分科会発表資料 / Breakout Session Presentations

マーレーン ムリー
Marlene Murray

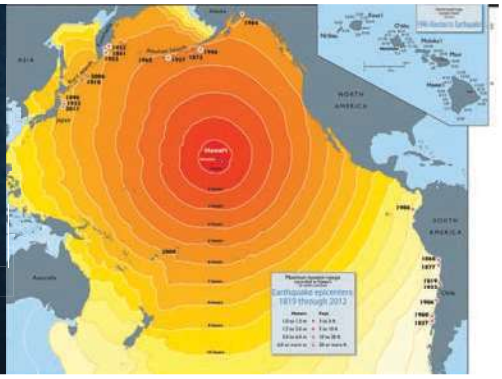
SHARING STORIES:

How The Pacific Tsunami Museum Keeps Tsunami Memories Alive

Executive Director – Marlene Murray

HAWAII

...MIDDLE OF THE RING OF FIRE



Year	Source	Area Hit	Deaths
1837	Chile	**Hilo**	14
1868	Hawaii	Kau	46
1877	Chile	**Hilo**	5
1923	Kamchatka	**Hilo**	1
1946	Aleutians	**Hilo**	**96**
		Laupahoehoe	24
		Rest of Hawaiian Islands	39
1960	Chile	**Hilo**	**61**
1975	Hawaii	Halape	2

DEADLY TSUNAMIS TO STRIKE HAWAII ISLAND

KEY QUESTIONS:

- How do we learn from the disaster experience?
- How do we tell the stories?
- How do we honor those who have lost their lives?
- How do we remind people of the danger that exists?
- How do we prepare for the next event?

OUR MISSION

Through education and awareness, we believe that no one should die due to a tsunami.

The goals of the Museum are to promote public tsunami education and to preserve history.

The Museum serves as a living memorial to those who lost their lives in past tsunami events.

HOW THE PACIFIC TSUNAMI MUSEUM ACHIEVES ITS MISSION

- Museum Displays
- Outreach
- School Curriculum and Preparedness
- Scientific Research
- Support Emergency Management Agencies

OVER 5,000 IMAGES

OVER 500 TSUNAMI INTERVIEWS

WE CREATE POWERFUL EXHIBITS

THE STORY OF HILO


Tsunami Changes a Community
Lessons Learned the Hard Way
THE 1960 TSUNAMI


Amazing Rescues


The Indian Ocean
THE INDIAN OCEAN TSUNAMI OF 2004


The Great Eastern Japan Earthquake and Tsunami
津波
EXIT
THE GREAT EASTERN JAPAN EARTHQUAKE AND TSUNAMI


The Story of Himeka Suzuki


TSUNAMI STORIES EXHIBITS


Survivors of
the Savage Sea
TSUNAMI STORY VIDEOS


THE STORY OF KAZU AND DAVID


THE DRAMATIC RESCUE


THE HEARTWARMING REUNION
The museum reunited the two almost 60 years after the event.


PROPAGATION
SCIENCE ROOM


The Wave Machine
Energy of Moving Water
INTERACTIVE EXHIBITS

SAFETY EXHIBIT

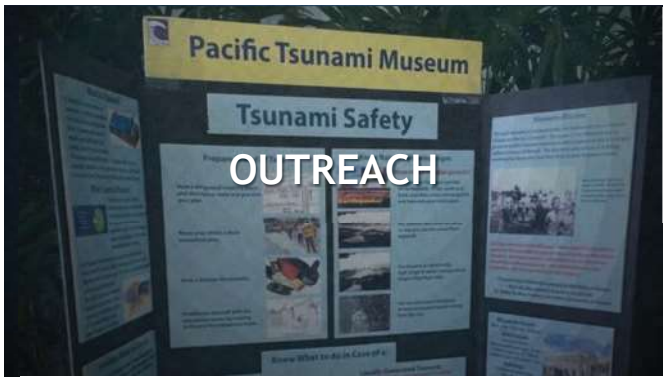
VIDEO PRESENTATION

A 25-minute video is shown in the vault theater throughout the day.

THE VALUE OF A DOCENT

Nothing is better than having an actual tsunami survivor talk to visitors.

SCHOOL GROUPS



OUTREACH

TSUNAMI AWARENESS MONTH

TSUNAMI EXPERTS

CHILDREN'S DAY

MEDIA OUTREACH

HOST BUSINESS AFTER HOURS EVENTS

SCHOOL PRESENTATIONS

CONSULT WITH SCHOOL OFFICIALS ON EVACUATION PLANS

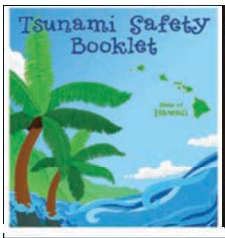
EDUCATION IN SCHOOLS: PROJECT HITEC

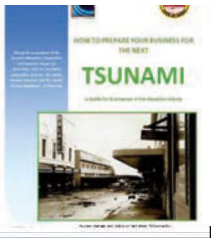
HAWAII TSUNAMI EDUCATION CURRICULUM PROGRAM

The museum received a two million-dollar U.S. Department of Education to develop curriculum and train teachers on tsunami education. The three-year project enjoyed collaboration with the University of Alaska at Fairbanks and the Pacific American Foundation.

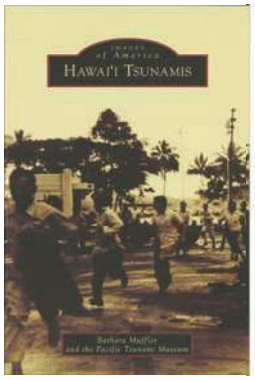
OUTREACH IN THE COMMUNITY

TSUNAMI MEMORIAL CEREMONIES





TSUNAMI PUBLICATIONS



Hawaii Tsunamis was published in 2015 and features more than 200 photos from the museum's archives.

INTERNATIONAL OUTREACH

CHALLENGES

It is increasingly more difficult to collect tsunami survivor stories in Hawaii since many are passing on.

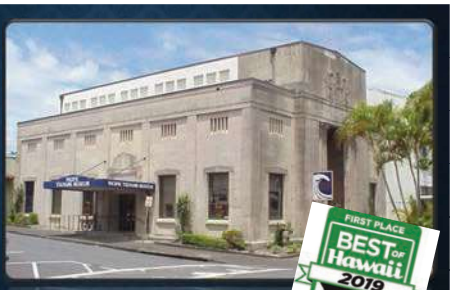
Some survivors find that talking about the experience is just too painful.

Some people choose not to come to the museum because they believe that tsunamis are depressing.

There is a general feeling of complacency since a major tsunami has not affected the Hawaiian Islands in 60 years.

"IT'S NOT A MATTER OF *IF*, BUT *WHEN* THE NEXT TSUNAMI WILL STRIKE"...

MAHALO!



Marlene Murray
Executive Director
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director@tsunami.org

坂本誠人
Makoto Sakamoto

2020 The international Forum on
Telling Live Lessons from Disasters
Date：2020年1月25日(土)
Venue：Kobe Machizukuri Center

Disaster Reduction and Human Renovation Institution

Deputy Executive Director of
Disaster Reduction and
Human Renovation Istitution
Mr. Makoto Sakamoto

1 Outline of the Great Hanshin-Awaji EQ

Fire in the urban Area

Collapsed houses

Damaged railway

Damaged office buildings

Collapsed viaducts of expressway

1 Outline of the Great Hanshin-Awaji EQ

Outline of the earthquake

【Date & Time】January 17, 1995 5:46 a.m.
【Epicenter】Northern Awaji Island at depth of approx. 16Km
【Magnitude】7.3 on the Richter scale

Outline of the damages

Dead： 6,434 persons
Damaged Houses (completely /partially)： 249,180 houses
Evacuated (at the peak): 320,000 persons
Amount of direct damage : approx.10 trillion yen (approx. 2 % of the G.N.P)

Characteristics of the Disaster

- The Earthquake occurred directly underneath an urban area.
- The Earthquake strucked a densely populated area where city functions were concentrated（Suffering population：3.6 million）
- The Earthquake caused damage in a zonal area along a fault line.
(East - West approx. 30Km, North - South approx.2-3 Km)
- The Earthquake strucked an aging society.

2 Disaster Reduction and Human Renovation institution

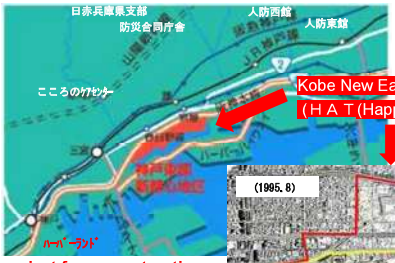
Design concept for the West Building

〇The design of glass cubes floating on the basin symbolizes the lessons of the great earthquake disaster that caused water shortage. The entire building is a memorial monument of the earthquake disaster.
〇The design covering the four sides with glass and capturing the surrounding scenery expresses the importance of helping together.
〇The design where the glass surface is stepped from the center to the outside expresses the continued transmission of knowlege.

2 Disaster Reduction and Human Renovation institution

(1) The location of our Institution

Location：Kobe New Eastern City Center(ＨＡＴ(Happy Active Town)KOBE)



Symbol project for reconstruction from the Disaster.

Kobe City：Infrastructure Development(Land readjustment project)
Hyogo Pref.：Establishment and attraction of the facilities in the center area.
Houses：approx. 7,000 houses
Reconstruction Public Housing approx..3,550 houses

2 Disaster Reduction and Human Renovation institution

(2) Mission of the Institution

Established：By Hyogo Prefecture in April 2002 with cooperation with the central government（the construction cost and running cost have been subsidized by the central government for the West Building）

Executive Director：Dr. Yoshiaki Kawata Ph.D
Professor Emeritus, Kyoto University,
Faculty of Safety Science and Graduate School of Safety, Kansai University Executive Director and Chair Professor

■ Mission

By Sharing the experiences of the Great Hanshin-Awaji Earthquake and applying the lessons to the better future

Cultivating a disaster resilient culture

Reducing social risk and vulnerability

Supporting for development of policies for disaster reduction

Contribution for realizing
a safer and more secure civil society

■ Six Function

(3) Six Function of DRI

① Museum Exhibits

■ **West Building**(Sharing the experiences of the Great Hanshin-Awaji Earthquake and applying the lessons to the better future)

4F : ▪ Reproduction video of the moment of the Great Hanshin-Awaji Earthquake,
▪ Drama video that introducing the process of recovery and reconstruction from just after the earthquake

3F : ▪ Exhibition of materials that share the disaster situation, experiences and lessons learned from the earthquake
▪ Storyteller's Corner

2F : ▪ Disaster Reduction learning through experiments and games
▪ Special Exhibition for Disaster Reduction

■ **East Building** (Learnning about threats of wind and water related disasters and tsunami)

3F : Tsunami Evacuation Experience Corner, Possible Nankai trough earthquake's Tsunami height banner etc.

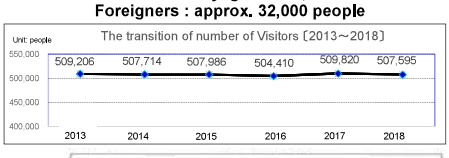
1F : Documentary 3D video of recovery process in areas affected by the Great East Japan Earthquake

West Building

East Building

☐ Visitors

Visitors since opening (as July 2018) : 8 million
Visitors in FY 2018 : 507,595 people
Characteristic : Group Visitors : approx. 70%;
Elementary, Junior & Senior high school students: 60% ,
Visitors from Hyogo : 20% ,
Foreigners : approx. 32,000 people



国別順位	2015		2016		2017		2018	
1 位	VIETNAM	8, 948	VIETNAM	7, 056	KOREA	7, 887	VIETNAM	8, 336
2 位	KOREA	3, 479	KOREA	3, 780	VIETNAM	7, 042	KOREA	7, 034
3 位	CHINA	2, 666	CHINA	2, 471	Malaysia	2, 904	CHINA	3, 199

☐ Operational Voluntary Staff

135 people(as of April 2020) 15～25 People/ 1 day

Operational types

- ○Exhibit Explainers and guides
- ○Story Tellers about his/her disaster experience
- ○ Exhibit Explainers in Foreign languages

Number of registered by gender and age (gender/age ratio %) As of April 1 ,2019

gender	30 Under	30S	40S	50S	60S	70S	80 Over	total
male	0	1	1	5	17	35	27	86
female	0	1	2	5	13	18	10	49
total	0	2	3	10	30	53	37	135

○The most registered are in their 70s. 53 people(39.3%). This is followed by 37 people(27.4%) over the age of 80. There are 30 people (22.2%) in their 60s. There are 120 people over the age of 60, accounting for 88.9% of the total.

○The overall average age was 71.7, the average age for male was 74.1 years, and the average age for female was 69.3 years.

2 Disaster Reduction and Human Renovation institution

② Collection and Preservation of source documents and materials

■ Number of collected & observed materials

○Started since October 1995

○Donated by citizens of Hyogo Prefecture

Primary Materials：Approx. 190,000 items
"Live" materials such as leaflets, flyers, notes, memos, photos, and items used in shelters

Secondary Materials: Approx. 40,000 items
Books, magazines and other publications, videos, audio-visual materials such as DVDs, etc.

