://www.city.ishinomaki.lg.jp/cont/20102000/5075/20131022170438.html>

(Website of Ishinomaki City: Basic Construction Plan Review Committee of integrated elementary and lower secondary schools in Ogatsu district)

<http://www.city.ishinomaki.lg.jp/cont/20102000/5075/20131022153831.html>

Session	Date	Agenda
1 <sup>st</sup> Session	June 6, 2013	- Election of Chair and Vice-Chair - Review system and schedule of the basic plans - Present state of the schools - Basic plan development policy (draft)
2 <sup>nd</sup> Session	July 8 and 9, 2013	- Basic plan development policy (draft) Group discussion
3 <sup>rd</sup> Session	August 7 and 8, 2013	- Basic plan development policy - Necessary rooms Group discussion
Opinion exchange	September 2 and 3, 2013	- Opinion exchange with school personnel
4 <sup>th</sup> Session	September 30 and October 1, 2013	- Essential features of the basic plan (draft) - Review of necessary rooms
Opinion exchange	October 5 and 14, 2013	- Opinion exchange with elementary and lower secondary school students (Workshop)
5 <sup>th</sup> Session	November 9 and 10, 2013	- Report of the opinion exchange sessions - Basic plan (preliminary draft)
Briefing session for guardians, etc.	November 27 and 29, 2013	- Explanation of the Basic plan (preliminary draft) Questions and answers
6 <sup>th</sup> Session	December 13 and 14, 2013	- Briefing session on the Basic plan (preliminary draft) for guardians, etc. - Basic plan (draft) Compilation
Report to the Superintendent of Education	December 24, 2013	- Report of the Basic plan (draft) by Chairman Satoru Nagasawa of the Basic Plan Review Committee
Deliberation by the Board of Education	December 26, 2013	- Deliberation of and decision on the Basic plan (draft)

## **5. Identified issues and countermeasures**

Reconstruction from tsunami damage after the Great East Japan Earthquake should not to be discussed uniformly because there are differences in site conditions and human and material damage among the afflicted areas. However, we sorted major issues and countermeasures identified in the efforts for reconstruction of schools in conjunction with community development based on the questionnaire survey of 53 public schools that were considering relocation, etc. of their facilities due to tsunami damage of the Great East Japan Earthquake, the interview surveys carried out for five schools that answered in the questionnaire survey that they had decided on a relocation plan, etc. and the knowledge obtained through the dispatch of the school and town development experts upon request of Ishinomaki City.

### **(1) Issues and countermeasures at the time of school resumption**

#### **1) Selection of temporary place for resumption**

- It was difficult to secure a sizable amount of safe land for temporary school facilities and houses because the tsunami damage spread across a wide area on the coast and the area includes rias coasts with little flat land. Consequently, in some communities temporary housing, etc. are distant from places where schools are resumed, while temporary housing, etc. are widely dispersed in others, which made it difficult for schools to secure a means of commuting.
- The surveys revealed the need for cooperation with the department that selects the site for temporary housing, etc. because commuting conditions were important in addition to the area of indoor space when selecting the place for school resumption. In light of the above, in the regions with the risk of large-scale tsunami damage, it is important for the school establishers to cooperate with the disaster prevention and housing departments to make prior studies in preparation for a future disaster so that they would be able to promptly secure land for temporary school facilities and temporary housing.

#### **2) Temporary school facilities**

- Schools suffering enormous damage caused by the tsunami have borrowed space or developed emergency temporary school buildings to resume education. Emergency temporary school buildings have problems in their indoor environment, including noise and temperature/humidity adjustment.
- The relocation, etc. of school facilities are expected to take more time, accompanied by the issue of prolonged education activities in borrowed spaces or emergency temporary school buildings.
- The surveys revealed that it would take a long time to reconstruct a school after tsunami damage. Therefore, it is important for the school establishers to make prior studies for emergency school resumption in preparation for a future disaster.
- Specifically, for development of an emergency temporary school building it is necessary to make prior studies so as to ensure an appropriate education environment including noise and temperature/humidity.

## **(2) Issues and countermeasures in reconstruction of schools in conjunction with community development**

### **1) Relationship between school and town development**

- For reconstruction of a community where relocation, etc. of school facilities are necessary due to huge damage caused by the tsunami, some schools and town development departments cooperate to carry their reconstruction plans forward based on the opinion of guardians and local residents, who say, "Our new place of life depends on where the schools will be reconstructed."
- Though the procedure of reconstruction varies depending on the damage, site conditions, etc., some local governments have established a new system for reconstruction instead of using the existing system of schools and town development departments.
- In other cases school establishers assumed strong leadership to promptly advance reconstruction projects by grasping the damage, studying necessary safety measures and ways for early reconstruction and carrying out opinion surveys, etc. of local residents and developing reconstruction plans in cooperation with the town development department.
- Through our surveys, we found that schools are essential for developing people who will carry a vital role in maintaining local communities. In light of the above, it is important for the school establishers of the region at risk of large-scale tsunami damage to cooperate with the disaster prevention and town development departments to further strengthen their cooperation and make studies of disaster prevention plans, etc.

### **2) School and town relocation plans**

- Relocation plans including schools have the problem of a time-consuming process of land acquisition for relocation and land readjustment projects.
- In some cases, the acquisition of land for disaster public housings and schools is advanced separately from land readjustment projects based on a decision that early reconstruction of housing and schools is necessary in order to enable residents to stay in the area and reconstruct the local community.
- There are many examples of making efforts to create attractive schools for regeneration of the schools and the community. Concrete policies include unified elementary and lower secondary education, joint establishment of elementary and lower secondary schools, cooperation with day-care centers, strengthening of the functions as a disaster protection center and the development of functions for community use of facilities so as to create distinctive schools.
- Through the surveys we found efforts for school reconstruction to facilitate regeneration of local communities. In light of the above, it is necessary for the town development departments and school establishers to cooperate to develop school facilities not only as an attractive place of education but also as the center of the local community.

### **3) Participation of experts and the process of school facility development**

- Rather than simple restoration, schools to relocate their facilities due to tsunami damage need to create new schools that meet diverse needs, which is linked to town development. For this purpose, it is effective to use professional expertise from the early stage, but school establishers have few personnel with necessary expertise. Our surveys found that there were not many cases of involvement by school construction and town development experts at the stage of reconstruction planning.
- In Ishinomaki City, to which the Working Group dispatched experts, the involvement of school construction and town development experts at the stage of studying basic plans enabled the introduction of a careful process of school facility development that reflected the opinions of a wide range of stakeholders.
- Schools should be reconstructed promptly but it is also important to consider utilizing the knowledge of experts and introducing a process that ensures the participation of stakeholders including local residents when discussing the development of school facilities that will become the center of the community for more than half a century.

### **4) Examination of medium- to long-term development policies for the entire facilities in the jurisdiction**

- Through the surveys, it was found that many schools planning relocation, etc. of their facilities were reviewing the ideal form of the school, including a merger of schools and a transition to unified elementary and lower secondary education. Some schools that moved to a merger due to the disaster took a long time to make a decision on the ideal form of the new school. On the other hand, plans are implemented relatively smoothly in a region where school development plans covering the entire region had been examined establishing a certain level of communication among stakeholders before the disaster.
- It is presumed to be effective also for prompt reconstruction and development that each local government develops a medium- to long-term development policy covering all school facilities in its jurisdiction to ensure accurate response to many issues of school facilities, because it enables prior sorting out of basic development conditions.