



# Community Development for Reconstruction in HigashiMatsushima City

Never forgetting that day and together for the future  
– United HigashiMatsushima

HigashiMatsushima City



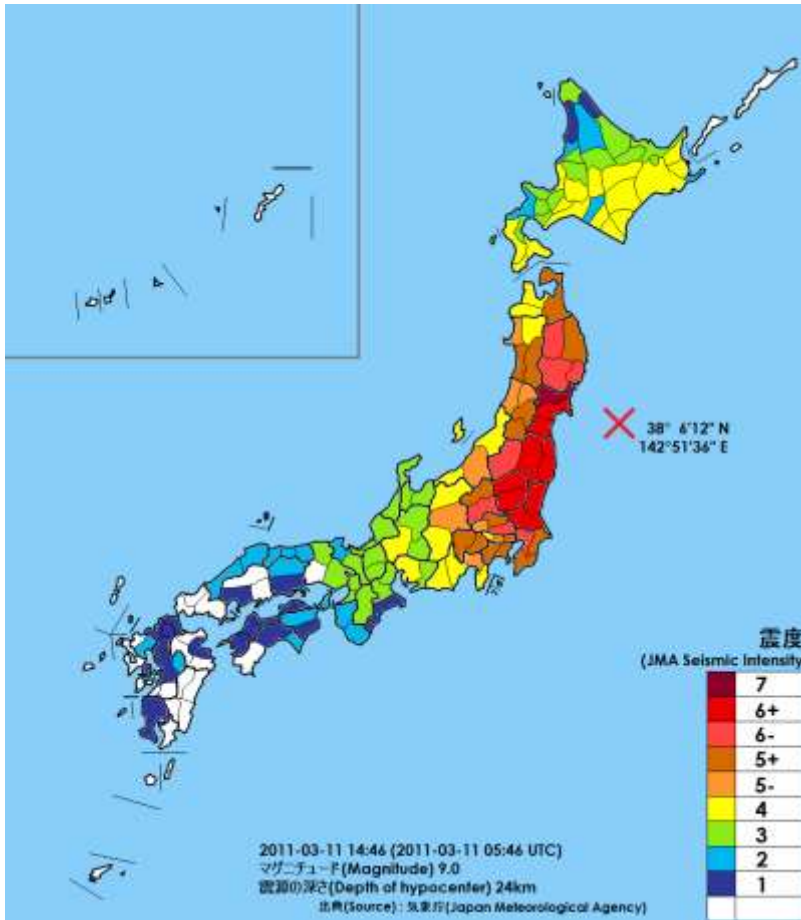
## **Community development for reconstruction in HigashiMatsushima City**

**(1) Outline of damage and reconstruction**

(2) Earthquake and civic collaborative efforts –  
consensus-building among residents

(3) Efforts unique to HigashiMatsushim a City

## The Great East Japan Earthquake & its Damage



Wikipedia(<https://ja.wikipedia.org/>)「東日本大震災」より抜粋

**Occurrence:** March 11, 2011 2:46pm

### **Epicenter & Magnitude:**

Nearly 130km east of the Oshika Peninsula, off the coast of Sanriku

Depth: 24km

Magnitude (Mw): 9.0

### **Seismic Intensity:**

Level 7 (Northern Miyagi Prefecture)

Level 6 (Other 8 prefectures)

