

Dec. 6, 2014 Fourth International Forum on the "FutureCity" Initiative

Plenary Session Theme: Enhancing Resilience and the "FutureCity"

"Creating Modern Communities and Ensuring Living Safety" - The Resilience of Disaster-Struck HigashiMatsushima -

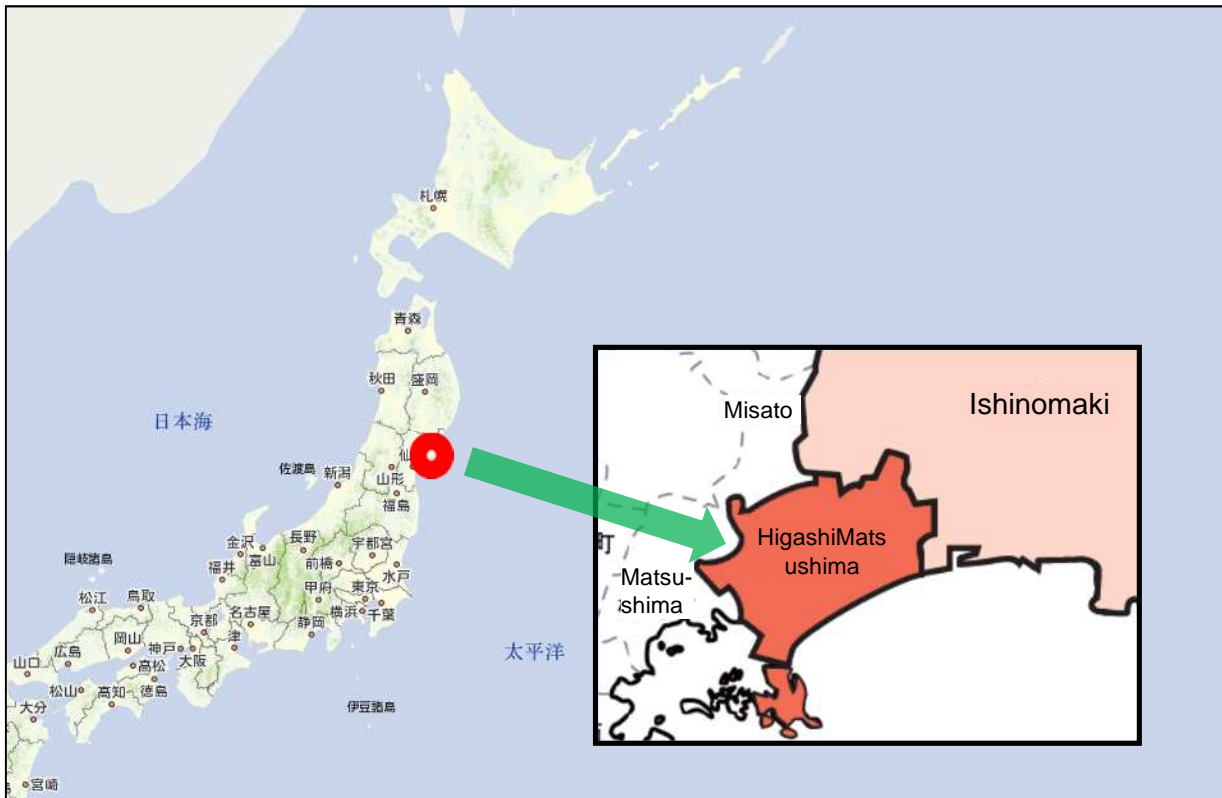


Oku-Matsushima
(Matsushima, One of Japan's Three Great Views)

Never Forgetting, Striding Together into
the Future, HigashiMatsushima, United

Hideo Abe
Mayor of HigashiMatsushima

Overview of HigashiMatsushima



Population: 40,090 (as of April 1, 2014)
(Population before earthquake: 43,142)

[Location and Climate]

HigashiMatsushima is located to the northeast of Sendai, the capital of Miyagi Prefecture. It faces Ishinomaki, to its east, and Matsushima, to its south.

Its average annual temperature is relatively warm for a city in the Tohoku region, and its annual rainfall is below the Tohoku average.

[City flower:
Cherry blossom]



[City tree: Pine]



[Experiences and Exchange]

HigashiMatsushima is blessed with nature, with spectacular views of the sea, mountains, and rivers.