■ Library（West Building)

○ Viewing Materials

Primary Materials: You can search them by using computers in the library or online search system

Secondary Materials: Please feel free to read through materials in the open stack library

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2 Disaster Reduction and Human Renovation institution

③ Practical Research on DR & Development of DR Professionals

■ Fostering Researchers

○Candidates with Ph.D. degree are eligible for employment for 3-5 years as a researcher. (9 Researchers, as of November 11, 2019)

○Under the guidance of Senior Researchers, who are leading Disaster Reduction Specialists in Japan, all researchers conduct not only individual research but also group research, as well as research that is themed by all members.

○After their term of office, they made use of their experience at the center and continued research at universities nationwide.

■ Characteristics as a research institution

○Practical research that can be used for disaster response that the government performs mainly in the event of a disaster, which cannot be done by academic research institutions such as universities

Research Fields：①Government Disaster management, ②Emergency evacuation measures, ③Search and Rescuer measures, ④Secondary disaster measures, ⑤Resources, ⑥Information measures, ⑦Volunteers, ⑧Infrastructure, ⑨Care for victims, ⑩Local economy

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2 Disaster Reduction and Human Renovation institution

④Training of Disaster management Practitioners

■ Character of training

○ Targets are disaster management officers of local governments nationwide

○ Practical training based on lessons from the Great Hanshin-Awaji Earthquake

○ Systematically covering matters necessary for major disaster countermeasures

○ 10,090 participants (as of December 2019)　(☆ Disaster Management)

Courses		Target	Period	Capacity (People)	Objective
Top Forum		Governor Mayor	Half a day (3 Pref / year)	——	Fostering roles and leadership required for local government leaders
Manag ement Course	Advanced	Senior local Government official(☆)	2 days (Spring)	20	Improve the ability of those who assist local government leaders
	Expert A	local Government official (☆)	4 days (Spring・Fall)	20	Improve disaster response capabilities through case studies and exercises
	Expert B			20	
	Basic	local Government official with less experience(☆)	3 days (Spring)	70	Acquisition of basic knowledge and techniques related to disaster countermeasures
Intensive Course		local Government official	1～2 days	——	Map training, mental care, media research on disaster reduction , etc.

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2 Disaster Reduction and Human Renovation institution

⑤ Headquarter Survey / Assistance in disaster Response

○ In the event of a large-scale disaster, the DRI can , upon request by the stricken prefectures, dispatch researchers in disaster risk reduction to disaster management headquarters in the prefectures.

○ Investigation of the current situation and challenges in the area. & Advise disaster countermeasures for proactive decision making.

○ Dispatched 58 times in Japan and overseas (43 in Japan, 15 overseas)

Main Example

In Japan

2004 The Chuetsu Earthquake
2011 The Great East Japan Earthquake
2016 The Kumamoto Earthquake
2018 The Osaka Earthquake, The Heavy Rain Event of July, The Hokkaido Eastern Iburi Earthquake
2019 Typhoon No. 19 disaster

Overseas

2003 The Bam Earthquake
2004 The Indian Ocean Earthquake and tsunami
2008 The Great Sichuan Earthquake
2015 The Nepal Earthquake

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2 Disaster Reduction and Human Renovation institution

⑥ Exchange and Networking

● There are many international organizations related to disaster reduction, medical care, health care, environment, etc. in the East building and the Kobe new eastern Center (19 international organizations consists the Disaster Reduction Alliance (DRA)).

● A network is formed with administrative practitioners and researchers who have attended training in order to implement a coordinated response in the event of a disaster.

●Conducted disaster drills in cooperation with HAT Kobe community organizations, schools, and related organizations.

● WHO Kobe Centre

● Kansai International Center, Japan International Cooperation Agency (JICA)

● United Nations Disaster Risk Reduction (UNDRR) Office in Japan
● International Recovery Platform (IRP)
● Asia Disaster Reduction Center (ADRC)
● United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Kobe Office
● Asia-Pacific Network for Global Change Research (APN)
● International EMECS Center
● Institute for Global Environmental Strategies (IGES)
■ Hyogo Earthquake Memorial 21st Century Research Institute
■ Education and Research Center for Disaster Reduction, University of Hyogo

■ Hyogo Emergency Medical Center
■ Hyogo Chapter, Japanese Red Cross Society
■ Hyogo Institute for Traumatic Stress
■ Kobe Red Cross Hospital

★ Disaster Reduction and Human Renovation Institution

■ Kobe Local Meteorological Observatory (in Kobe National Government Building for Disaster Prevention)

●Hyogo Earthquake Engineering Research Center (Miki City)

● International organizations
■ Base facilities for Reconstruction from the disaster

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2 Disaster Reduction and Human Renovation institution

⑥ Exchange and Networking

□ Disaster memory action KOBE

In order to cultivate human resources who can make use of the lessons learned through disaster risk reduction activities, students enter areas affected by the Great Hanshin-Awaji Earthquake with the theme of "Kobe words" and plan interviews, questionnaires, etc.

□ "Bosai Koshien" 1.17 Disaster Risk Reduction for the Future Award

Awarded for advanced disaster risk reduction education and disaster risk reduction activities that children and students are actively working in schools and communities to help create a safer and more secure society for the future.

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2 Disaster Reduction and Human Renovation institution

⑥ Exchange and Networking

- **Disaster Reduction Alliance (DRA) Forum**

  Organizing international forums for the realization of a safer and more secure disaster resilient society in collaboration with international disaster risk reduction organizations gathering in HAT Kobe.

- **Storyteller Forum telling about the Great Hanshin-Awaji Earthquake**

  Looking back on those who are active in the field of corporate activities and story-telling activities, reviewing the history of reconstruction so far, thinking about how to use and communicate the experiences and lessons learned from the earthquake, and how to prevent the earthquake from weathering Holding a forum.

  Date ：13:00～17:00 February 3, 2020 (Monday)

  Venue：Hyogo House, Main conference Room

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Thank you for your attention

DRI

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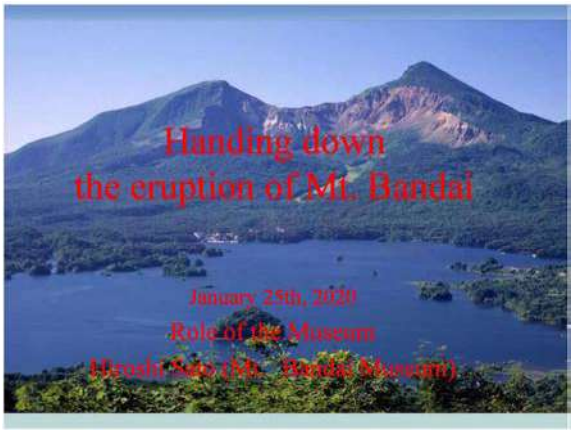
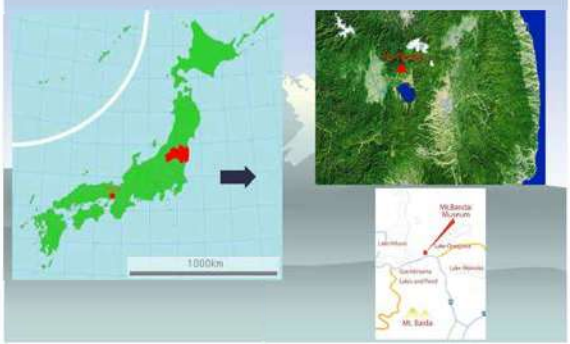
佐藤公
Hiroshi Sato



Location of Mt. Bandai



Debris avalanche eruption phenomenon

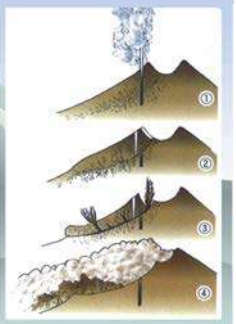
- It occurs about once in 100 years
- in Japan.
- Type
- a. The sticky magma rises and cracks in the mountain
- b. Crack in mountain due to steam eruption
- c. he shaking of the earthquake triggers the collapse of the mountain.

A debris avalanche and Flow mounds

- Suddenly the mountain collapses, making it difficult to learn disasters

The eruption of 1888

- **1.** Eruption precursor
- Daily ringing (earthquake) has occurred since July 8.
- **2.** Scene from the day of the eruption (July 15)
- ▪**7:00** Small earthquake
- ▪**7:30** Big earthquake
- ▪**7:45**
- The top of Mt. Ko-Bandai exploded.
- Black smoke rises 1500m Explodes 15 to 20 times



Damage from the 1888 eruption

- 1. Eruption size
- Small Bandai collapsed deposit:
- 1.2 billion cubic meters
- Eruption damage
- Number of deaths: 477
- (Japan's largest volcanic disaster since the Meiji era)

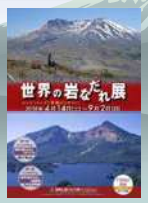
An annual memorial festival

In order to prevent the eruption disaster from fading away

two temples in Inawashiro hold memorial services alternately.

In Kita-shiobara Village, the cemetery is being continued

Mt. Bandai Museum



- It was opened in 1988 to commemorate the 100 year anniversary of the eruption.
- Nobody knows about the eruption of Mt. Bandai anymore
- Mission to pass on the eruption of Mt. Bandai to future generations
- More than 500 lectures on volcano delivery
- A total of 3 million people visited the museum.

Excavation of past disaster data

- National Science Museum, Imperial Household
- Calligraphy Department, etc.
- From various places to the eruption of 1888
- Collect related materials
- They use those materials
- to tell their stories.

Disaster prevention class at Urabandai Junior High School

- Disaster prevention classes continued since 2001
- Students think not only in lectures Incorporates classes

Field class

- Continued since 2002
- Teaching at the site of the eruption will advance understanding of the volcano
- Other schools have started offering field classes.

Bandai-san Geopark

- In 2008, curators from the Fukushima Prefectural Museum and I joined the project to found the "Executive Committee to turn Mt. Bandai into a geopark“
- 2009 Created and distributed guide book
- 2010 Council established
- 2011 Japan Geopark Certification

Disaster Geo Tour

- Since 2010, the area damaged by the eruption of Mt. Bandai Start "Disaster Geo Tour" to visit
- Recently, local residents talk about past disasters

ポルンタム タムウィモル
Pornthum Thamwimol

2020 INTERNATIONAL FORUM
ON TELLING LIVE LESSONS FROM DISASTERS

BAN NAMKHEM MEMORIAL & MUSEUM

Presented by Pornthum Thumwimol, Ph.D.

Contents

Presented by Pornthum Thumwimol

About Project

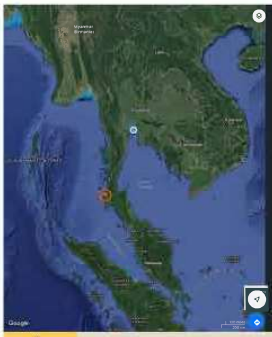
Owner: Ministry of Culture, Thailand.

Budget : 90 million Thai baht.

Architect : Pornthum THUMWIMOL, Ph.D.
Fine Arts Department, Bangkok.

Tsunami hit area at Ban Namkhem, Phang Nga Province, Thailand, 2004.

TSUNAMI DISASTER ON DECEMBER 26, 2004 WAS ONE OF THE MOST DEVASTATING NATURAL DISASTERS IN THAI HISTORY, CAUSING SERIOUS DAMAGE TO LIFE AND PROPERTIES THROUCHOUT THE ANDAMAN COAST, ESPECIALLY PHANG NHA PROVINCE, THAILAND.



Location

Ban Nam Khem Village,
Takua Pa District, Phang Nga Province,
Thailand.

Location

Ban Nam Khem Village,
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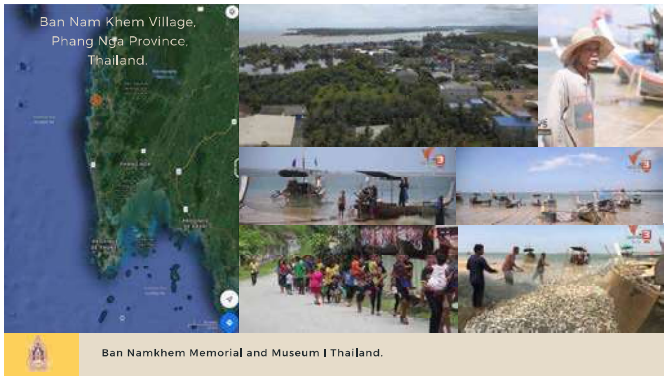


Ban Namkhem Memorial and Museum I Thailand.

Ban Namkhem Memorial and Museum I Thailand.

Tsunami Hit area 2004

Tsunami disaster Learning Center, Museum and Memorial

The Current Location

Area app. 8,000 square metres
2 Fishing Vessels

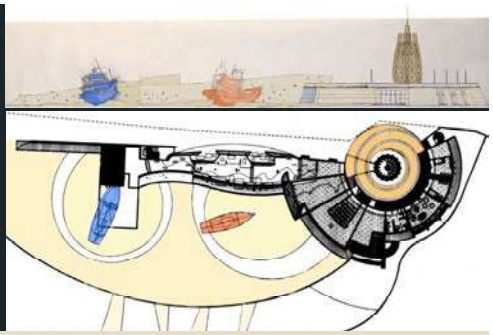
Ban Namkhem Memorial and Museum I Thailand.