### **Tsunami:**

Wave height: More than 10m

Max. run-up height: Approx. 40m

### **Casualties:** as of March 1, 2019

Death toll: 19,689

Number of missing people: 2,563

Number of totally destroyed houses: 121,995

### **Estimated Damage (by Cabinet Office):**

Domestic Damage: Approx. ¥16.9 Trillion

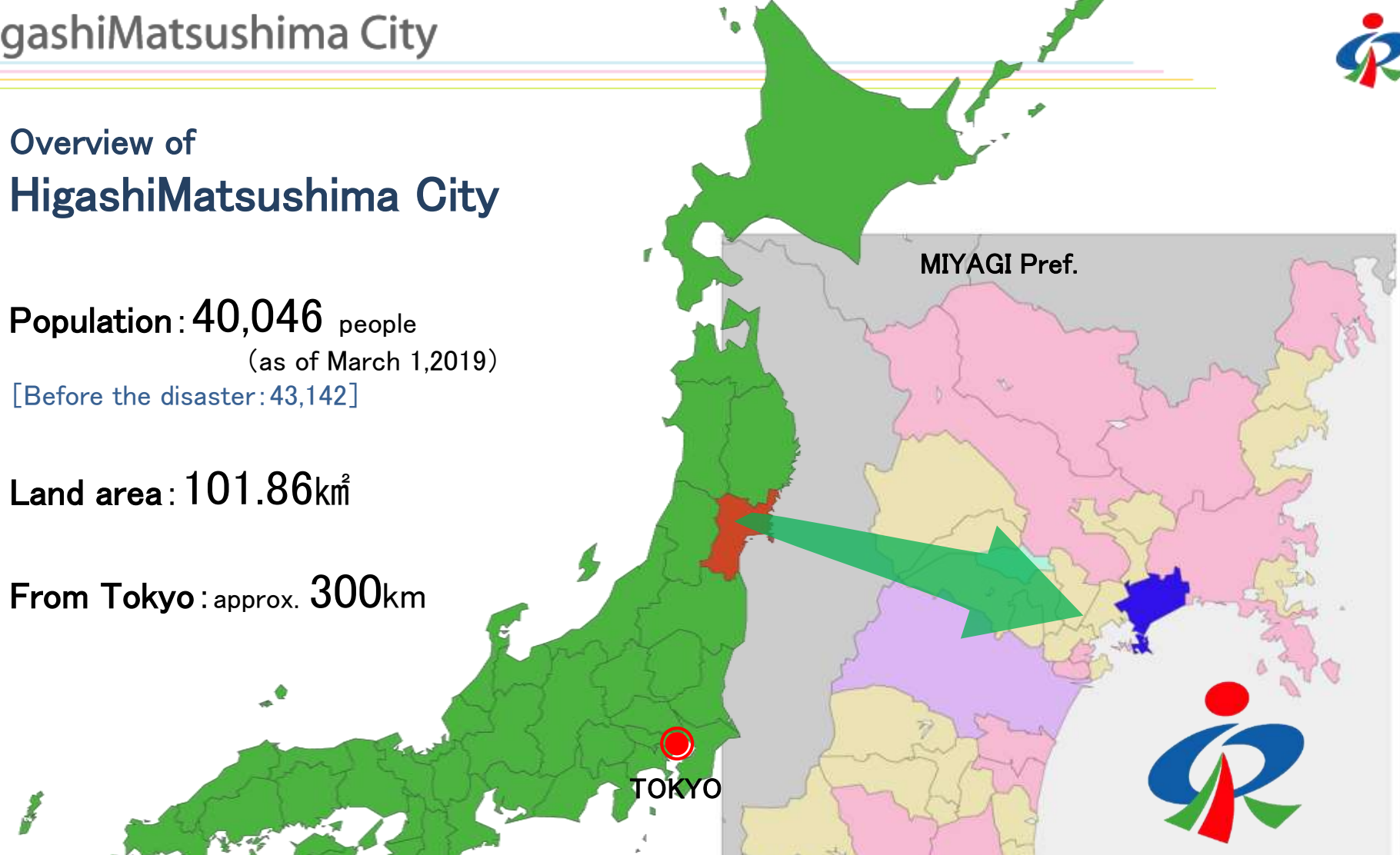


## Overview of HigashiMatsushima City

**Population: 40,046** people  
(as of March 1, 2019)  
[Before the disaster: 43,142]

**Land area: 101.86km<sup>2</sup>**

**From Tokyo: approx. 300km**



## The catastrophic damage caused by the giant tsunami



**Casualties in whole Japan : 19,667 dead 2,556 missing**

**HigashiMatsushima citizens: 1,109 dead 24 missing**

## The Situation in IWATE Prefecture



IWATE Pref.

TOKYO



Partial Opening of SANRIKU Expressway (Jan. 12, 2019)

Photo : Reconstruction Agency Iwate



KAMAISHI UNOSUMAI Memorial Stadium (Aug. 19, 2018)

Photo : KAMAISHI City

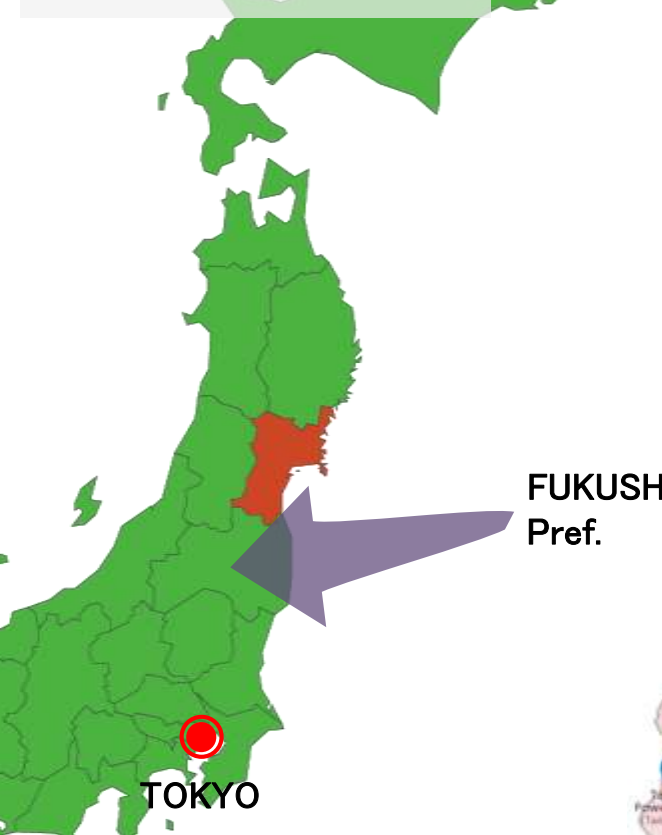


Full Opening of SANRIKU Railway (Mar. 23, 2019)

Photo : [www.sanrikutetsudou.com](http://www.sanrikutetsudou.com)