It is particularly rich in marine leisure opportunities, such as coastal swimming, clam digging, pleasure boat trips, and fishing. It is visited by roughly 1.2 million people each year. The Japan Air Self-Defense Force Matsushima Base holds an air show every summer, and airplane fans gather from around the country to see Blue Impulse fly.



Air show (Blue Impulse)



Sagakei pleasure boat



65% of the city's urban area was inundated by the tsunami
(more than any other affected municipality in Japan)

HigashiMatsushima damage conditions (as of end of November 2014)

Human damages (city residents)

Deaths: 1,109

Missing persons: 25

Total: 1,134 (approx. 3% of the city's residents)

Home damage

Completely destroyed: 5,513 homes

Major destruction: 3,060 homes

Partially destroyed: 2,500 homes

Total: 11,073 homes

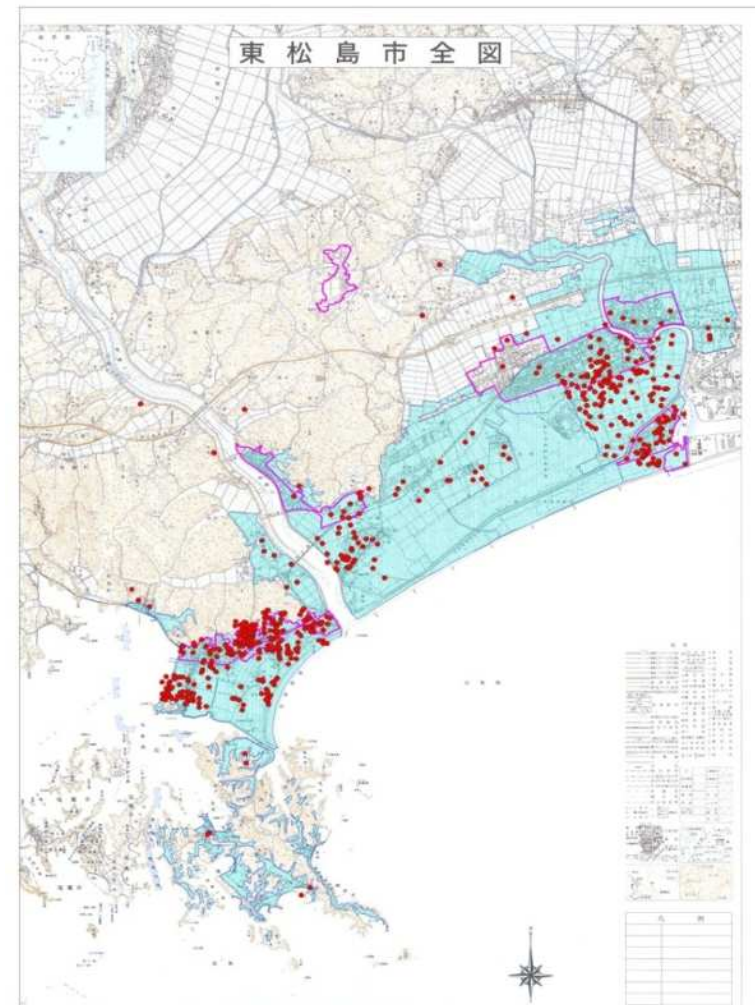
(Approx. 73% of all households)

Evacuees (peak): 15,185

Shelters (peak): 106

Flooded agricultural area:

1,465 ha / Total agricultural area: 3,349 ha



Social capital from before the earthquake

HigashiMatsushima's collaborative
community development

Community vitalization (realization of decentralization) = New autonomy (decentralization within region)

Impetus behind HigashiMatsushima's
collaborative community development

Ongoing decentralization

Declining birth rate and child raising
difficulties

Super-graying society

Financial difficulties

Disaster and local crime

...

Changes resulting from mergers
(Merger with former Yamoto and
Naruse in April 2005)

Will people be able to live in the city free from
anxiety 10 years from now?

New community development directions
"Residents and government", "Residents and residents",
"Government and communities", "Communities and
communities"

**"Collaborative community
development"**

Collaborative community development began with something all residents could participate in, environmental beautification



Flower planting



Beach cleaning

"Community development plans" were formulated for each of the 8 regions
(City employees participated in all 8 areas, engaging in a total of 424 discussions per year (in 2008))

Voluntary disaster management organizations (disaster task forces) and a voluntary disaster management liaison committee were established. They engaged in discussions on ensuring the safety of children's school routes through volunteer activities, not by the police, etc. (public rescue and assistance).