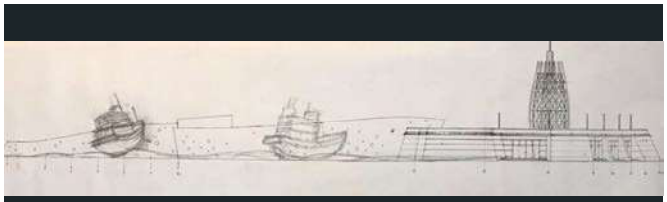
The construction begins in 2016

with the conservation of two vessels

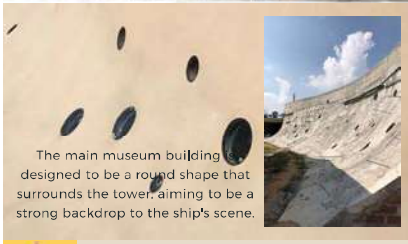
SITE PLANNING & ARCHITECTURE

The main museum building is designed to be a round shape that surrounds the tower, aiming to be a strong backdrop to the ship's scene.





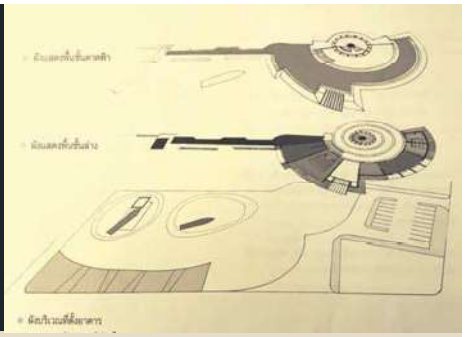
The ships and wrecks founded in the disaster are displayed on the sand ground in the open-air for simulation.



The main museum building is designed to be a round shape that surrounds the tower, aiming to be a strong backdrop to the ship's scene.

ARCHITECTURE

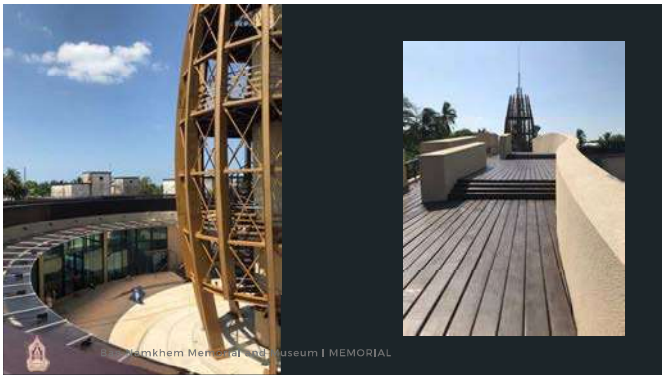
In addition to the information center, indoor exhibition space and conference rooms, there is also an important section that serves as a disaster warning center and emergency shelter.



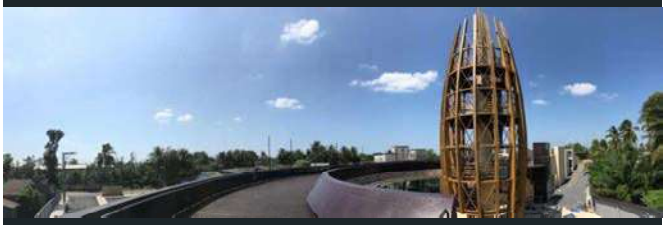
The 3-story observation deck, 12 meters high, has been designed with steel structures. The architectural style of tower was inspired by the local fishermen's fishing tool.

The open top floor of the museum building, the semicircle space around the observation tower is placed a remembrance area dedicated to the victims of the tsunami at Ban Nam Khem, approximately 2000 peoples.

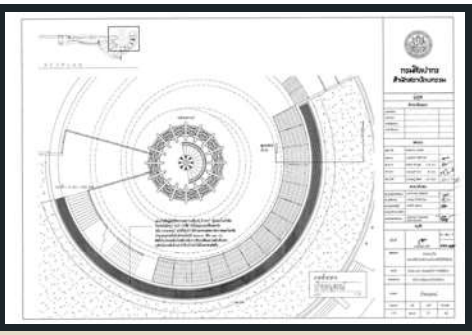
Ban Namkhem Memorial and Museum | MEMORIAL



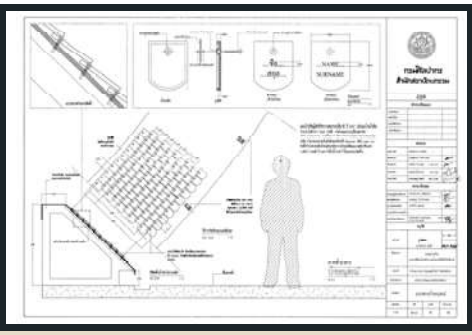
Ban Namkhem Memorial and Museum | MEMORIAL



Ban Namkhem Memorial and Museum | MEMORIAL



Ban Namkhem Memorial and Museum | MEMORIAL



Ban Namkhem Memorial and Museum | MEMORIAL

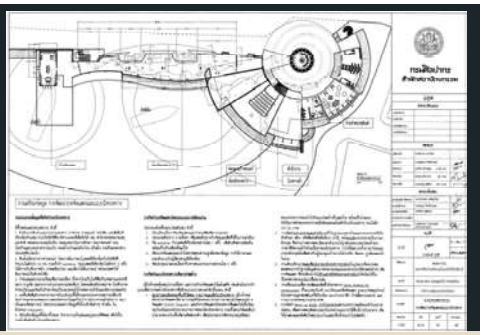
The architectural design uses the local art, the landscape and vegetation are unique, calming and respect for the place to convey the lives of local fishermen as well as the cultural landscape and history of natural disasters by recognizing the potential of community development and sustainable tourism.

Ban Namkhem Memorial and Museum | ARCHITECTURE

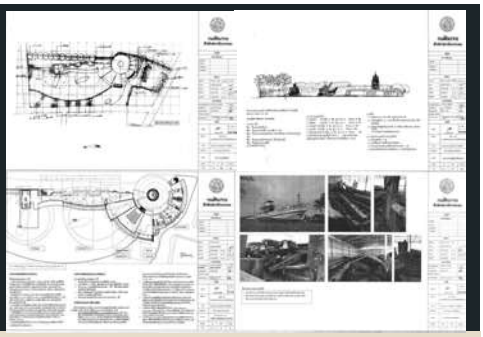
INTEROIOR DESIGN & EXHIBITION

UNDER CONSTRUCTION

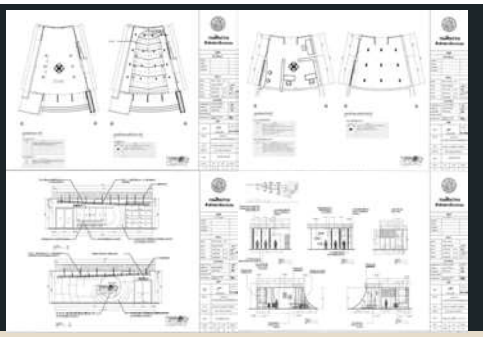
Ban Namkhem Memorial and Museum I INTERIOR



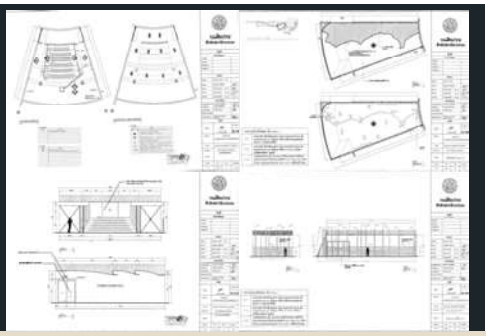
Ban Namkhem Memorial and Museum I INTERIOR



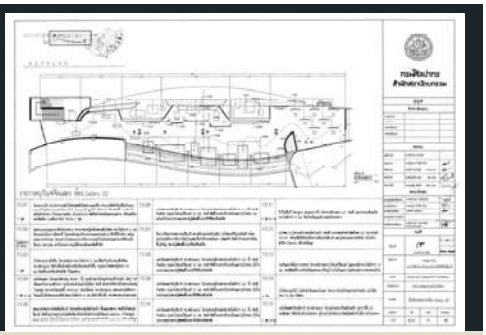
Ban Namkhem Memorial and Museum I INTERIOR



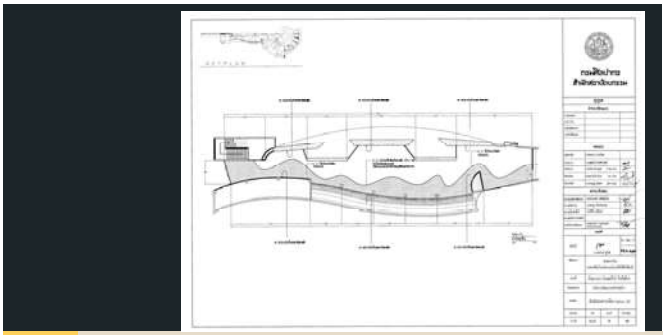
Ban Namkhem Memorial and Museum I INTERIOR



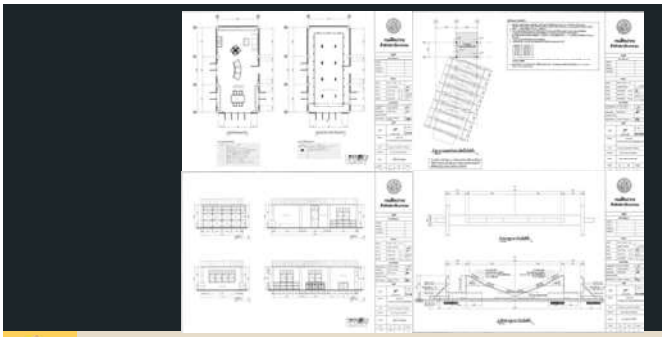
Ban Namkhem Memorial and Museum I INTERIOR



Ban Namkhem Memorial and Museum I INTERIOR

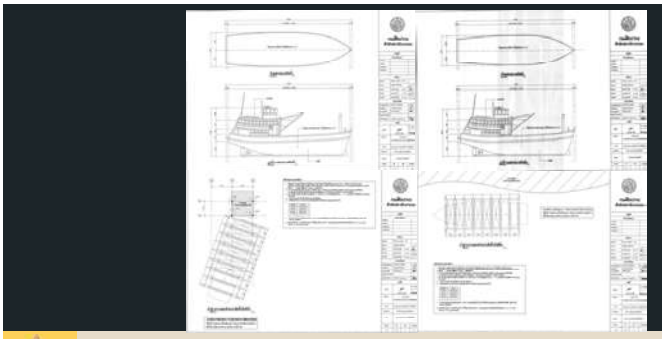


Ban Namkhem Memorial and Museum I INTERIOR

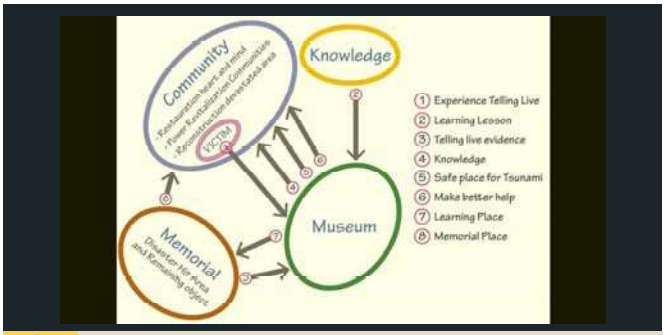


Ban Namkhem Memorial and Museum I INTERIOR

Ban Namkhem Memorial and Museum I CONSERVATION OF VESSELS



Ban Namkhem Memorial and Museum I CONSERVATION OF VESSELS

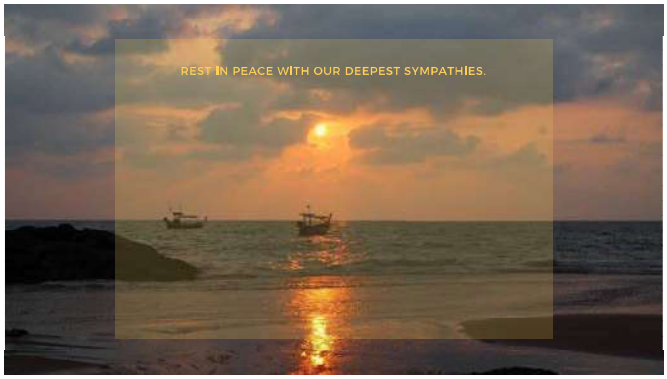


Ban Namkhem Memorial and Museum I CONCLUSION

From real experience...

My wife and I are one of the victims who survived the tsunami in 2004.

Source :
Daily News Newspaper, 10 Jan. 2005.


REST IN PEACE WITH OUR DEEPEST SYMPATHIES.