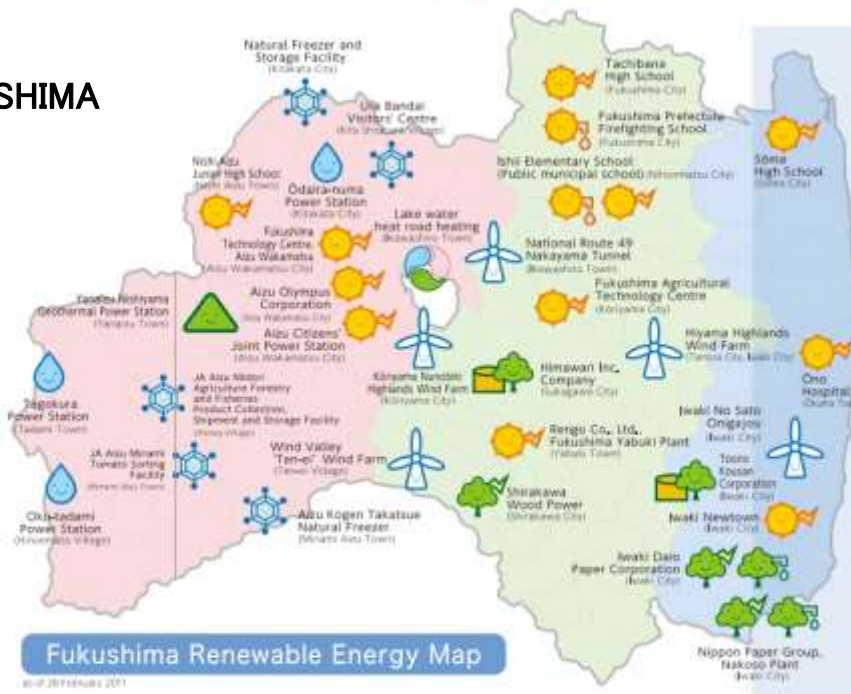
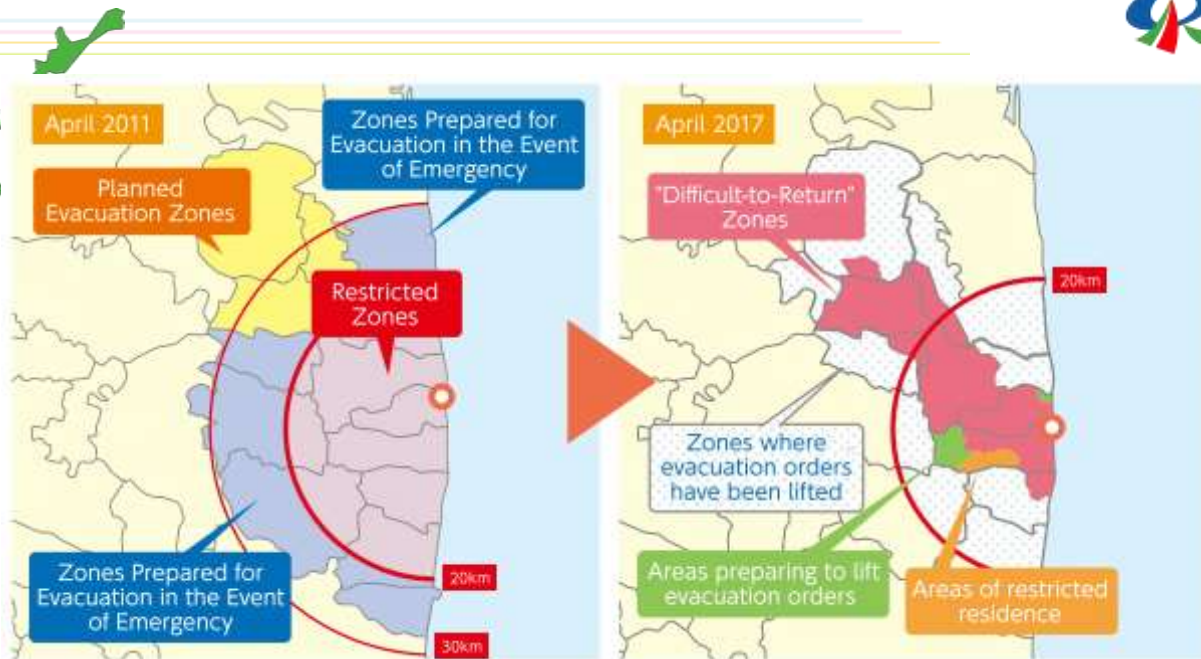


## The Situation in FUKUSHIMA Prefecture



**FUKUSHIMA Pref.**

**TOKYO**



### Core Initiatives for Achieving Fukushima Innovation Coast Vision

With the aim of rebuilding the industrial foundations and employment lost due to the earthquake, tsunami and nuclear power station accident, work is under way to develop new centres of research and industry including centres for research into the decommissioning of the nuclear reactor and robot development as well as experimental and demonstration centres.

Working alongside through  
Academia, industry and business  
Involvement from citizens, schools,  
academia and government

#### Robots

Fostering new robot-centric industries

#### Smart eco-park

Fostering new recycling-based industries

#### Energy

Fostering new industries involving sustainable energy

#### Reactor decommissioning research

Research into the decommissioning of the nuclear reactor and radioactive materials

#### Agriculture, forestry, and fisheries production

Support for the regaining of farms through process innovation



Figures : FUKUSHIMA Pref.

## Damage in HigashiMatsushima

### ● Size of the earthquake

**Date and time of occurrence:** March 11 (Fri.), 2011 at 14:46:18.1

**Epicenter:** Off Sanriku, approx. 130 km east of Oshika Peninsula

**Depth of hypocenter:** approx. 24 km

**Size:** magnitude of 9.0 (on the Richter Scale)

**Seismic intensity in the city:** 6 upper (maximum intensity: 7 in northern Miyagi)

**Tsunami:** amplitude at Nobiru Coast: 10.35 m

(First wave) amplitude at Omagarihama: 5.77 m

**Wetted surface area:** 37 km<sup>2</sup>, which is 36% of the total area of HigashiMatsushima (102 km<sup>2</sup>), was flooded including 8 km<sup>2</sup> residential area, which is 65% of the total residential area (12 km<sup>2</sup>).

