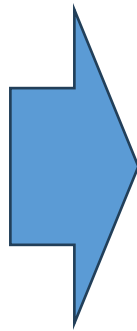




2005



2023







2005





2005



2005

# Effects Brought by the Great Japan Earthquake

07th November 2024

Asian Disaster Reduction Center (ADRC)

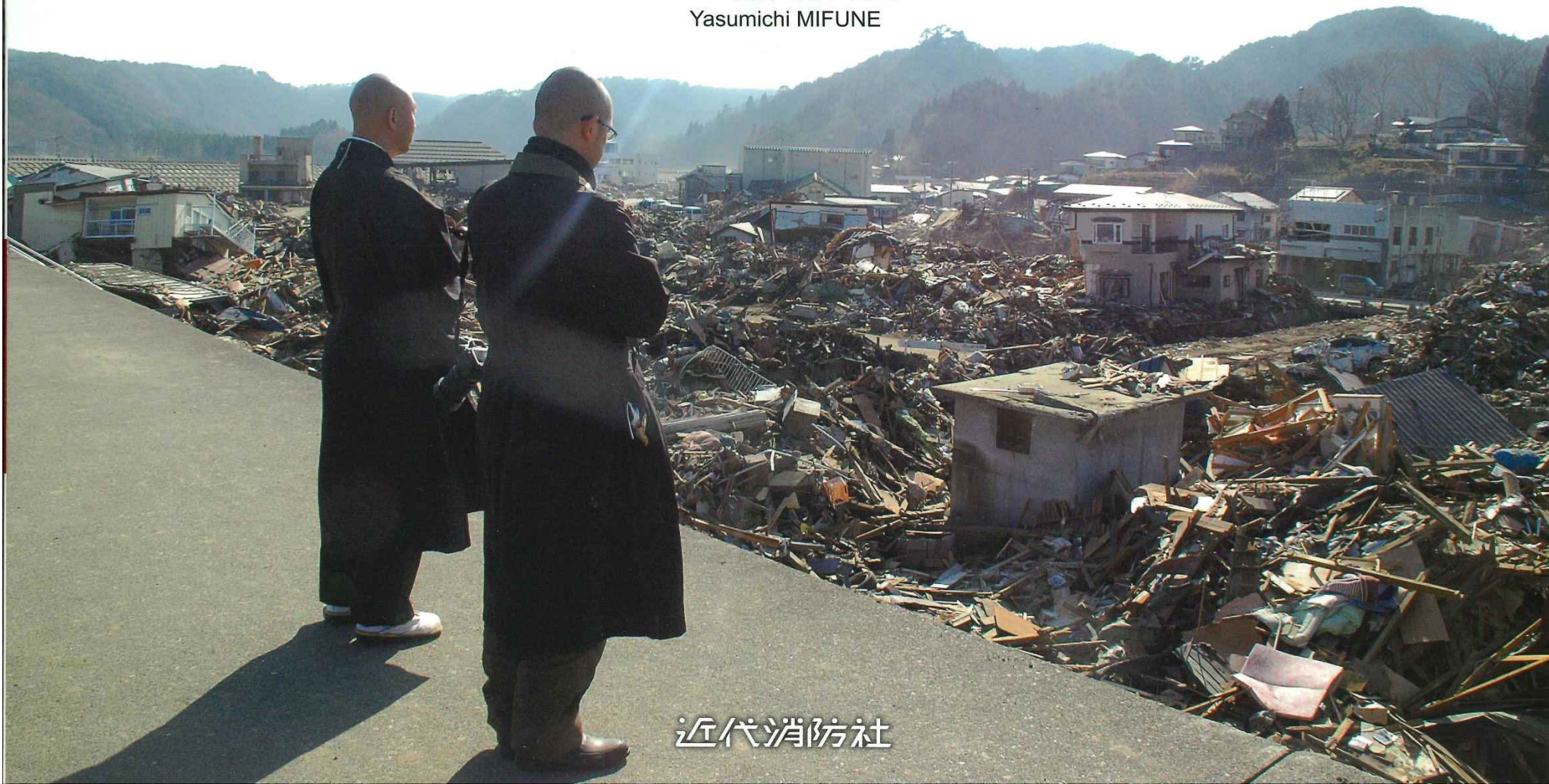
**Dr. Yasumichi Mifune**

# 東日本大震災がもたらしたこと

Effects Brought by the Great East Japan Earthquake

三船康道

Yasumichi MIFUNE



近代消防社

# Overview Of the Earthquake

●Date : 2011.3. 11

●Magnitude : 9.0

●Dead Wherabouts Unknown : 22,252

●Complete Destruction : 121,995

●Partial Destruction : 282, 939

## 3 key points

TOPIC1 : Resilient urban development and disaster prevention education

TOPIC 2 : The importance of future livelihood:

- Reconstruction of downtowns
- New development of industrial areas

TOPIC 3 : Reconstruction of emotional side and community

# Topic 1

## Resilient urban development and disaster prevention education

1. Two-stage defense
2. Relocation to Higher Ground
3. Famous Takata Matsubara Protected by a Seawall
4. Large Seawalls Surrounding the Bay Area
5. "Tendenko" the Miracle of Kamaishi

# 1.Two-stage defense

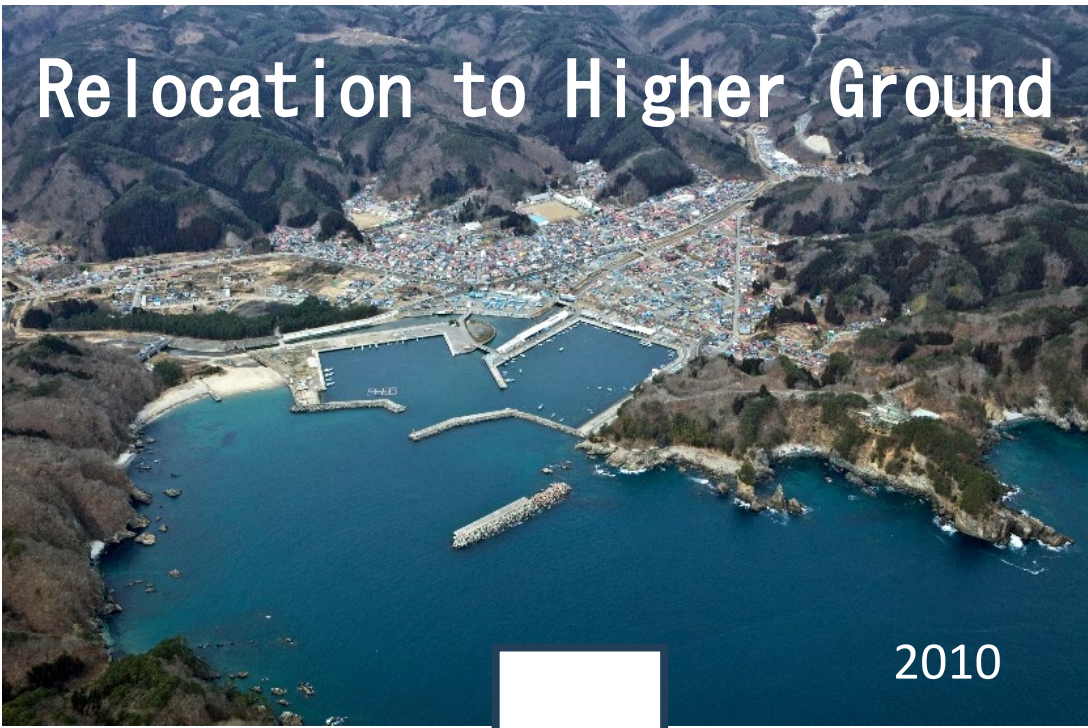
| Target<br>Tsunami                     | Level 1<br>One occurrence in a<br>few decades to one<br>hundred decades                                                                                        | Level 2<br>One occurrence in five<br>hundred to one thousand<br>years                                                                                                                                          |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Concept of<br>Facility<br>Development | <b>Prevention</b> <ul style="list-style-type: none"><li>▪ Protecting human life</li><li>▪ Protecting property</li><li>▪ Protecting economic activity</li></ul> | <b>Mitigation</b> <ul style="list-style-type: none"><li>▪ Protecting human life</li><li>▪ Mitigate economic losses</li><li>▪ Doesn't cause major secondary disasters</li><li>▪ Enable early recovery</li></ul> |