"Community development" is achieved through the culmination of the basics

* For two consecutive years, in a HigashiMatsushima community development questionnaire, residents have selected "community disaster management system, such as its voluntary disaster management organizations" as the aspect of the city they are most satisfied in.

"Collaborative community development" made great contributions after the earthquake



Shelter management by autonomous organizations (voluntary disaster management organizations)



Mutual assistance agreement between city autonomous organizations

Following the disaster, autonomous organizations from land and coastal areas collaborated together



"HigashiMatsushima Community Development Basic Ordinance" (Preamble) In order for residents to leverage the region's strengths and create an attractive and appealing HigashiMatsushima, this ordinance is defined **based on the principle of community development through mutual collaboration.**

"Mutual assistance" and "collaboration" following 3/11



Soup kitchen



Confirmation of missing persons



Recovery plan discussions



Discussions in shelters



Formulation of recovery plans



Farmers



Fishermen



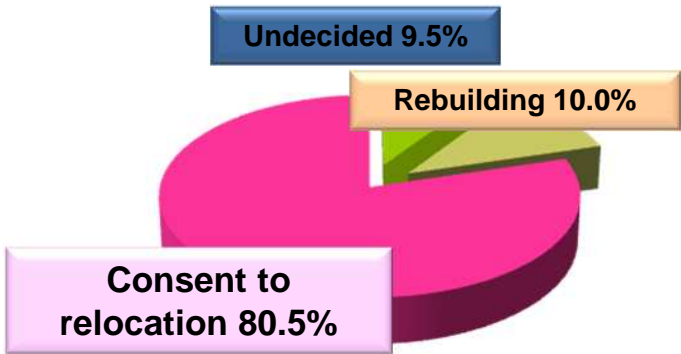
Shelters



Junior high school students

Problem solving method = Collaboration

The "HigashiMatsushima Recovery Community Development Plan" was formulated (December 2011)



- Collective relocation
- Energy
- Community
- Declining birth rate / graying society

From May 2011 to December 2011 over 80 workshops (not only for explanations) were held, where residents worked to reach a consensus about the ideal city to be created through the recovery process. (This was not for explanation only.)