### ● Human casualties (city residents)

**Dead:** 1,109

**Missing:** 24

**Total:** 1,133 (3% of the population)

### ● Housing damage

**Totally destroyed:** 5,513 (washed away: 1,264)

**Largely destroyed:** 3,060

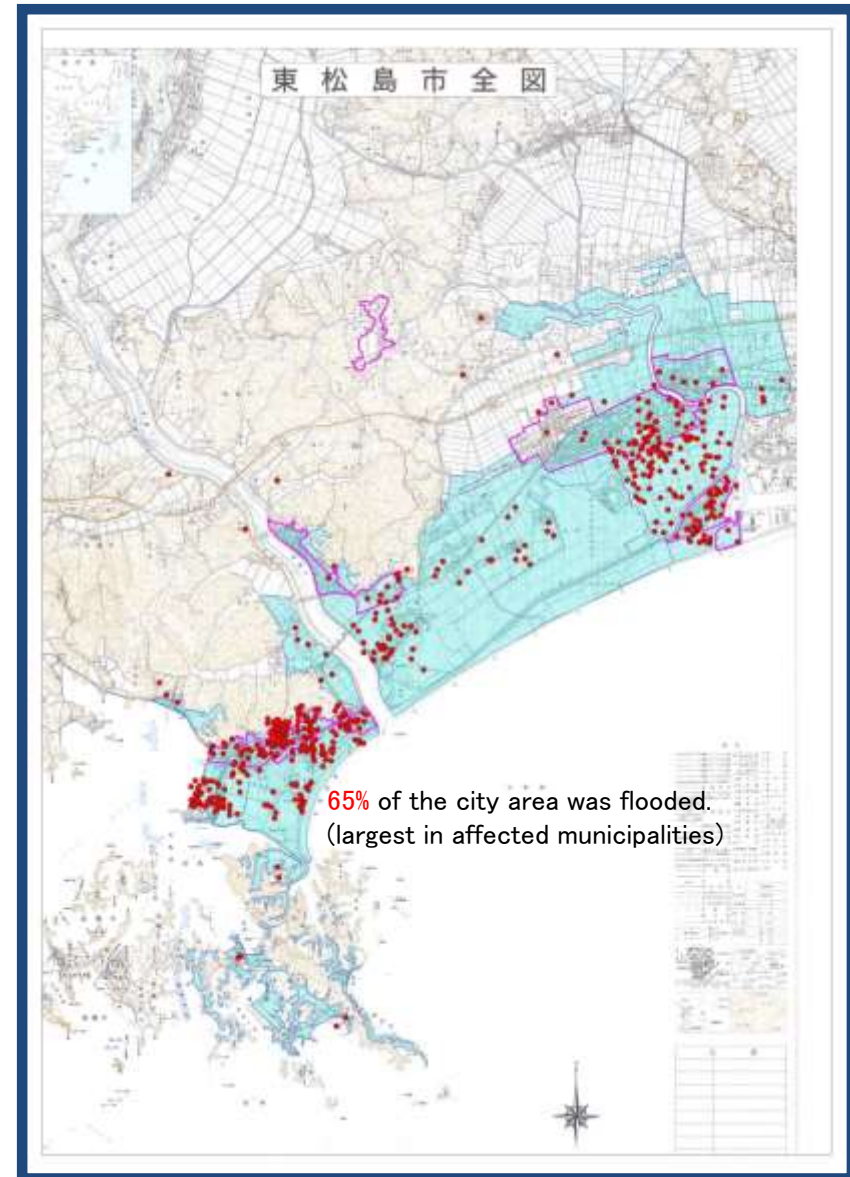
**Partially destroyed:** 2,500

**Total:** 11,073 (73% of all houses)

● **Evacuees (maximum):** 15,185

● **Shelters (maximum):** 106

(all closed as of August 31, 2011)





## The situation immediately after the disaster

- [1] On March 11th, in extremely cold weather conditions due to snowfall, a massive tsunami of over 10 m struck the area.
- [2] There were many hyperacute patients, including hypothermia caused by the tsunami. There was a 5-hour wait for ambulances.
- [3] Gasoline was transferred to the vehicles remaining at the City Office and city employees transported patients.
- [4] There was a flood of requests for blankets, water and food from the shelters, which numbered more than 300 immediately after the disaster. As much as possible was transported by around 250 administration employees.
- [5] The response continued without sleep or rest.
- [6] There was also an extreme shortage of coffins and fresh flowers. Temporary burials were carried out during a time that cremation was not possible.
- [7] There was a flood of inquiries to confirm the safety of people and from the national government, the prefecture and the mass media. It became impossible to use the small number of wireless and satellite telephones there was.
- [8] Goods slowly started to arrive from the fourth day, but there was a deviation to the goods required. There was a shortage of warehouse space, a shortage of people to unload goods and no way to distribute goods.
- [9] The electricity and water supplies were cut off.



# Recovery and reconstruction guidelines issued 1 month after the disaster



April 11, 2011

Guidelines for the recovery and reconstruction of HigashiMatsushima City from the Great East Japan Earthquake

Mayor of HigashiMatsushima City

On March 11th, HigashiMatsushima City lost a great many precious lives due to the Great East Japan Earthquake. Many of the basic parts of our lives were also lost in the massive tsunami, including the houses and towns where we led our daily lives, facilities for the fishing industry and agriculture and public facilities.

Being located on the coast and containing many rivers and canals, the regional characteristics of HigashiMatsushima City meant that about 65% of the city area was submerged. The proportion of the area that was submerged by the tsunami was greatest among all the municipalities throughout Japan that suffered damage in the earthquake disaster.

From this massive damage, suffered in a way unprecedented throughout history, we are currently putting all our efforts into the search for those persons still missing and the restoration of the lives of our citizens.

However, in order for measures for the recovery and restoration of the city to be implemented efficiently and effectively from now on, we will clarify the parties responsible and the dates for implementation and **we will present a specific plan of action and accelerate the promotional structures to create an environment that citizens can feel secure living in at the earliest possible time.**

## 1. Guidelines for the recovery and restoration of civic life

For the time being, we will use all our resources to tackle the following measures in order to speed up the restoration of an environment that the victims and other citizens can feel secure living in at the earliest possible time. (omitted)

### (1) The provision of safe and hygienic housing and support for livelihood rehabilitation

(Timing of implementation: mid-April, Department responsible: Disaster recovery measures office)

- [1] Acceptance of applications for temporary housing, its early provision and the securing of land for it (omitted)

### [4] Early recovery of essential utilities, securing of roads, drainage measures, etc.

(To be implemented continuously. Department responsible: Headquarters for disaster control, Construction Department)

- [1] **Demands for the early restoration of electric power, the water supply and telephones**
- [2] Securing a traffic route for the recovery
- [3] Restoration of sewer facilities
- [4] Drainage measures

### (5) Removal of debris, earthquake garbage related issues, outflow items (To be implemented continuously. Department responsible: Headquarters for disaster control, Citizens' Affairs Department)

- [1] The promotion of environmental improvement through the early removal of debris
- [2] **The smooth reception and thorough sorting of earthquake related garbage**
- [3] The removal, handing over and disposal of vehicles and ships that were swept away
- [4] The laying of bodies to rest, burial and cremation

## New plans for reconstruction

The two plans of "Reconstruction Plan" and "FutureCity Initiative" are simultaneously implemented.



Great East Japan Earthquake

Reconstruction Plan

"Build Back Better"

"FutureCity" Initiative

Realization of sustainable development of  
**HigashiMatsushima City**



Aging society with fewer children



Environment

Restoration

There are still various issues, such as those related to energy, aging population with fewer children, and disaster control.