# Two-stage defense

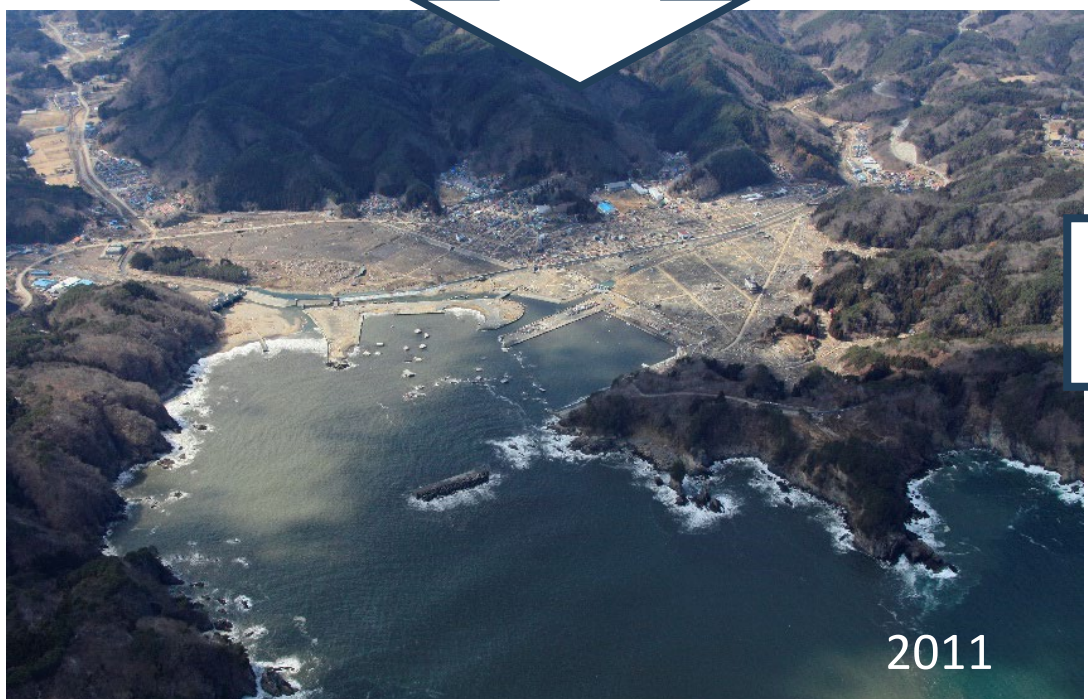


## 2. Relocation to Higher Ground for Safety after the Collapse of Safety Myth (Taro, Miyako City)





2010



2011



Myth



2018



### 3. Famous Takata Matsubara Protected by a Seawall (Rikuzentakata City)





2010

# Famous Takata Matsubara Protected by a Seawall



2011



2016

# Mangrove



2023

## 4. Large Seawalls Surrounding the Bay Area (Various Locations)





## Large Seawalls Surrounding the Bay Area

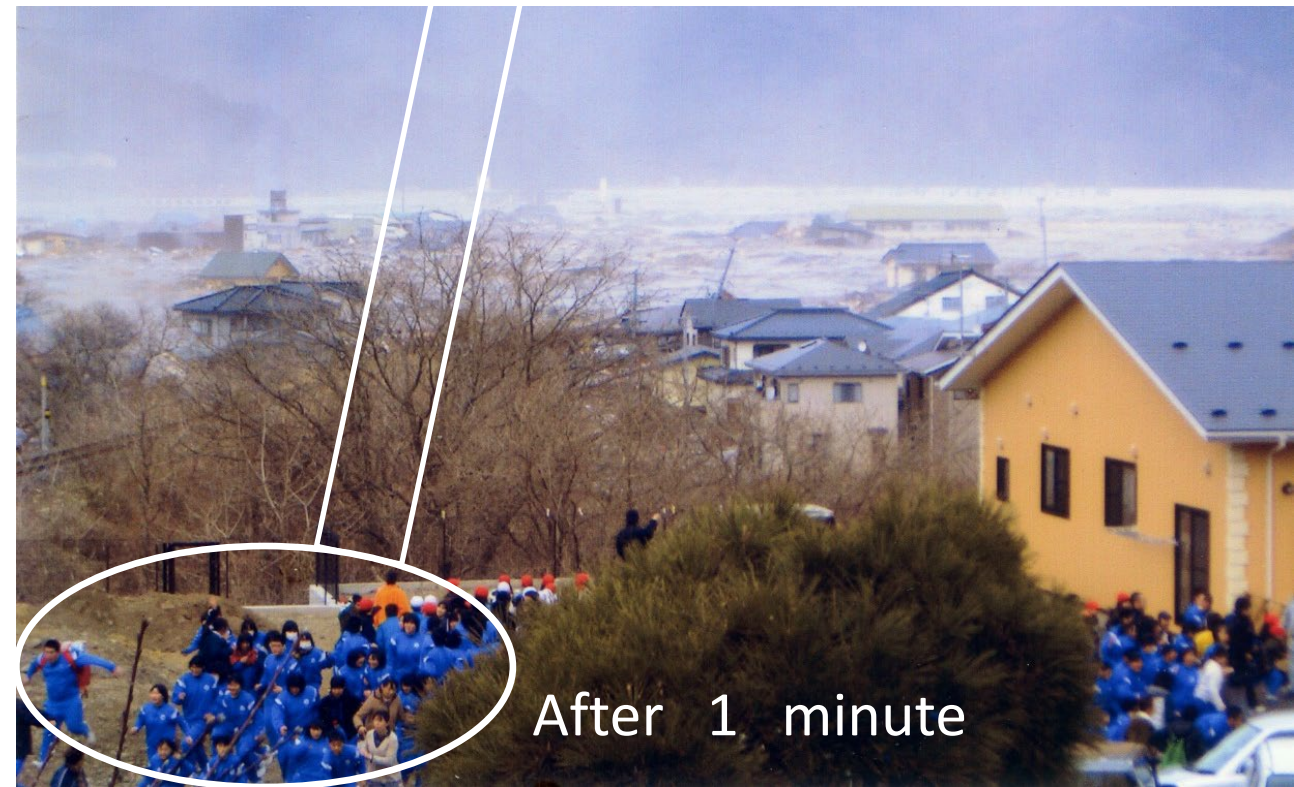


## 5. "Tendenko" the Miracle of Kamaishi





## ” Tendenko” the Miracle of Kamaishi



## Topic 2

# The Importance of Future Livelihoods: Reconstruction of Downtowns, New Development of Industrial Areas

1. Creating Pedestrian Spaces from Shuttered Streets
2. Transitioning from Shuttered Streets to Large Aggregated Facilities
3. Transforming Shuttered Streets into Residential and Commercial Complexes
4. New Industrial Park

# 1. Creating Pedestrian Spaces from Shuttered Streets (Ofunato City)



# Creating Pedestrian Spaces from Shuttered Streets



## 2. Transitioning from Shuttered Streets to Large Aggregated Facilities (Rikuzentakata City)



# Transitioning from Shuttered Streets



### 3. Transforming Shattered Streets into Residential and Commercial Complexes (Kesennuma City)



# Transforming Shuttered Streets into Residential and Commercial Complexes





● Before Disaster ● After Disaster

## 4. New Industrial Park (Fukushima Prefecture)

### いわき四倉中核工業団地総合案内板

#### 工業団地内立地企業一覧

| 区画名   | 企業名          |
|-------|--------------|
| A     | 大和産業工業(株)    |
| C-1   |              |
| C-2   |              |
| D     | 株式会社森田(株)    |
| E     | 日本精機(株)      |
| F-1   |              |
| F-2   |              |
| G     | (有)小野川製作所    |
| H-1   | 丸一(株)        |
| H-2   | アジア物産材料(株)   |
| H-3   | アジア物産材料(株)   |