ラチャニーコーン　ソンティップ
Ratchaneekorn Thongthip

INTERNATIONAL TSUNAMI MUSEUM

TSUNAMI MEMORIAL MUSEUM

Khao Lak, THAILAND

On 26 December 2004, Thailand was hit by the greatest natural disaster in its history. A massive earthquake measuring magnitude 9.3 occurred off the west coast of Northern Sumatra, creating giant tsunami waves that devastated the shores of 14 countries around the Indian Ocean. The waves ravaged the Andaman Coast of Thailand causing unprecedented death and destruction in six coastal provinces.

About the museum

- The Museum was founded on 19 July, 2006
- The purpose of the museum are
1. To increase awareness and knowledge of tsunamis and natural disasters
2. To help and support the local children
- The museum is operated by the Institute for Education and Culture (a non-profit organization)
- The museum runs by the only organization's implementing and the kind donation support from the museum visitors without any fund from any other units since its inception of the museum until the present time.

Tsunami museums in Thailand operating in two sites in Phang-Nga Province the most affected area in Thailand. The International Tsunami Museum and Tsunami Memorial Museum were formed by student leaders who were strongly committed to social work supporting tsunami-related events.

Opening its doors in 2006, the museum's purpose is to increase awareness about tsunamis and other natural hazards.

Institute for Education and Culture

The Institute for Education and Culture, a non-profit organization operates the International Tsunami Museum and Tsunami Memorial Museum, which have recognized for its outstanding social contributions at the province level. The Institute for Education and Culture was awarded by the board of National Social Welfare and the Ministry of Social Development and Human Security as well as the National Council on Social Welfare of Thailand.

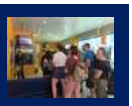


Open daily during 9:00-21:00 all year round, both museums receive no direct funding from other organizations. The museum management is administered by a committee comprised of a number of academic lectures and the Director Ms. Ratchaneekorn Thongthip. Small personal contributions allowed the hiring of an officer to take care of the museum. Most generously, entrance to the museum is entirely free for the local residents, children and school, and donation are used for supporting the local children. The museum shows the exhibits which include animations and videos of the cause of tsunami, tsunami warning sign, the impact of the tsunami on the environment, tsunami survivor stories, early warning systems , sand sheets of Phra Thong Island providing tangible evidence that the 2004 tsunami was not the first of its kind. The visitor of the museums include ambassadors, international university study tours and notable celebrities.

Open 9.00 a.m. – 9.00 p.m. Every Day

- EXHIBITIONS, ANIMATIONS, PHOTOS
- TSUNAMI VIDEOS
- The Indian Ocean Tsunami 2004
- Tsunami Survivor Stories
- How to Survive a Tsunami
- Tsunami Warning Signs
- Tsunami Warning System







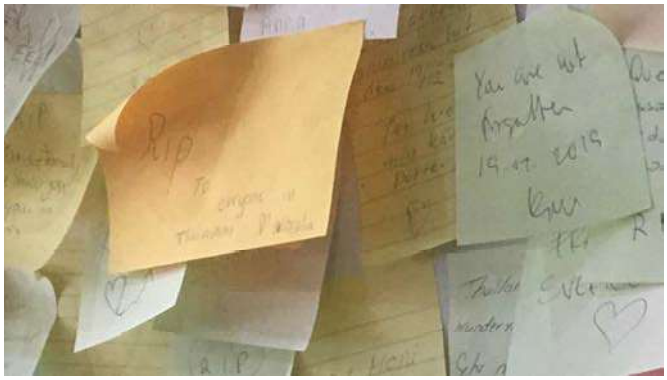

MUSEUM AND COMMUNITY











TSUNAMI EVACUATION DRILL

Disaster Tour : Tsunami storytelling from a museum

In 2019, the museum starts the Disaster Tour to show the knowledge and information about the tsunami, travel to the tsunami affected area, storytelling, telling live lessons and geopark. The Role of the Tsunami Museums as centers for knowledge transmission, passing-on the memories and prepare for the future.

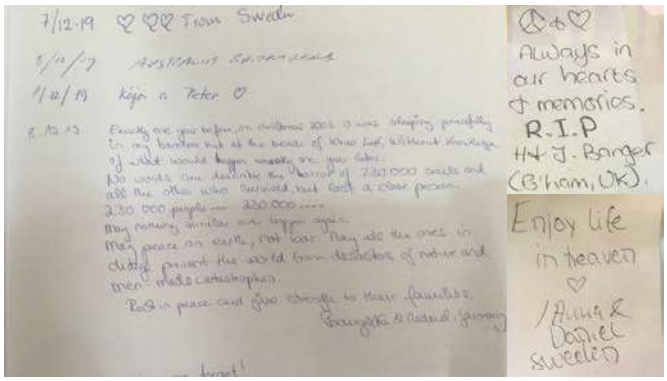
The Important of Strong Network and Technical Assistance

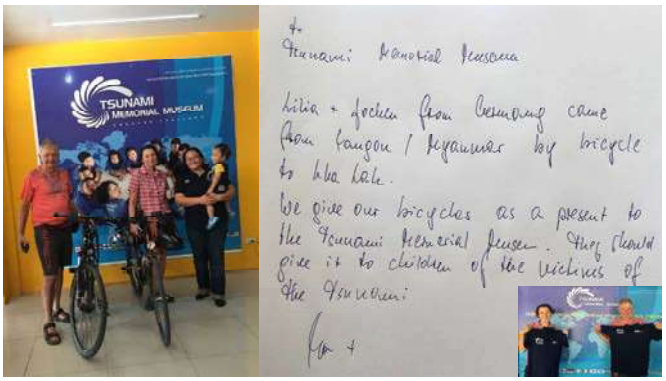
By an introduction of Japan Embassy in Thailand, JICA invited the museum director to attend the World Tsunami Museum Conference in 2017 which the museum director got chance to meet Assoc. Prof. Anawat Suppasri, International Research Institute of Disaster Science at Tohoku University.

He keeps supporting the technical assistance and is now one of the museum advisors.

Phra Thong Island Research Project

Narration and Sustainable Operation of the museum





Ms. Ratchaneekorn Thongthip
Director
International Tsunami Museum
THAILAND

E-mail : ratchaneekorn.thongthip@gmail.com
Mobile Phone : (+66) 081 442 5660

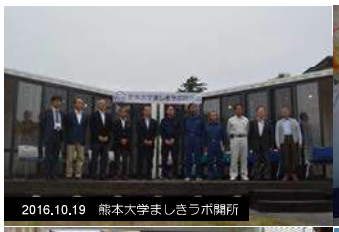
International Tsunami Museum
9/60 M.6 Khuakhak, Takuapa, Phang-nga 82220
THAILAND

田中尚人
Naoto Tanaka

b　語り継ぎとツーリズム分科会
（Telling live lessons and tourism）分科会
◆セッションの運営方針
　３つの「つなぐ」をテーマにセッションを運営します。
１．災害後と災害前をつなぐ
　：日常と非日常，五感の風景を基盤とした語り継ぎ
２．地域住民と来訪者をつなぐ
：着地型観光やオルタナティブツーリズム
３．被災地と未災地をつなぐ
　：観光が引っ張る復興，あるものを活かす「地域らしさ」
　３つの「つなぐ」を，「知る，考える，伝える」という学びのあり方，先生徒という学ぶ姿勢に結び付けて話し合う。