# “Bond” of the community played an important role in devastated HigashiMatsushima

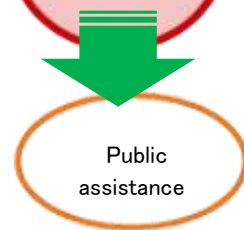
Self-governing civil power of HigashiMatsushima functioned at the time of disaster



Self-assistance



Mutual assistance



Public assistance



Community development through cooperation of regionally decentralized self-governing bodies

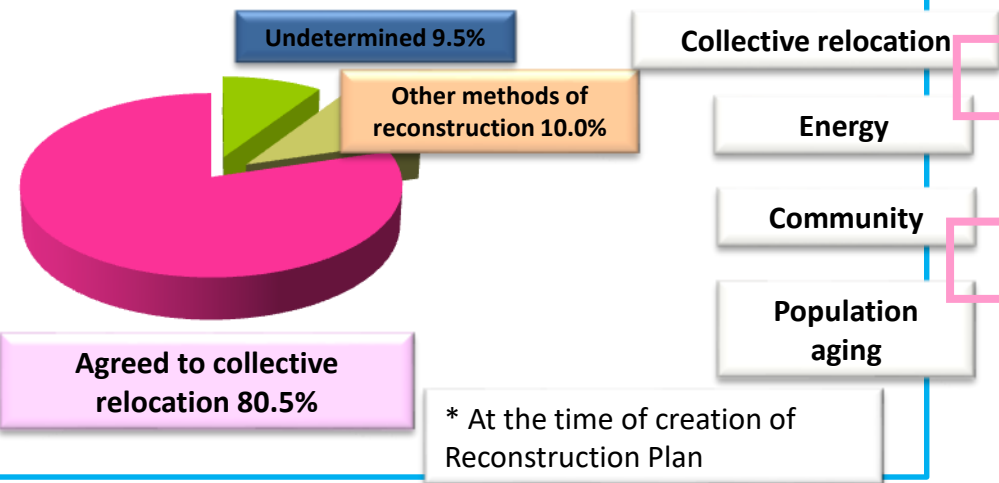
## Creation of Reconstruction Plan Exchange of opinions with over 2000



**Creation of HigashiMatsushima Reconstruction Plan**  
with guidance and advice from committees of experts

**Problem-solving methods**

**Reconstruction projects**



## HigashiMatsushima Reconstruction Plan (FY 2011 – 2020)

With the participation of more than 2,000 residents, this plan was developed in December 2011 as a 10-year plan that describes the future vision of the city, basic policies for its realization and specific efforts by field or area.

### Reconstruction Plan - Never forgetting that day and together for the future - United HigashiMatsushima

#### ◆ Basic policy (1)

Development of a disaster-resilient city by disaster prevention/mitigation measures  
Creation of a disaster-preventive self-governing city

- (1) Construction of a disaster-preventive/mitigating urban structure
- (2) Formation of a disaster-preventive self-governing city

#### ◆ Basic policy (2)

Development of a city where people can live without anxiety while supporting each other

- (1) Development of a livable environment
- (2) Improvement of an environment where people can live without fear
- (3) Creation of the self-governing ability of the local community

#### ◆ Basic policy (3)

Development of a city with restored businesses and various jobs

- (1) Infrastructure development and restoration of businesses
- (2) Attraction of enterprises and securement of employment
- (3) Reconstruction of tourism resources and creation of attractions
- (4) Creation of new jobs and promotion of new businesses

#### ◆ Basic policy (4)

Development of a city with an economically sustainable society

- (1) Construction of an economically sustainable society
- (2) Introduction of private resources

### Future vision of the city

#### (1) Disaster-resistant safe city

Disaster-resistant city that protects precious lives

#### (2) Safe city where people can live with smile

Safe city where people can live peacefully while cherishing bonds and supporting each other

#### (3) City where industries thrive to create job opportunities

Vibrant city where various industries thrive and people can work with a purpose and a sense of worth