| I     | 根本興産(株)      |
| J     |              |
| K     | 根本興産(株)      |
| L-1   | (株)成栄        |
| L-2   | (株)成栄        |
| M-1   | (株)成栄        |
| M-2   | (株)成栄        |
| N-1   | 金川鉄工(株)      |
| N-2   | 金川鉄工(株)      |
| O-1   | 丸光機械工業(有)    |
| O-2-1 | 林サッシ工業(株)    |
| O-2-2 | (有)成エンジニアリング |
| P-1   | メルテックいわき(株)  |
| P-2   | 日本道路(株)      |
| Q-1   | 日本化学産業(株)    |
| Q-2   |              |

#### ■団地概要

●名称 いわき四倉中核工業団地  
 ●所在地 福島県いわき市四倉  
 ●用途地域 工業地域(※地区計画あり) 建ぺい率60%以内容積率200%以内  
 ●道路 幹線道路:幅員16m 補助幹線道路:幅員14m  
 ●上水道 団地全体で2,800m<sup>3</sup>/日を供給  
 ●排水 雨水:各宅地内の雨水排水(調整池を経て河川へ放流)  
 汚水:企業内処理の上、各宅地内の汚水排水(河川へ放流)  
 ●電力 6,000V  
 ●通信 光ファイバーの付帯エリア(電力系通信事業者提供)  
 ●事業主体 第1期区域:福島県(商工労働部企業立地課)  
 第2期区域:福島県(商工労働部企業立地課)

#### 区画図



お問い合わせ先

福島県商工労働部 企業立地課 TEL.024-521-7916

いわき市産業振興部 工業・港湾課 TEL.0246-22-1142

# New Industrial Park



## Topic 3

# Reconstruction of emotional side and community

1. 10 Years of Land Elevation, Residents Did Not Return
2. Emotional Recovery
3. Anonymous Reconstruction Communal Housing
4. It Was Good to Make More Acquaintances!

# 1. 10 Years of Land Elevation, Residents Did Not Return (Rikuzentakata City)



# 10 Years of Land Elevation, Residents Did Not Return



## 2. Emotional Recovery



# Emotional Recovery



### 3. Anonymous Reconstruction Communal Housing



# Anonymous Reconstruction Communal Housing



2021



2021

## 4. It Was Good to Make More Acquaintances!





2021



# Challenges from these presentation

- Mental health care
- Community development

# APPENDIX : Fukushima

After 10 Years, Certain Areas still difficult to return due to Fencing (Parts of Fukushima Prefecture)



The background features a light blue and green gradient with stylized, overlapping wavy shapes in the top-left and bottom-right corners. The text is centered in a dark blue, monospaced font.

T h a n k   y o u ! !