ワークショップの約束：他人を否定しない，人の話をちゃんと聞く，自分の言葉でかたる

2017.8.27（日）13:30　「みんなの熊本城プロジェクト」ワークショップ



2016.10.19　熊本大学ましきラボ開所

2016.11.5

2016.11.20

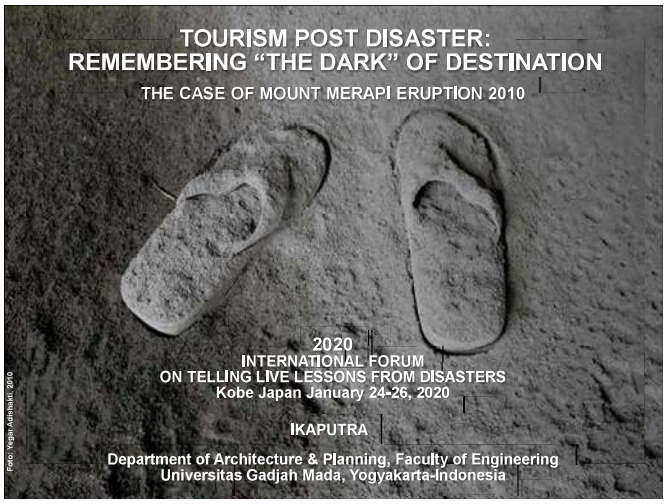
2017.12.11

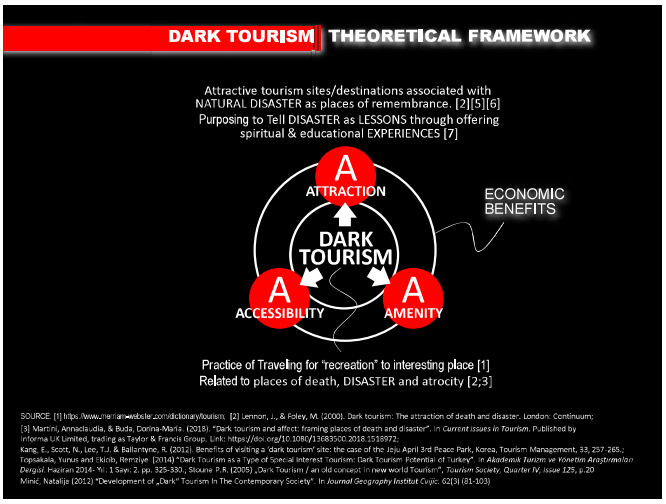
熊本大学ましきラボの活動「オープンラボ」

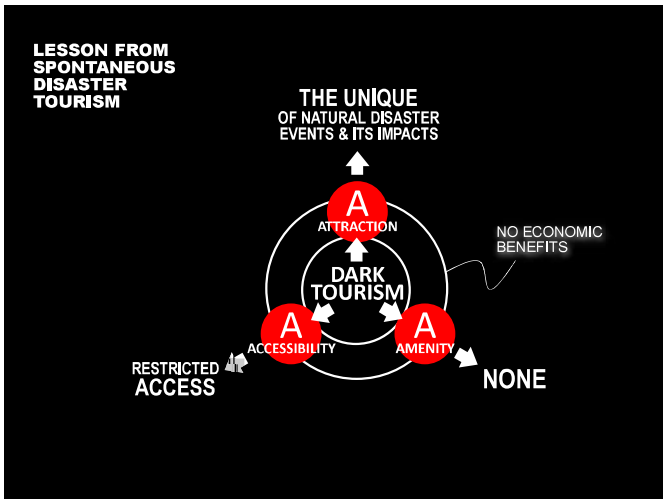
2018.7.15（日）故郷復興熊本会議@健軍文化ホール

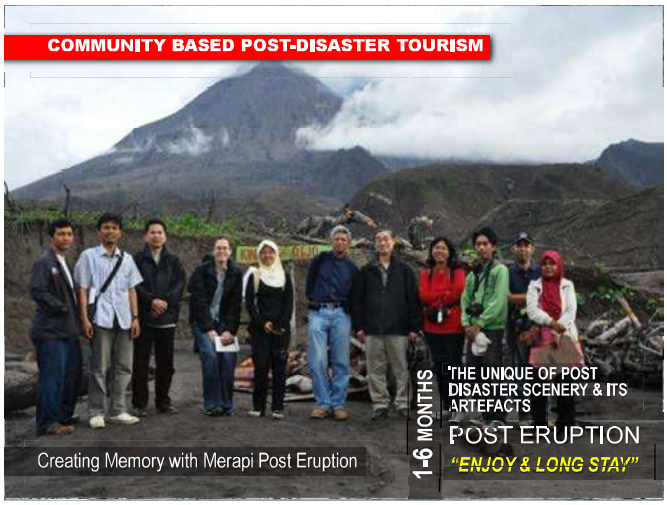
イカプトラ

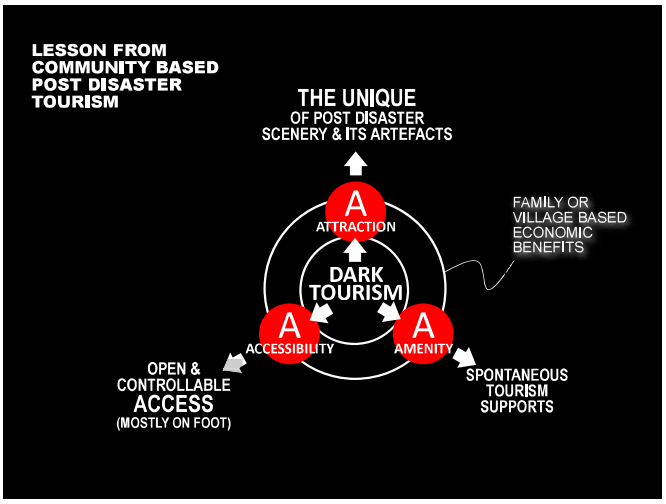
Ikaputra

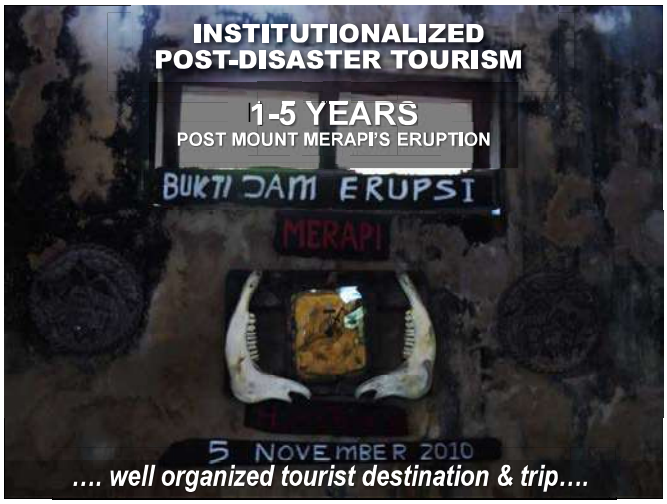




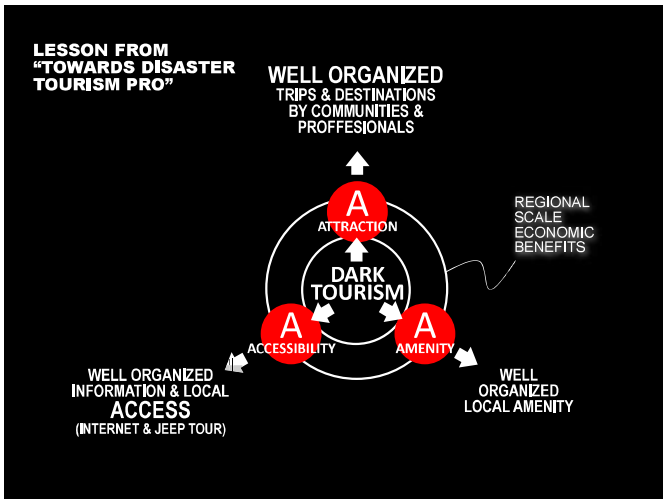


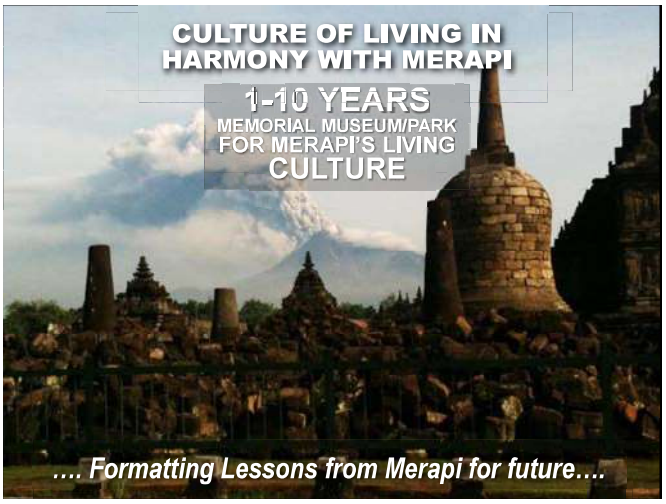

COMMUNITY BASED POST-DISASTER TOURISM
Creating Memory with Merapi Post Eruption
1-6 MONTHS
THE UNIQUE OF POST DISASTER SCENERY & ITS ARTEFACTS
POST ERUPTION
"ENJOY & LONG STAY"

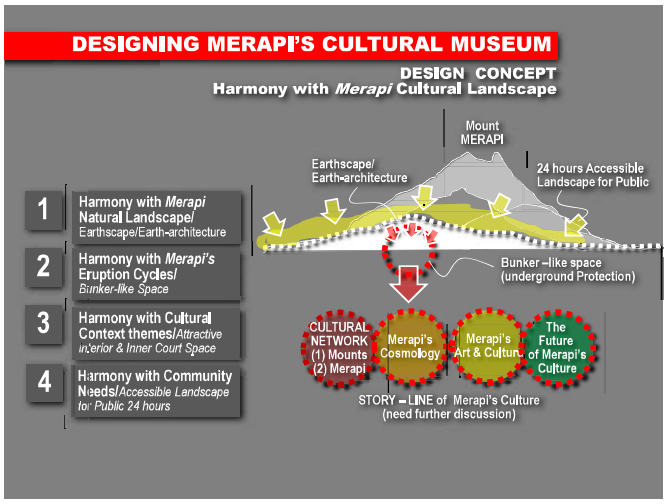

LESSON FROM COMMUNITY BASED POST DISASTER TOURISM
THE UNIQUE
OF POST DISASTER SCENERY & ITS ARTEFACTS
A ATTRACTION
DARK TOURISM
A ACCESSIBILITY
A AMENITY
FAMILY OR VILLAGE BASED ECONOMIC BENEFITS
OPEN & CONTROLLABLE ACCESS
(MOSTLY ON FOOT)
SPONTANEOUS TOURISM SUPPORTS


INSTITUTIONALIZED POST-DISASTER TOURISM
1-5 YEARS
POST MOUNT MERAPI'S ERUPTION
BUKTI DAM ERUPSI
MERAPI
5 NOVEMBER 2010
.... well organized tourist destination & trip....

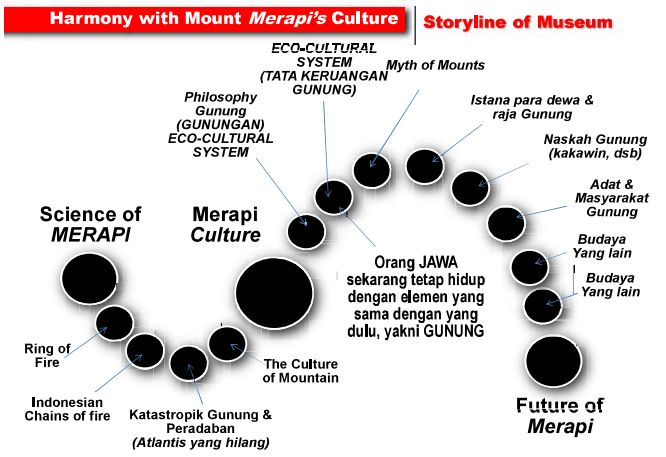

INSTITUTIONALIZING POST-DISASTER TOURISM
Well organized Community Amenity (Local Souvenirs)
1-5 YEARS
THE WELL DEVELOPED POST DISASTER TOURIST TRIP & DESTINATION
TOWARD TOURISM PRO
COMMUNITY BUSINESS


LESSON FROM "TOWARDS DISASTER TOURISM PRO"
WELL ORGANIZED
TRIPS & DESTINATIONS BY COMMUNITIES & PROFFESIONALS
A ATTRACTION
DARK TOURISM
A ACCESSIBILITY
A AMENITY
REGIONAL SCALE ECONOMIC BENEFITS
WELL ORGANIZED INFORMATION & LOCAL ACCESS
(INTERNET & JEEP TOUR)
WELL ORGANIZED LOCAL AMENITY


CULTURE OF LIVING IN HARMONY WITH MERAPI
1-10 YEARS
MEMORIAL MUSEUM/PARK FOR MERAPI'S LIVING CULTURE
.... Formatting Lessons from Merapi for future....


DESIGNING MERAPI'S CULTURAL MUSEUM
DESIGN CONCEPT
Harmony with Merapi Cultural Landscape
Mount MERAPI
Earthscape/ Earth-architecture
24 hours Accessible Landscape for Public
1 Harmony with Merapi Natural Landscape/ Earthscape/Earth-architecture
2 Harmony with Merapi's Eruption Cycles/ Bunker-like Space
3 Harmony with Cultural Context themes/Attractive interior & Inner Court Space
4 Harmony with Community Needs/Accessible Landscape for Public 24 hours
Bunker –like space (underground Protection)
CULTURAL NETWORK (1) Mounts (2) Merapi
Merapi's Cosmology
Merapi's Art & Cultur
The Future of Merapi's Culture
STORY – LINE of Merapi's Culture (need further discussion)


Harmony with Mount Merapi
Harmony with Merapi's Eruption
(Bunker Like Museum)
MERAPI CULTURAL MUSEUM


Harmony with Mount Merapi's Culture
Storyline of Museum
ECO-CULTURAL SYSTEM (TATA KERUANGAN GUNUNG)
Myth of Mounts
Philosophy Gunung (GUNUNGAN) ECO-CULTURAL SYSTEM
Istana para dewa & raja Gunung
Naskah Gunung (kakawin, dsb)
Adat & Masyarakat Gunung
Budaya Yang lain
Budaya Yang lain
Science of MERAPI
Merapi Culture
Orang JAWA sekarang tetap hidup dengan elemen yang sama dengan yang dulu, yakni GUNUNG
Ring of Fire
The Culture of Mountain
Indonesian Chains of fire
Katastropik Gunung & Peradaban (Atlantis yang hilang)
Future of Merapi


Harmony with Mount Merapi's Culture
Storyline of Museum
Framing the Mount for Future Culture
Indoor-Outdoor


FORMATTING LESSONS FROM MERAPI FOR FUTURE
LOST HOME
Inspiring & Working with Prof Osamu Tsukihasi
9 YEARS
CULTURE OF LIVING IN HARMONY WITH MERAPI
MEMORY OF THE LOST
COMMUNITY HISTORY


Earth Manual Project Exhibition
LOST HOME Model Restoration Project

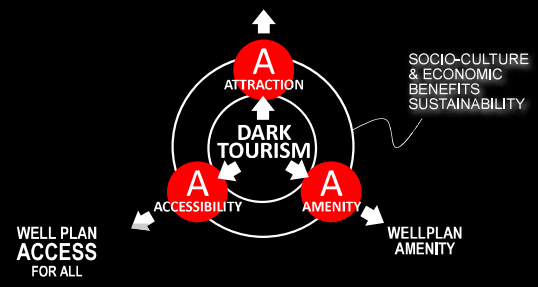
Earth Manual Project Exhibition LOST HOME Model Restoration Project

FORMATTING LESSONS FROM MERAPI FOR FUTURE

Bakalan's LOST HOMES PROJECT TEAM (Kobe-U & UGM)

LESSON FROM CULTURE OF LIVING IN HARMONY WITH MERAPI

Formatting Lessons from Merapi for future
(Profesional/Community Version)



THANK YOU VERY MUCH

草野悟
Satoru Kusano

SANRIKU RAILWAY
corporate slogan

笑顔をつなぐ‥ずっと

Connecting smiles...all the time

Economic Ripple Effect on the Area by Sanriku Railway

「つなぐ」が地方の衰退を止める

公益財団法人 さんりく基金 総括コーディネーター
Public Interest Incorporated foundation SANRIKU FUND General advisor
三陸鉄道株式会社 総合アドバイザー
SANRIKU RAILWAY inc General advisor

草野 悟
SATORU KUSANO

三陸鉄道【略称:三鉄】の概要

◎三陸鉄道㈱は、岩手県の陸中海岸を縦貫する路線を持つ、第三セクター方式の鉄道会社

◎国鉄再建法により「特定地方交通線」に指定された旧国鉄盛線(盛～吉浜)・宮古線(宮古～田老)・久慈線(普代～久慈)、及び旧日本鉄道建設公団で建設中だった吉浜～釜石・田老～普代を引き受け、**昭和59年4月1日に全国で最初の特定地方交通線転換の第三セクターとして開業**

◎運行区間
・北リアス線：宮古～久慈駅 71.0km
・南リアス線：盛～釜石駅 36.6km

◎資本金 3億円(県、沿線市町村等が株主)

◎本社 宮古市(運行部は久慈市と大船渡市)

◎開業から10年間は黒字、以後はずっと赤字

荒川橋梁

神戸はじめ関西、四国、九州ほか全国からの温かい支援に心より感謝しています

苦難の復旧活動の結果
5年後、全線の復活と
なりました。

沿岸各都市の復旧活動の
中では、いち早い復旧と
なりました。

第三セクター鉄道として日本最長のローカル線　三陸鉄道リアス線

平成31年　3月23日　一貫鉄道全通

盛駅　・・・・　久慈駅　163キロ

昭和５９年４月１日開業
災害復旧　平成26年4月1日
南北リアス線　全線開通

北リアス線　71・0キロ
旧山田線　55・4キロ
南リアス線　36・6キロ

北リアス線　旧ＪＲ山田線　南リアス線

久慈駅　田野畑駅・普代駅　宮古駅　岩住居駅・大槌駅　釜石駅　吉浜駅・三陸駅　盛駅

再び重大な危機に　2019・10．13　台風19号

Economic Ripple Effect on the Area by Sanriku Railway

三鉄の地域への貢献は

三陸沿岸の経済に大きな波及効果
三陸鉄道の収入の**20倍以上**の恩恵

三陸鉄道は、観光客一人あたりの収入は＠８００円
その一人が、地元にもたらす金は、＠１６，０００円以上

2015年、旅行代理店1社（C社）の送客数20万人を基準に計算すると

三陸鉄道の収益は
２０万人乗車 ×８００円 → 1億6千万円

三鉄による経済波及効果
沿岸には、＠１６，０００円 → **32億円**

視察団体の例

宿泊、買い物、飲食など15，000から 20，000円以上を消費

三陸鉄道の経営方針は、

現場、現実、現状は、被災現場にある。正しく伝えていくことで、防災、減災、意識の向上につながる

東日本大震災の経験と教訓を残し続けていく
震災学習列車・三鉄フロントライン研修・全社員が語り部

地域の活力向上に共に取り組み、活動を続けていく
駅-１グルメ　三陸の食の魅力を応援・全社員無償奉仕

Media effect (Population decline due to disaster news impact
話題発信の中心を担うことで、三陸の認知向上に寄与する
三鉄だけが有名になるのではなく、地域と共にある