Guidance and advice from the expert committee

Community Center



Shelters

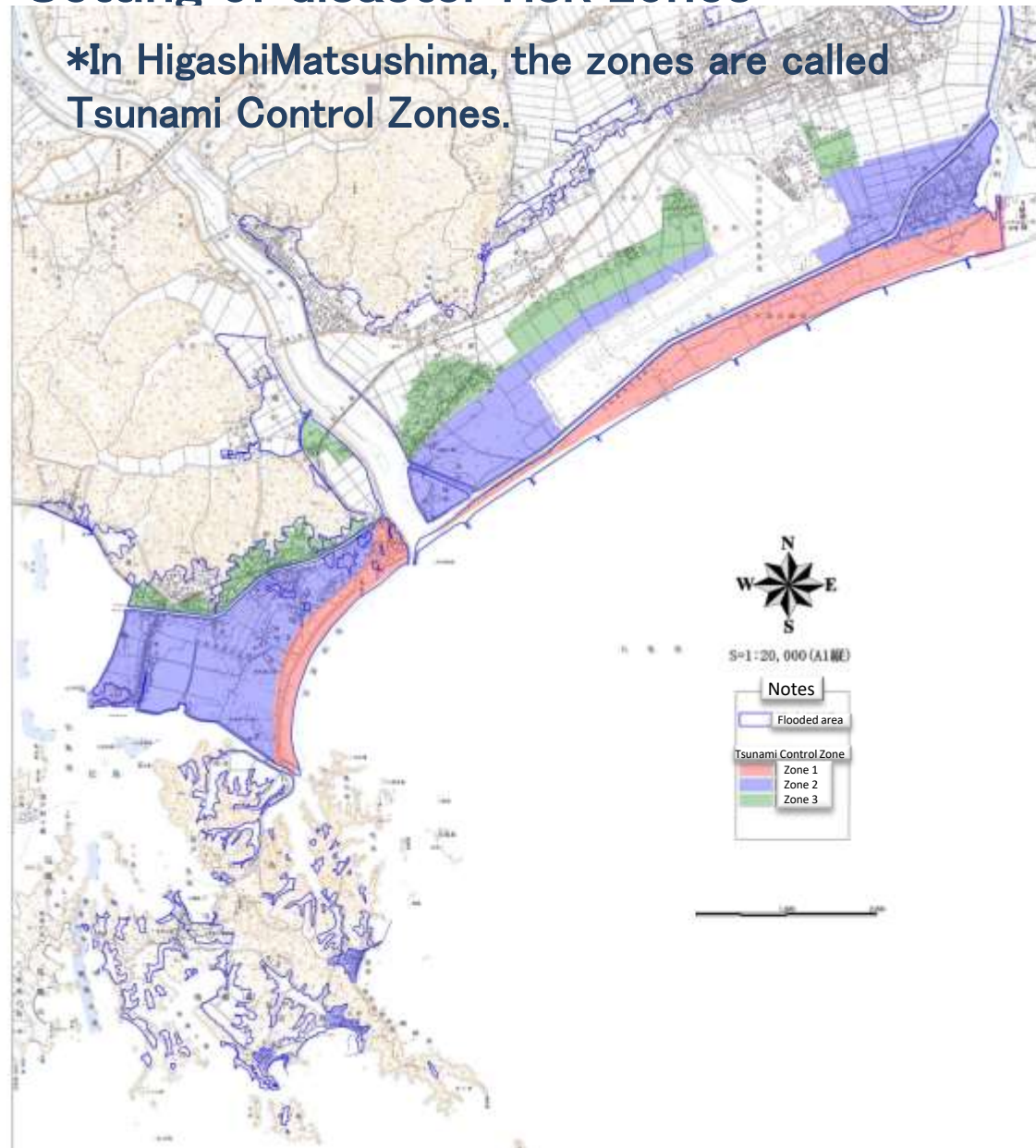
Junior high school students



FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Reconstruction period (5 years)									
Planning period					Developing period (5 years)				

## Setting of disaster risk zones

\*In HigashiMatsushima, the zones are called Tsunami Control Zones.



## Enforcement of the Ordinance for Tsunami Control Zones in HigashiMatsushima June 1, 2012

### Zone 1

There are limitations on the construction of residential buildings, medical facilities and child welfare facilities here.

### Zone 2

There are restrictions on the construction of residential buildings, medical facilities and child welfare facilities here. However, if such buildings meet certain requirements, such as a reinforced concrete structure, presence of two or more stories and the absence of basement floors, they may be approved for construction.

### Zone 3

Residential buildings, medical facilities and child welfare facilities can be constructed here if the buildings meet certain requirements: their first-floor level must be 1.5 m higher than the road in front of the building lot, and the foundation must be made of reinforced concrete.

# Collective Relocation Project (urban development ensuring future safety)

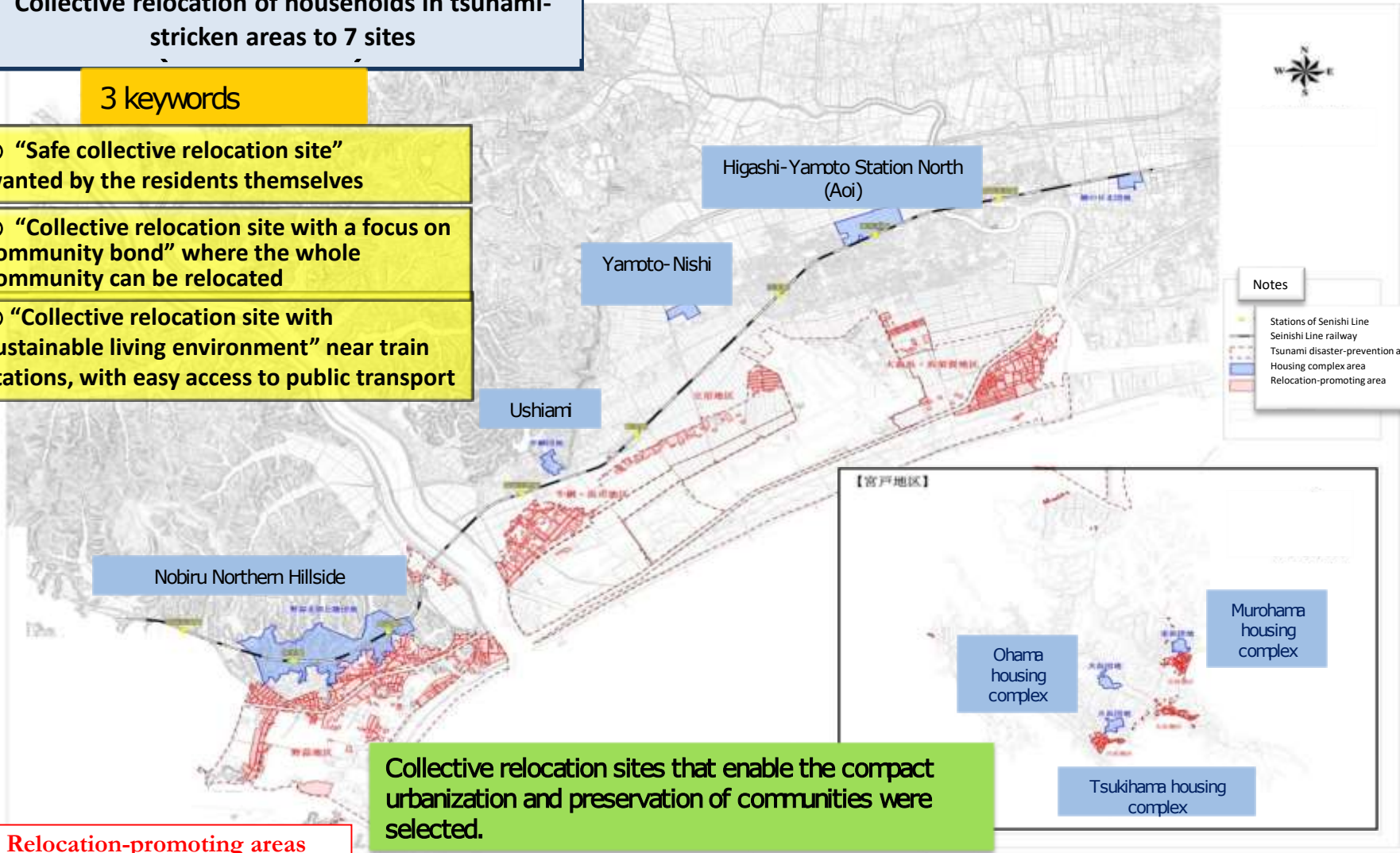
Collective relocation of households in tsunami-stricken areas to 7 sites

3 keywords

⊖ “Safe collective relocation site” wanted by the residents themselves

⊖ “Collective relocation site with a focus on community bond” where the whole community can be relocated

⊕ “Collective relocation site with sustainable living environment” near train stations, with easy access to public transport



Relocation-promoting areas  
Land to be purchased:  
approx. 176 ha in total



## Changes in the dwelling places of affected people

### **After the disaster** (Mar. 11 – Aug. 2011)

#### To shelters

Operation of shelters by local self-governing bodies and residents

Primary and junior high schools, community centers and district centers were used as shelters.