Recovery community development

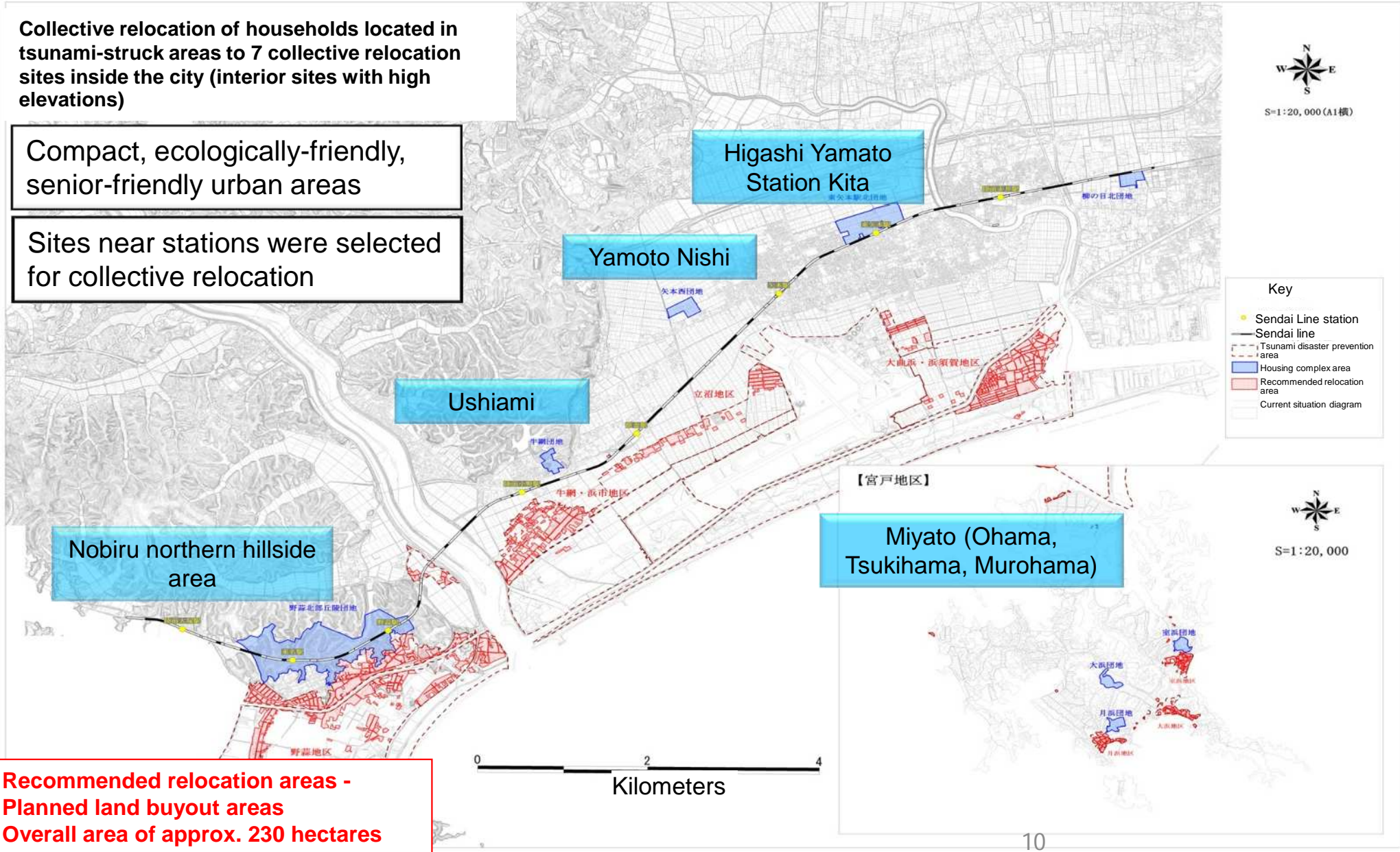
"FutureCity" initiative

HigashiMatsushima's Disaster Management Relocation Plan

Collective relocation of households located in tsunami-struck areas to 7 collective relocation sites inside the city (interior sites with high elevations)

Compact, ecologically-friendly, senior-friendly urban areas

Sites near stations were selected for collective relocation



Recommended relocation areas - Planned land buyout areas
Overall area of approx. 230 hectares

Wide-ranging and diverse collaborations

["FutureCity" Initiative Vanguard Project (1)]

'HigashiMatsushima-style' recycling of disaster rubble

- Hiring 800 disaster area residents, primarily senior citizens -

Amount of disaster rubble: 1,098,000t
(110 times the annual waste production of HigashiMatsushima)
Approx. 97% of all rubble was recycled



(1) Rubble from destroyed houses and buildings is divided on-site into 14 categories.

(2) Primary processing is performed using mobile construction machinery, etc.

(3) Painstaking manual sorting is used to ultimately process the rubble, sorting it into 19 categories.

"Mixed, it's garbage, but separated, it's a resource"

Industry, academia, government, and residents (a local construction contractors association, universities such as Tohoku University, the city of HigashiMatsushima, and residents) worked together, preparing in advance to ensure that every region could achieve the project's goals.

Disaster rubble volume

Wood / wood scrap:	371,000 tons
Mixed garbage:	79,000 tons
Concrete:	404,000 tons
Asphalt:	34,000 tons
Metal:	25,000 tons
Unburnable mixed garbage:	185,000 tons
Total:	1,098,000 tons
(Recycled amt:	1,070,000 tons)
(Incinerated amt:	28,000 tons)

Unit cost of disaster waste processing contracted by Miyagi Prefecture

	Project costs (millions of yen)	Processed amount (1,000 tons)			Processing unit cost (10,000 yen per ton)
		Rubble	Dirt	Total	
Kesennuma	113.893	1,138	839	1,977	5.8
Minamisanriku	32.982	556	167	723	4.6
Ishinomaki	194.230	3,589	736	4,326	4.5
Onagawa	17.297	577	0	577	3.0
HigashiMatsushima	58.067	1,098	2,161	3,259	1.8
Shiogama	15.863	239	10	249	6.4
Shichigahama	16.688	228	304	532	3.1
Tagajo	15.222	242	108	350	4.3
Natori	31.799	741	222	963	3.3
Iwanuma	25.860	473	154	627	4.1
Watari	47.876	495	361	856	5.6
Yamamoto	43.888	784	856	1,641	2.7
Total	613.665	10,160	5,919	16,079	3.8

[Note] Processed amounts are rounded to whole numbers, so totals may not match.