社員が特定被災地(要望)のガイド

Sanriku railway disaster Frontline Training
三陸鉄道フロントライン研修

車両が無い中
運転士が被災地
ガイドとなって
収入を得る
努力を続けた

約　１1,５００人を案内

Earthquake learning train (tourism for students)

震災学習列車
２０１４年より本格スタート
２０１９年末現在
61，000人
1345団体

Sanriku railway disaster Frontline Training (Intensive, category-specific tourism)

震災遺構巡礼（ダークツーリズム）常時コース等検討

大槌町旧庁舎

2019年 解体

エキイチ
駅−1グルメ
毎号 ５万部 発行

2019年12月 第14号発行
累計発行部数 63万部

八戸から気仙沼までの三陸沿岸
特色のある飲食店400店舗紹介

被災したお店も、駅-1で復活多数

企画は、次々と報道にリリース、常に「話題」を提供

２０１０年３０万人 →２０１９年 ２４万人

被災地を救えるのは

定住者増 ⇦ 交流人口 ⇨

⇩

Sanriku Railway is the tow of regional symbolic reconstruction

三陸鉄道が牽引車

訪れてくれる仕組みを常に考え、それを実行する

一般観光客
支援の県内企業
教育旅行
ビジネス巡回
工事関係者
大学教授、研究者
商業、流通支援者
ボランティア
NPO、NGO
政府、行政関係者
被災地視察者
親せき、知人

半面、「負」の部分も伝えなければならない

Expecting actors over advocates and critics

１００の評論より、一人の実行者がいることがとても大事

大型公共工事は着々と完成に向かっている一方

戸建住宅、災害公営集合住宅、ライフラインの整備

三陸沿岸道、釜石道、中心市街地整備道路の整備

港湾、堤防、漁業設備等の復旧、高規格化ほぼ完成

三陸鉄道の一貫鉄道化(163キロ) 完成

宮古ー室蘭定期フェリー航路運航中 3月で停止決定

巨大防潮堤工事、水門工事 進行中完成間近

震災伝承館施設各地で完成

復興スタジアムほか沿岸各地にスポーツ施設完成

駅中心の街づくり進行中

VS

にぎわい感減少中

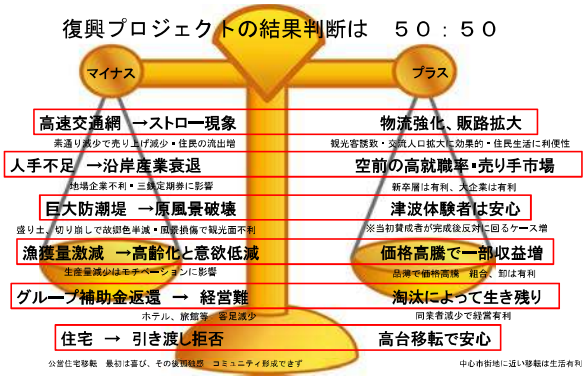
住民生活者の困窮
震災以前より苦しくなっているが６割超え

産業の衰退(人手不足)
賃金上昇・有効求人倍数上昇中・水産業停滞

人口減少の顕著化
高校生等若年層減少・高齢化率上昇

被災者健康問題浮上
新居での孤独感増幅

復興プロジェクトの結果判断は　５０：５０



工事バブルの収束

大型工事車両渋滞が解消と同時に各地で景況感低迷

公共工事の完成で工事関係者激減　‥飲食店にも影響

高規格道の完成が相次ぎ、素通り減少多発　‥小売業など客数激減

大船渡から宮古エリアの民宿の廃業相次ぐ‥‥観光産業に影響

２０１９年までの課題

補助金、交付金、低利借入　→　多額の累積借入

立派な工場　グループ補助

大型宿泊施設

民宿の閉鎖

コンビニ、スーパー等の商店衰退(高速道・通過影響)

水産業の水揚げ減少　(主力魚種の漁獲大幅減少・養殖不振)

食品加工事業所　原材料高騰、不足、労働力減少　(人手不足)

外国人ばかりでなく日本人も「福島」を敬遠

風評

福島原発事故汚染水タンク

外国では福島と三陸の区別が難しい

6月来日のフランス人シェフの言葉

岩手県でも数多くのものが販売停止中

宮城県「ホヤ」は韓国より完全シャットアウト

沿岸景気は→「風化」が売り上げに影響

風化

住民は
あまり意識
していない

生きる喜びが欲しい

楽しい毎日をおくりたい

街の元気、活気が欲しい

個人は　とまどい
「大変でしたね」と今言われても　‥‥‥

日常に戻ろうと一生懸命

地域が連携してこそ、震災ツーリズムが成立する

Earthquake-related tourism can only be realized through regional cooperation

笑顔をつなぐ、ずっと‥

資料
岩手県復興局
福島県原発被災資料
福島県植葉町資料
日本赤十字
ウェート国
三陸鉄道
岩手日報社
日刊スポーツ
元プロ野球選手
朝日新聞・関西学院大共同調査資料
2015国勢調査速報値
漁業センサス2013
岩手の工業分類別統計
東北農林水産統計(H27)
学校基本統計速報(H27)
県民経済計算
岩手県経済白書
都道府県別石油製品販売実績(H27)
NHKホームページ

写真、文　苹野　悟

山崎麻理子
Mariko Yamazaki

2020　世界災害語り継ぎフォーラム
The　International Forum on
Telling Live Lessons from Disasters

2020.01.25
一般財団法人3.11伝承ロード推進機構　山﨑　麻里子
Mariko　Yamazaki
General Incorporated Foundation
3.11 Densho Road Promotion Organization

中越メモリアル回廊
The CHU-ETSU Eaethquake Memorial Corridor

熊本地震震災ミュージアム　熊本地震　記憶の廻廊

出典：熊本県知事公室

●震災遺構の保存
●熊本地震の情報を発信する拠点の整備
●熊本地震関連の情報発信

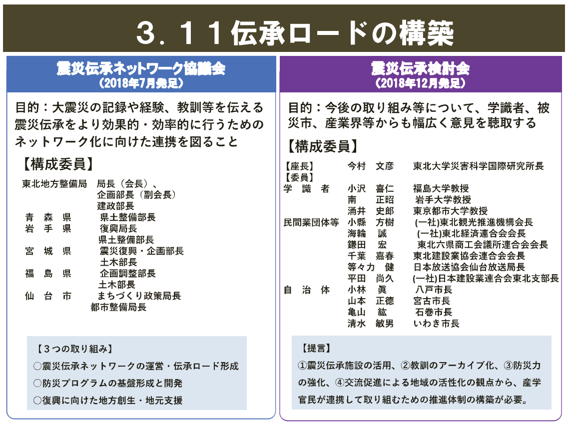
３．１１伝承ロード　3.11 Densho Road

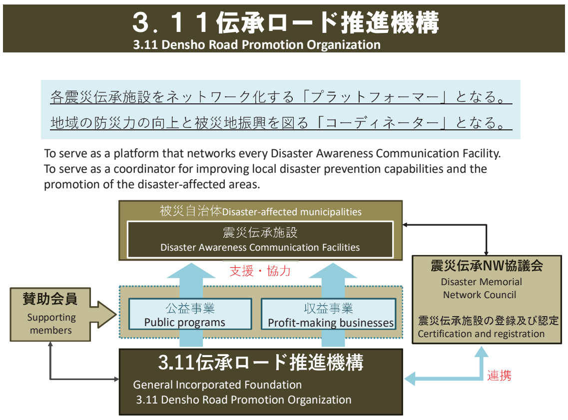
「教訓が、いのちを救う」Lessons save lives

各地に残された震災遺構

各地に整備された震災伝承施設

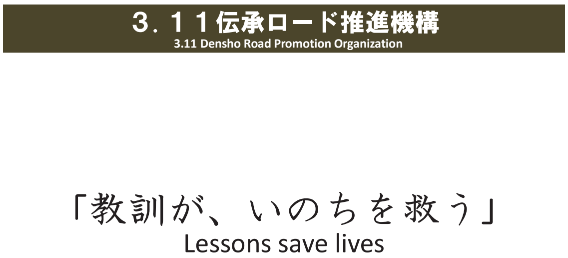

各地で行われる震災伝承活動
市民向け防災研修（ゆりあげかもめ）
会員向けスキルアップ研修（ゆりあげかもめ）
定期開催「語り部ガイド」（大川伝承の会）
市民向け防災研修（石巻伝承の会）


３．１１伝承ロードの構築
震災伝承ネットワーク協議会
（2018年7月発足）
目的：大震災の記録や経験、教訓等を伝える震災伝承をより効果的・効率的に行うためのネットワーク化に向けた連携を図ること
【構成委員】
東北地方整備局　局長（会長）、
企画部長（副会長）
建政部長
青　森　県　県土整備部長
岩　手　県　復興局長
県土整備部長
宮　城　県　震災復興・企画部長
土木部長
福　島　県　企画調整部長
土木部長
仙　台　市　まちづくり政策局長
都市整備局長
【３つの取り組み】
○震災伝承ネットワークの運営・伝承ロード形成
○防災プログラムの基盤形成と開発
○復興に向けた地方創生・地元支援
震災伝承検討会
（2018年12月発足）
目的：今後の取り組み等について、学識者、被災市、産業界等からも幅広く意見を聴取する
【構成委員】
【座長】　今村　文彦　東北大学災害科学国際研究所長
【委員】
学　識　者　小沢　喜仁　福島大学教授
南　正昭　岩手大学教授
涌井　史郎　東京都市大学教授
民間業団体等　小縣　方樹　(一社)東北観光推進機構会長
海輪　誠　(一社)東北経済連合会会長
鎌田　宏　東北六県商工会議所連合会会長
千葉　嘉春　東北建設業協会連合会会長
等々力　健　日本放送協会仙台放送局長
平田　尚久　(一社)日本建設業連合会東北支部長
自　治　体　小林　眞　八戸市長
山本　正徳　宮古市長
亀山　紘　石巻市長
清水　敏男　いわき市長
【提言】
①震災伝承施設の活用、②教訓のアーカイブ化、③防災力の強化、④交流促進による地域の活性化の観点から、産学官民が連携して取り組むための推進体制の構築が必要。


３．１１伝承ロード推進機構
3.11 Densho Road Promotion Organization
各震災伝承施設をネットワーク化する「プラットフォーマー」となる。
地域の防災力の向上と被災地振興を図る「コーディネーター」となる。
To serve as a platform that networks every Disaster Awareness Communication Facility.
To serve as a coordinator for improving local disaster prevention capabilities and the promotion of the disaster-affected areas.
被災自治体Disaster-affected municipalities
震災伝承施設
Disaster Awareness Communication Facilities
支援・協力
賛助会員
Supporting members
公益事業
Public programs
収益事業
Profit-making businesses
震災伝承NW協議会
Disaster Memorial Network Council
震災伝承施設の登録及び認定
Certification and registration
3.11伝承ロード推進機構
General Incorporated Foundation
3.11 Densho Road Promotion Organization
連携


３．１１伝承ロード登録施設（震災伝承NW協議会）
236施設（R2.6.9現在）
・青森県…6施設
・岩手県…81施設
・宮城県…116施設（仙台市…20施設含む）
・福島県…33施設
主な震災伝承施設（第3分類）
八戸みなと体験学習館
津波遺構たろう観光ホテル
たろう潮里ステーション
宮古市市民交流センター　防災プラザ
田老防潮堤
震災メモリアルパーク中の浜
大船渡市立博物館
地下水族科学館　もぐらんぴあ
3.11東日本大震災遠野市後方支援資料館
釜石祈りのパーク
いのちをつなぐ未来館
大槌町文化交流センター おしゃっち
震災遺構明戸海岸防波堤
島越ふれあい公園
羅賀ふれあい公園
東日本大震災伝承館（いわてTSUNAMIメモリアル）
高田松原国営追悼・記念施設
東日本大震災　学習・資料室
せんだい3.11メモリアル交流館
震災遺構 仙台市立荒浜小学校
石巻ニューゼ
震災伝承スペースつなぐ館
東日本大震災メモリアル南浜 つなぐ館
唐桑半島ビジターセンター・ 津波体験館
リアス・アーク美術館　「東日本大震災の記録と津波の災害史」常設展示
気仙沼市 東日本大震災遺構・伝承館
津波復興祈念資料館　閖上の記憶
岩沼市 千年希望の丘交流センター
東松島市 東日本大震災復興祈念公園
高野会館
名取市震災メモリアル公園
塩釜市津波津波防災センター
石田沢防災センター
NHK仙台拠点放送局
山元町防災拠点・山下地域交流センター（1階防災情報センター）
山元町震災遺構　中浜小学校
中浜小学校震災モニュメント「3月11日の日時計」
アクアマリンふくしま
いわき市ライブいわきミュウじあむ「3.11いわきの東日本大震災展」
いわき市地域防災交流センター 久之浜・大久ふれあい館
相馬市伝承鎮魂祈念館
福島県環境創造センター交流棟「コミュタン福島」
城山公園
みんなの交流館　ならはCANvas
いわき震災伝承みらい館
東日本大震災・原子力災害伝承館


３．１１伝承ロード推進機構の活動
3.11 Densho Road Promotion Organization
震災伝承施設等に関する情報発信・支援等の充実・強化
Enhancing and improving information provision and support for Disaster Awareness Communication Facilities, etc.
各拠点を活用した防災教育・研修事業の企画検討
Planning and studying disaster prevention education and training programs that make use of the sites
各拠点を活用した「防災ツーリズム」の創出
Generation of "disaster-prevention tourism" that makes use of the sites.