Shelter



### **Five months after the disaster** (Aug. 2011)

#### To emergency temporary housing

A total of 1,727 prefabricated temporary housing units were built in 29 places in the city.

Private apartment buildings were rented and used as temporary housing.



Construction of temporary housing



### **To public housing** (since Apr. 2014)

People have moved into housing units constructed and managed by the city.

The rent varies according to the household income.

People have moved into the housing units since April 1, 2014 in a phased manner.

It is planned to build a total of 1,101 housing units in the city (of which 1,001 units have been completed as of April 1, 2018)

### **Independent reconstruction at collective relocation sites** (since Jun. 2014)

Housing lots were developed at seven collective relocation sites in the city for independent reconstruction.

The city leases land for 30 years free of charge to people wishing to participate in reconstruction. They build their homes using their own money. All 717 plots for reconstruction have been prepared.



## **Community development for reconstruction in HigashiMatsushima City**

(1) Outline of damage and reconstruction

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consensus-building among residents**

(3) Efforts unique to HigashiMatsushim a City



# Collaborative community development in HigashiMatsushima

## Local revitalization = New autonomy (Realization of decentralization) (Regional decentralization)

### Causes of collaborative community development in HigashiMatsushima

Progressive decentralization of society

Fewer children and difficulties facing child-raising  
Super-aging society  
Financial difficulties  
Anxiety about disasters and crime

Changes due to a merger  
(Yamato Town and Naruse Town merged in April 2005)

Can people live without anxiety in the city 10 years later?

How to protect the safety of the area

**New direction of community development**  
City residents, administration, and communities

**Collaborative community development**

- ◆ Abolishment of eight community halls (2008), establishment of the Community Development Ordinance (2008)
- ◆ Establishment of eight community centers and district centers operated by local self-governing bodies (2009)



# System of regional self-governing bodies in HigashiMatsushima (example of Oshio area)



## 2017 Budget of Community Development Council (example of Oshio Municipal Council)

Related to community development (estimate): approx. 7.45 million yen

Related to designated administrative tasks (community center): approx.

21 million yen

**Total: approx. 28.45 million yen**

## Activities of local self-governing bodies at the time of a disaster

System of regional governance in HigashiMatsushima: 8 self-governing bodies

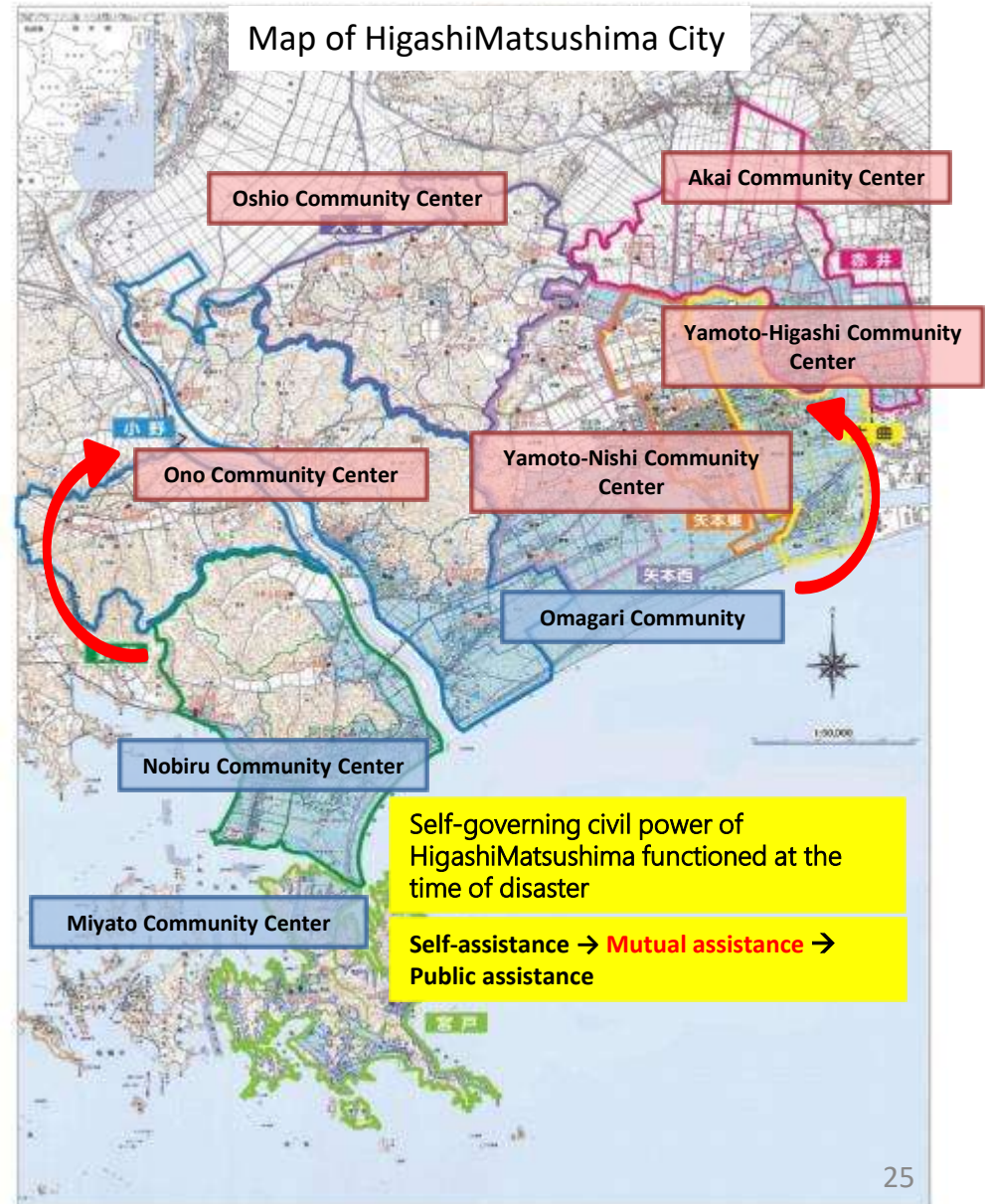


Shelters managed by self-governing bodies



Mutual assistance agreement by the city's self-governing bodies

Inland self-governing bodies assisted coastal areas





## Community development at collective relocation sites

To promote permanent settlement, a system was established that allowed people to select an area to live from seven collective relocation sites regardless of the area where they used to live.