Source: Kahoku Shimpo (July 6, 2014)

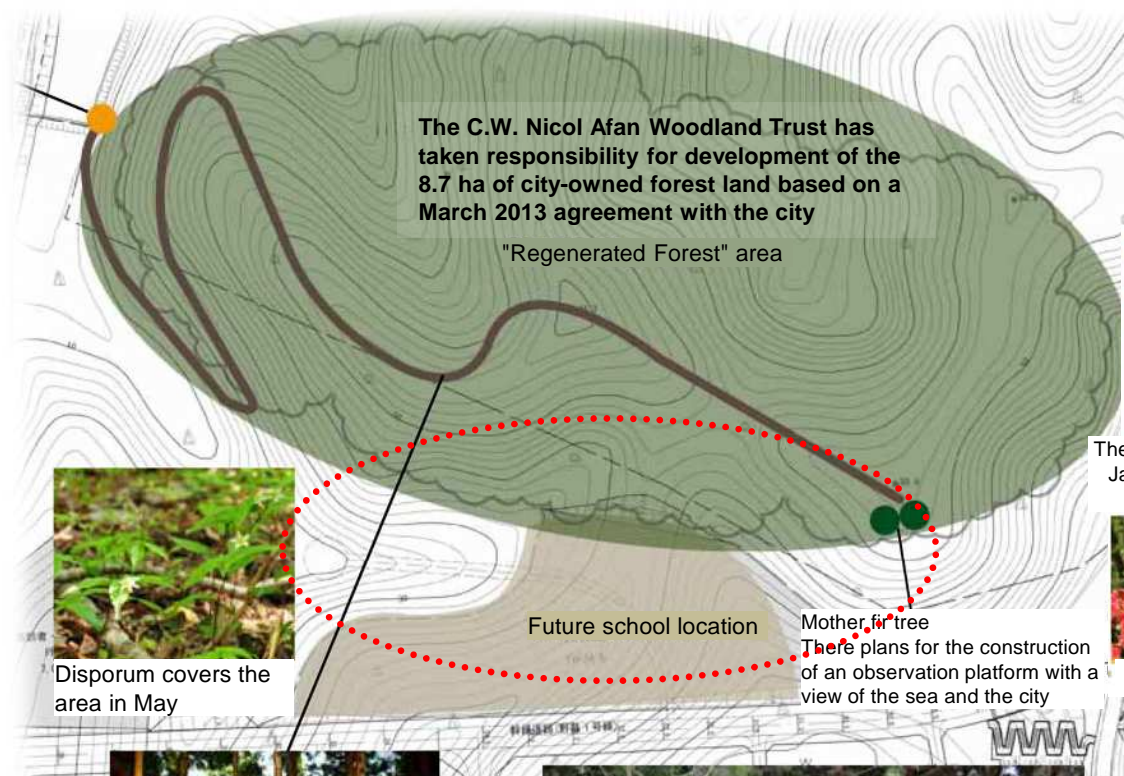
["FutureCity" Initiative Vanguard Project (2)]

"Rebuilding the forest and creating a "School of the Woods" through collaboration between the community and private industry"

- Helping to relieve the stress of survivors and helping them stay active in their communities for life -



* The opening of the "Tree Dragon" tree house
This symbol of the forest was built to bring people and the forest together and serve as a site of relaxation and healing. It is designed to symbolize a dragon taking flight; an image of hope.



The area is covered with Japanese dog's tooth violet in April



Rhododendron



* Building bridle paths
Bridle paths for horses were built so that harvested timber can be carried away without damaging the forest.



* Launch of the "School of the Woods" program!
The School of the Woods's Regenerated Forest building program cultivates local love and pride, and helps participants envision their dreams for the future through the carrying out of forest recovery activities.

HigashiMatsushima's Resilience Design and Management

"HigashiMatsushima's Recovery Community Development" doesn't consist of looking for something which isn't there.

In other words, it consists of rediscovering the value of the area's resources, reconsidering the feasibility of using area resources, protecting the area's rich natural environment, and creating a green, sustainable city.

In order to do this, it lays out designs for "collaboration" between residents, the community, those with ties to the area, private companies, universities, and the like, building up social capital.