３．１１伝承ロード推進機構
3.11 Densho Road Promotion Organization
「教訓が、いのちを救う」
Lessons save lives

松本和夫
Kazuo Matsumoto

Conveying the memories of the 2016 Kumamoto Earthquake to future generations

Office of the Governor / Kumamoto Prefecture

Overview of the 2016 Kumamoto Earthquake 1

Overview of the 2016 Kumamoto Earthquake 2

		ForeShock	Main Shock
Date & Time		April 14, 2016 21:26	April 16, 2016 01:25
Epicenter		Near Kumamoto City	Same as the Foreshock
Magnitude		6.5	7.3
Municipalities where the seismic intensity was recorded as 6Lower or above on the Shindo scale	Seismic Intensity 7	Mashiki Town	Mashiki Town Nishihara Village
	Seismic Intensity 6Upper	None	Kumamoto City, Kikuchi City, Uto City, Uki City, Koushi City, Ozu Town, Kashima Town, MinamiAso Village
	Seismic Intensity 6Lower	Kumamoto City, Tamana City, Uki City, Nishihara Village, Kashima Town	Yatsushiro City, Tamana City, Amakusa City, KamiAmakusa City, Aso City, Nagomi Town, Kikuyo Town, Mifune Town, Misato Town, Yamato Town, Hikawa Town

Summary of Damage

※As of 2019.10.11
(including Earthquake-related damage caused by heavy rains in June) 3

■Human Casualties

Deaths	272
Serious injuries	1,184
Minor injuries	1,553
Total	3,009

Causes of Death
○Deaths caused directly by the Earthquake 50 persons
○Other Earthquake-related deaths 222 persons

■Damage to Homes

Fully Destroyed	8,657
Half Destroyed	34,491
Partially Damaged	155,143
Total	198,291

Scale of the Earthquake & Impact on Kumamoto Citizens 4

○Within 28 hours, 7 tremors with a seismic intensity level above a 6Lower, and 2 tremors of seismic intensity 7 were recorded for the first time in Observational History.
○83% of Kumamoto's total population experienced an Earthquake above seismic intensity 6Lower, resulting in the evacuation of more than 10% of the population.

Scale of the Earthquake and its impact on the Prefecture; equal to the destruction of the Kobe Earthquake in 1995
～Active Aftershock Activities severely hindered the Early Recovery of prefectural citizens' life and economy～

Scale of the Earthquake and Damage ※There have been more than 4,500 Aftershocks since March 31, 2018

	No. of quakes above Seismic Intensity 6Lower	Aftershocks that occurred in the 15 following the main shock	No. of people affected	No. of Evacuees ※1	Total Financial Damage
Kumamoto Earthquake	7 ※2 tremors of seismic intensity 7	2,959	about 1.48M people (about 83% of the Prefectural Population)	about 184K people (about 10.3% of total Prefectural Population)	JP¥ 3,785billion (estimated by Kumamoto Prefecture in September 2016)
The Kobe/ Great Hanshin Earthquake (1995)	1	230	about 2.32M (about 42% of the Prefectural population)	about 317K (about 5.7% of the Prefectural population)	JP¥ 9,600billion (estimated by National Land Agency in February 1995)
Niigata-Chuetsu Earthquake (2004)	5	680	about 0.38M (about 16% of the Prefectural population)	about 103K (about 4.2% of the Prefectural population)	JP¥ 3,000billion (estimated by Niigata Prefecture in November 2004)

※1 No. of Evacuees was estimated from the no. of people who evacuated to Registered Shelters, This number excludes people who stayed in Non-Registered Shelters (cars, etc.).

Affected Areas 5


Mashiki Town Residential areas


Mashiki Town Residential areas


Minamiaso Village National Route 57


Aso City Prefectural road


Kumamoto City Kumamoto Castle


Kumamoto City Kenguh Shopping Arcade

To convey the memories, experiences, and lessons learned from the Kumamoto Earthquake to future generations

6

Kumamoto Earthquake Museum

sharing the memories of the Kumamoto Earthquake

Connects sites affected by the Kumamoto Earthquake with exhibition centers which host a collection of data about the earthquakes

The Prefectural Government and the eight affected municipalities are working together to create a "corridor-type field museum" to connect sites which act as reminders of the Earthquake

Digital Archive of the 2016 Kumamoto Earthquake

Stores and publishes documents related to the Kumamoto Earthquake for future generations to access

These documents are published on the website https://www.kumamoto-archive.jp/

Kumamoto Earthquake Museum

Kumamoto Earthquake Memory Corridor

7

The "Kumamoto Earthquake Museum" is a "corridor-style" field museum in which you may travel along a route that allows you to see reminders of the earthquake and visit centers where you can learn about the earthquakes.

■Basic concept of the Kumamoto Earthquake Museum

To teach people about the lessons learned from the Kumamoto Earthquake and make the information accessible to future generations

- Contribute to improving disaster preparedness for future large-scale natural disasters
- Promote the sharing of information both inside and outside of Japan, leading to further restoration of the affected areas and the development of Kumamoto Prefecture

■ Composition of the earthquake museum

- Earthquake remains (photo①)
- Exhibition centers for sharing information about the Kumamoto earthquake (photo②)
- Existing cultural and community facilities in which you can see traces of the Kumamoto earthquake

■ The ever-evolving earthquake museum

- As Kumamoto continues to recover, the museum will continue to grow

【Examples of regional bases (①)】

Surface earthquake fault (National designated natural monument) 【Mashiki town】

【Examples of regional bases (②)】

Former Cho-yo seibu Elementary school 【Minamiaso village】

Map of the Kumamoto Earthquake Museum

8

Goals for the realization of the Kumamoto Earthquake Museum

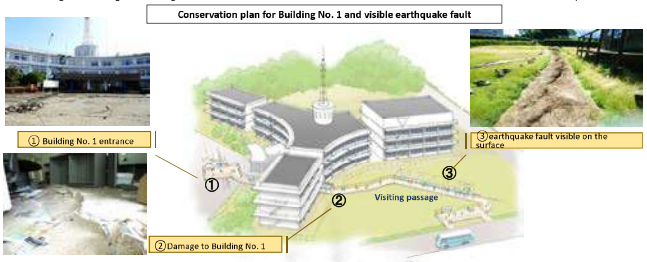
(1) Conservation of Kumamoto Earthquake Reminders

(Former Tokai University Aso School Building No. 1 and visible earthquake fault)

9

- Preserve the former Tokai University Aso Building No. 1 and the earthquake fault visible on the surface as the earthquake reminders (Open in spring 2020)
- Preserving the damaged building and the fault line as reminders of the disaster has never before been done in Japan .

Conservation plan for Building No. 1 and visible earthquake fault



Goals for the realization of the Kumamoto Earthquake Museum

(2) Development of the Main Exhibition Centers (Tokai University Aso Campus)

10

In addition to conserving sites to act as reminders of the earthquake, we also plan to open an exhibition hall to exhibit information about the earthquakes (Scheduled to open in spring 2022)

Goals for the realization of the Kumamoto Earthquake Museum

(3) Create a video recording of people telling their stories

11

We have recorded people talking about their experiences of the Kumamoto Earthquake , and the video is currently showing at the Kumamoto Prefectural Government Office lobby.
(We recorded 135 people, including children, students, companies, medical professionals and regional representatives)

Still image of a video

Speakers

Administrative staff	13
Police, self-defense force, fire department	13
Businesses, Tourism agencies	19
Medical and welfare professionals	11
Elementary, junior and senior high school students, university students	33
Residents of different regions	24
Storytellers, volunteers	22
Total	135

Goals for the realization of the Kumamoto Earthquake Museum
（４）Monitored tours to visit earthquake reminders and the exhibition centers

12

To ensure that the Kumamoto Earthquake and the lessons learned from it are not forgotten, monitored tours have been held around the earthquake reminder sites and tourism facilities since 2018. (These tours have been held 8 times, with 372 participants from both in and outside the prefecture (As of November 18, 2019))

Images of the Monitored Tour

Goals for the realization of the Kumamoto Earthquake Museum
（５）Renewal of Educational Tours

13

The number of educational trips in Kumamoto has significantly decreased since the earthquakes.
(Number of guests 2015:106,253people → 2016:34,584people)
→Restoring the number of educational trips (New sites, restoration of old sites)
Learn about the Kumamoto Earthquake

Creation of a new learning program: 「Take a trip to learn about the Kumamoto earthquake」

FY2017 → FY2018 → FY2019

Decided on program contents, Training of guides and narrators

Started accepting educational trips
2018：Aso city
2019：Mashiki town, Kumamoto city, Minamiaso village

The Prefectural Government supported these educational trips

Establishment of a "one-stop counter" to handle educational trips

Took action to promote the learning program
(Travel agencies, Promoting to Schools, Promotional talks)

Finding the sites of the Kumamoto Earthquake Museum
（１）Preservation of earthquake reminders

14

【Kumamoto Earthquake Reminders candidates】 52

Example

Visible earthquake fault
(National designated natural monument)
【Mashiki Town】

Visible earthquake fault
(National designated natural monument)
【Mashiki Town】

National Road 57 collapse
【Minamiaso Village】

Guard rail
【Nishihara Village】

A large stone at Seta Shrine
【Ozu Town】

Finding the sites of the Kumamoto Earthquake Museum
（２）Establishment of information-sharing centers about the Kumamoto Earthquake

15

【Centers in Municipalities】 13 centers

Example

Kumamoto Castle
【Kumamoto City】

Kumamoto City Zoological and Botanical Gardens
【Kumamoto City】

Mina terrace
【Mashiki Tov

Former Cho-yo seibu
Elementary school
【Minamiaso village】

Moenosato
【Nishihara Village】

New town hall
【Ozu Town】

Conveying the lessons learned from the Kumamoto Earthquake to future generations

16

- Collaborate with people who will tell their stories of the earthquakes (Provide Training)
- Establish the exhibition centers to share information about the Kumamoto Earthquake in municipalities throughout the prefecture
- Promote tour packages and the Kumamoto Earthquake Museum

ギュルム タヌルジャン
Gülüm Tanircan

2020 International Forum on Telling Live Lessons from Disasters, Jan 24-26 2020, Kobe, Japan

Towards Earthquake Resilient Communities: Dissemination Activities in Turkey in Cooperation with Japan

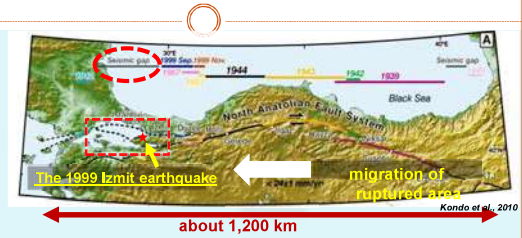
Assoc. Prof. Dr. Gülüm Tanırcan
Boğaziçi University, KRDAE, Istanbul, TURKEY

Content

- Earthquake Hazard in Marmara
- Earthquake Risk Mitigation Strategies
- Public Activities of KOERI on Earthquake Training
- Turkey-Japan Collaborative Activities on Disaster Risk Reduction
- Dissemination Activities through a SATREPS project

Earthquake Hazard in Marmara

population around Marmara Sea: ~ 22 millions



- The Marmara Region is under an earthquake threat due to nearby active faults .
- In case of a large earthquake the total economic loss would amount to USD 90-120 billion*
- The government would be faced with emergency response and reconstruction costs as high as USD 30 billion 6.7 million people would be exposed*

Earthquake Risk Mitigation Strategies

The Turkish government and businesses are aware of the threat, and have already done a lot to strengthen the city's resilience to a potential large earthquake.