Formation of a new community

**A Community Development Council was established at each collective relocation site.**

- Resident-led decision-making organization. It organizes meetings and workshops to collect many opinions and study community development at the relocation site
- The City Hall provides support through cross-sectoral groups at individual relocation sites.
- Each council used its own plotting way to zone the land.
- Each council established its own guidelines and a district plan to maintain the scenery.
- Community development newsletters and other information magazines were published to inform people about the progress of the discussions.
- Multiple exchange parties and meetings were held from before relocation to promote the formation of the community.

Community Development Council relationship diagram





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- (1) Outline of damage and reconstruction
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consensus-building among residents
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# Emergency Stockpile Project

**Establishment of stockpile warehouses at Takagi Woods Athletic Park and in separate areas**      **Project cost: approx. 270 million yen**

A three-day stockpile (water, food, blankets, generators, etc.) for two-thirds of the city residents is stored in the Central Emergency Warehouse in Takagi Woods Athletic Park in preparation for a disaster. The stockpile is stored, periodically renewed and managed for delivery by a consigned private company.

In addition, 24 local emergency warehouses have also been established in separate areas and are managed by local self-governing bodies.



**Central Emergency Warehouse**



**Emergency warehouses have also been established in separate areas.**



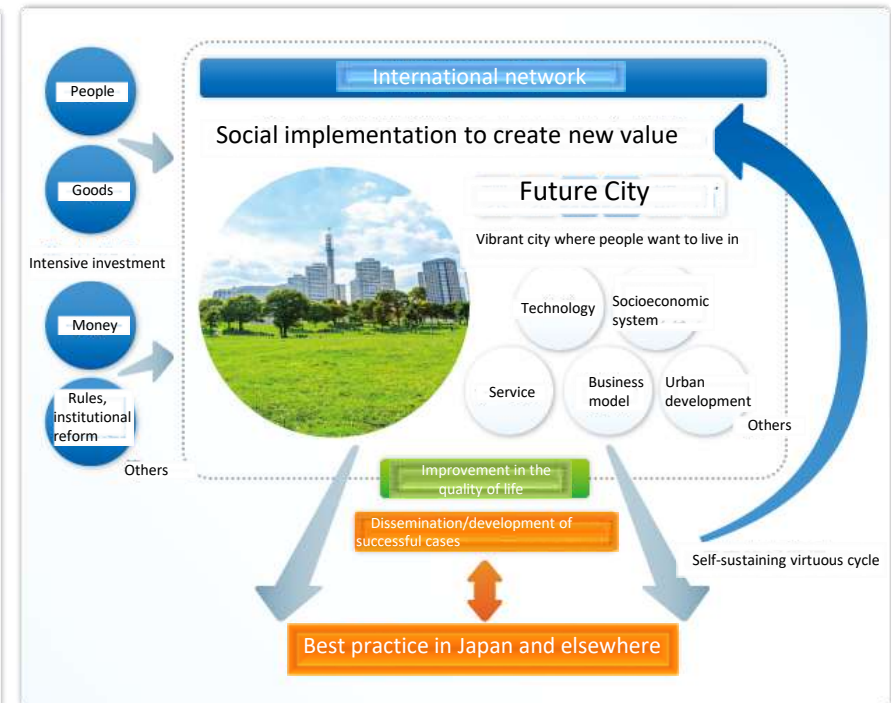
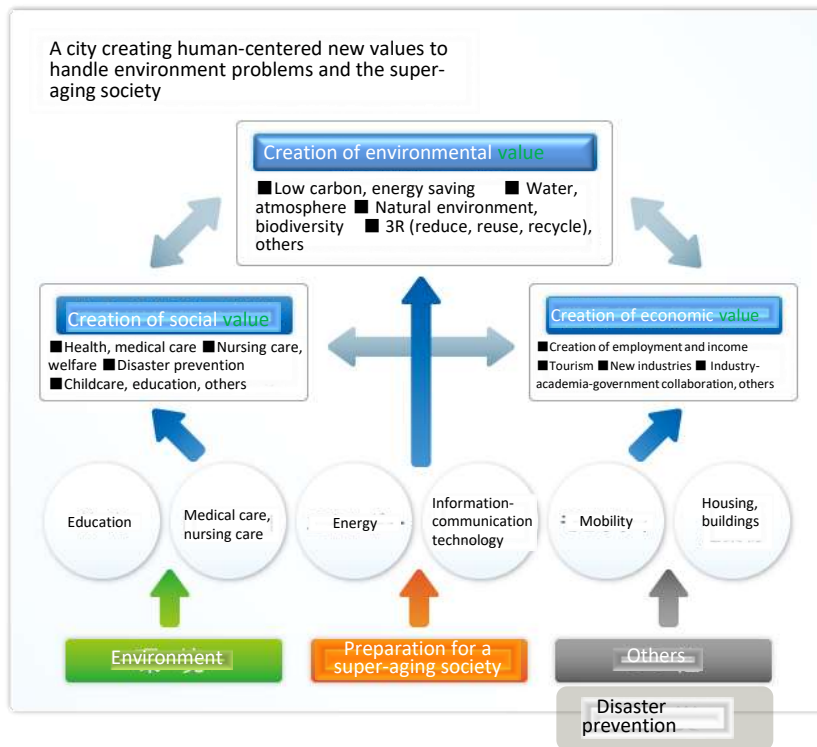


## Build Back Better

▼ Promotion of the Major Project, a community development plan for reconstruction in HigashiMatsushima

▼ Promotion of **the sustainable Future City Initiative** (selected by the Cabinet Office)

HigashiMatsushima was selected as one of 11 cities/regions in December 2011.



Concept of the Future City Initiative  
Source: Future City website (<http://future-city.jp>)