Although the West Valley [A] is not the major transect cut through Utatsu, its complex geological conditions demonstrate the relations between nature and human intervention in the tsunami. The transect begins from the river edge, through the JR embarkment, and extends into the west valley. Before reaching the farmlands in the valley, a secondary transect [B] is branching out across a kindergarten.
WEST VALLEY | Utatsu (Minami-Sanriku, Miyagi)

ON SITE | TRANSECT [A]

Description
(i.e. slopes, vegetation zones vs. urbanized, etc.)

Inventory along Transect

Site Analysis

3B / Transects through the Site

Approximate Scale
Along the transect A of west valley, the land form changes from the engineered embarkment at river end to farming soil on the other end inside the valley. In between there is a JR embarkment, which interrupts the transect continuity. In addition, the water system is also changed from engineered concrete channel, catchwater and traditional irrigation channels.

- River embankment
- Open Air water channel
- Engineered slope retaining structure
- JR Embarkment
- Catchwater
- Trees
- Cultivated farmlands
- Rainwater reservoir

Due to different in landform and water system, the transect has dramatic difference in term of damages and post-disaster conditions. The area with engineered concrete land surface suffered from most serious damage. However, the cultivated farmlands with soil land in the valley has least damages. One of the reason is the soil surface has better water holding capacity.
A catchwater system, about 2 m wide and 1.8 m deep is used to collect rain water from the valley and slope. Due to its materiality of concrete and engineered strength, the damage is minimal. The concrete JR underpass also was preserved well after tsunami.

Concrete Retaining: Provides protection to prevent slopes from erosion, but its low wall porosity requires intensive drainage for rain.

JR underpass: Becomes a by-pass for water when tsunami came. It created a severe flush with high water velocity.
The damages and salinations of tress was most seri-
ous nearby the JR embarkment underpass during
the 3.11 tsunami. These damages indicate a direct
connection between the JR embarkment and its
context

Originally, the JR embarkment is engineered strongly as
an infrastructure to support the JR railway. In addition,
it could function as a dike to protect the inland valley.
However, th tide of tsunami came over the JR embark-
ment very much, so properties behind the embarkment
were totally damaged. Moreover, from the damges
tresses, they reflect the JR underpass was the weakest
point, which suffer strongest impact during tsunami.

Concrete retainment only protects parts of
uphill vegetations

The concrete underpass, below JR, became the weakest point during tsunami, vegetation
and trees are seriously damaged by severe flush passing through

Tree by salinated by seawater

1. Engineered embarkment
2. JR Embarkment
3. Cultivated farmlands
The JR embarkment has different extend in term of damages. At the front, the surface was slightly washed out. At the back, serious soil erosion is happened to the embarkment.
TRANSECT [B] | Kindergarten

Although the kindergarten is located at relatively low altitude place, but due to its geographical condition of its context, it has minimal damage during 3.11 tsunami.

From observation, the kindergarten is located in a small valley, which joins to the major west valley. And the kindergarten is built on top of a podium about four and half meters higher, it became potential protection during the tsunami.