Good Practices:

Actions at National Level:

- Establishment of Disaster and Emergency Management Presidency (2009).
- National Earthquake Strategy and Action Plan (2012)
- New Seismic Hazard Map of Turkey (2016)
- New Building Earthquake Code (2018)
- Seismically Isolated City Hospitals (2015-~)
- Safe Schools Initiative (Retrofitting)
- Establishment of Turkish Catastrophe Insurance Pool
- Urban Renewal Project

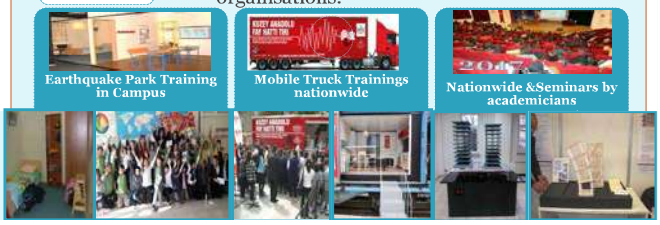
Public Activities of KOERI on Earthquake Training

Boğaziçi University KOERI

KOERI at Boğaziçi University in Istanbul is considered a well-known and trusted organization that works daily to reduce seismic risk.

Disaster Preparedness Education Unit

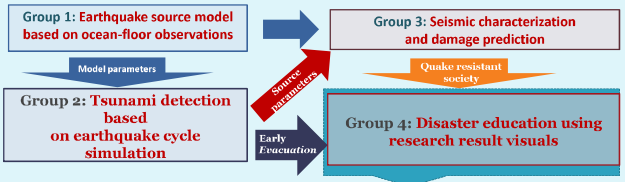
Disaster Preparedness Education Unit aimed at raising the disaster awareness of society and the local preparedness and first response skills of organisations.



Turkey-Japan Collaborative Activities on Disaster Risk Reduction

2000-2002	• Study on a Disaster Prevention/Mitigation Basic Plan in Istanbul and Seismic Microzonation JICA&IMM
2009-2012	• School Based Disaster Education Project, the Ministry of National Education & JICA
2013-2018	• Earthquake and Tsunami Disaster Mitigation in the Marmara Region and Disaster Education in Turkey (MarDIM), JAMSTEC, JICA, JST & KOERI

Earthquake and Tsunami Disaster Mitigation in the Marmara Region and Disaster Education in Turkey



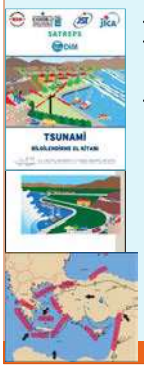
MAJOR OBJECTIVES OF GROUP 4

- Update Disaster Preparedness Training Programs
- Disaster information dissemination through the media
- Sharing information through regional seminars and contributing to disaster management plans

Dissemination Activities

- Training Materials
  - *Booklets
  - *Audio, video materials (anime,comic book)
  - *3-D puzzles of traditional buildings
- Seminars and Media Meetings
- Training / Seminar Evaluations
- Earthquake Park Renovation

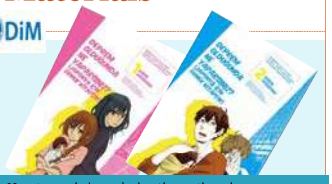
Training Materials



- A Tsunami Information Booklet
- It is the first training material in national language on tsunami
- Tsunami Awareness Video

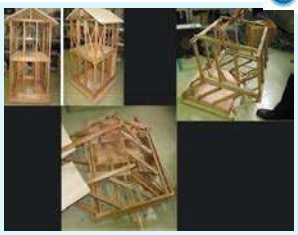
Training Materials

Preparation for Earthquake Before/During and After



Manga : How to you behave during the earthquake at Home and at Office

Training Materials



Wooden building models with removable laths and roof : which building combination behaves better /worse during the shaking.

Regional Seminars

- Yalova April 28, 2015 (100 participants)
- Tekirdag Sept. 8, 2015 (80 participants)
- Canakkale Feb.27, 2017 (200 participants)
- Istanbul Sept. 19, 2017 (70 participants)

TOTAL : ~450 People

Tsunami Awareness Day (November 5th) Press Meetings

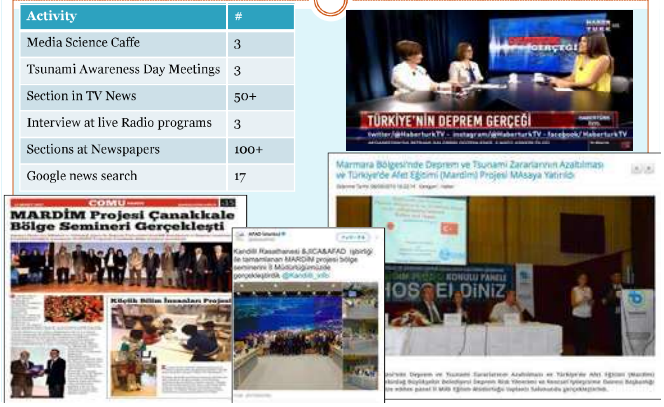
Media Meetings & Seminars

Considering the role of media on disaster education, informative meetings for key media members on disasters in Turkey have been planned.

Observations at Nagoya Meeting → Application in Istanbul

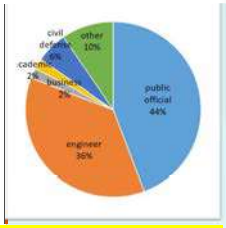
Visibilitiy of Meetings at Media

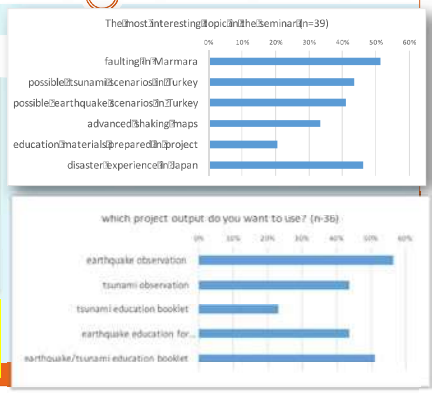
Activity	#
Media Science Caffe	3
Tsunami Awareness Day Meetings	3
Section in TV News	50+
Interview at live Radio programs	3
Sections at Newspapers	100+
Google news search	17



Evaluation for Regional Seminar

Participants for Regional Seminar (Istanbul, Sept. 19, 2017)n=39





- High interest for project contents was demonstrated
- People are interested to utilize project outputs

Earthquake Park Renovation

THANK YOU FOR YOUR ATTENTION

ファウスティト A. オーレ
Faustito A. Aure

EASTERN VISAYAS STATE UNIVERSITY

ECHOES FROM THE BEATEN PATHWAYS OF HAIYAN (YOLANDA)

FAUSTITO A. AURE, MRD
Director, Extension Services
Eastern Visayas State University
Main Campus - Tacloban City, Philippines

"IF WE WILL NOT TALK ABOUT IT, IT'S AS IF IT DID NOT HAPPEN".

- ANONYMOUS

Name: **Kay Zabala**
Address: **Tacloban City, Leyte**
Age: **35**
Civil Status: **Single**
Unforgettable event during Yolanda: **11 members of her family died during Typhoon Yolanda/Haiyan** (Mother, Twin Sister, 1 Elder Sister, 3 Aunts, ! Uncle, 4 nieces)
Occupation: **Life Coach**
Lessons learned/ experience during Yolanda: **You need not lose your humanity inspite being a typhoon victim, instead let hope prevail and share your story so others may know and learn.**

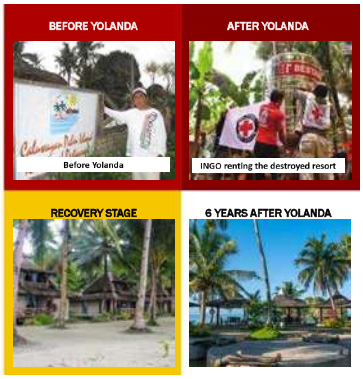
Name: **Ecko Meranda**
Address: **Tacloban City, Leyte**
Age: **25**
Civil Status: **Married**
Unforgettable event during Yolanda: **He survived the Typhoon because he transferred his family to a higher ground a day before its landfall. As advised by his father which was also taken from his grandfather that whenever there's super typhoon, the shoreline will recede immensely and later will result to storm surges.**
Occupation: Tricycle **Driver**
Lessons learned/ experience during Yolanda: **Listen to the wisdom and advise from old people.**

Name: **Engrasia Llanda**
Address: **Basey, Samar**
Age: **63**
Civil Status: **Married with 6 children**
Unforgettable event during Yolanda: **He entire family survived the storm because they went to the cave in Samar**
Occupation: ***Tikog* Mat Weaver**
Lessons learned/ experience during Yolanda: **We need to evacuate immediately if there is an incoming typhoon**

Name: **Jules Martin Villarente**
Address: **Tacloban City, Leyte**
Age: **24**
Civil Status: **Single**
Unforgettable event during Yolanda: **Looting food items from destroyed and abandoned supermarket s**
Occupation: **Unemployed**
Lessons learned/ experience during Yolanda: **Resourcefulness during calamities for survival**

Name: **Zenaida Pacuri**
Address: **Marabut, Samar**
Age: **60**
Civil Status: **Single mother**
Unforgettable event during Yolanda: **Family owned resort was heavily destroyed**
Occupation: **Caretaker of a family owned resort**
Lessons learned/ experience during Yolanda:

1. **Things are just things you cannot carry your riches to the grave**
2. **Think of nobler causes in life.**
3. **If one door closes, one window of opportunity opens**



Name: **Faustito Aure**
Address: **Tacloban City, Leyte**
Age: **53**
Civil Status: **Single**
Unforgettable event during Yolanda: No time to debrief instead **immersed myself in recovery and rehabilitation work after the typhoon**
Occupation: **Public School Teacher**
Lessons learned/ experience during Yolanda: **To be a survivor is to have a moral responsibility to tell the world and be committed why such incident should not happen again.**

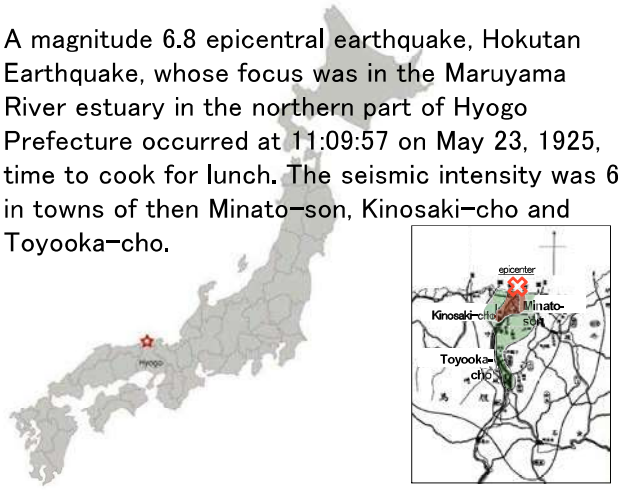
"IF WE WILL STILL NOT TALK ABOUT IT, WE WILL NEVER LEARN, WE WILL ALL GET EXTINCT, IT WILL BE GONE FOREVER".

松井敬代
Takayo Matsui

TOYOOKA AND KINOSAKI; TOWNS THAT HAVE RECOVERED FROM HOKUTAN EARTHQUAKE

Takayo Matsui

A magnitude 6.8 epicentral earthquake, Hokutan Earthquake, whose focus was in the Maruyama River estuary in the northern part of Hyogo Prefecture occurred at 11:09:57 on May 23, 1925, time to cook for lunch. The seismic intensity was 6 in towns of then Minato-son, Kinosaki-cho and Toyooka-cho.




Tsuiyama area

In Minato-son, near the epicenter, many people were crushed to death due to instant building collapse.

In Tsuiyama area (on the left bank of the river), of all 250 houses, 145 were burnt down and 105 were destroyed.


Tai area

In Tai area(on the right bank), no fire occurred while some people were crushed to death. In Kehi area, only three houses were burnt owing to the exertions of the citizens' fire companies.

In Tai area, the residents continue to go up to the shrine of "Ujigami(Local Deity)" and do "Osendo-Mairi(One thousand times' worship)" on May 23 every year.

They walk around the shrine holding wooden bill early in the morning.

After the prayer, the representative mentions that no-one was burnt to death by prioritizing the fire fighting.


Earthquake disaster monument

In Toyooka-cho, cooking fires for lunch caused fire break-out in various parts of the town.

Though extinguished once in the afternoon, fire broke out again around 2pm and spread to the central area except for northern part of the town, Odai area.

85% of the entire town was burnt or damaged.


Toyooka-cho

Toyooka-cho and Kinosaki-cho, which had been devastated, planned a contrasting town development for recovery from the earthquake.

Toyooka-cho, which had planned a modernization city planning just before the earthquake, pushed the plan further.

It placed a Civic Center in the center of the station street, with the road straightening and widening. Reinforced concrete construction was recommended for private houses to have a role of fire protection zone.

Even now, more than 90 years later, modernization heritages as Kotobuki Rotary(roundabout), lattice roads, reinforced concrete buildings, etc., remain, making a landscape of Toyooka city.

Central Toyooka just after the earthquake

Kotobuki Rotary (Roundabout)

Reenforced concrete buildings along station street

In Kinosaki-cho, being located in a valley region surrounded by mountains on three sides and dense with two or three-story buildings, fire for preparation for lunch at hot spring inns spread in a flash and almost the whole town was burnt down.

272, nearly 8% of the town's population was killed, including 40 guests. More than 70% of the deaths were women.

Kinosaki-cho

In Kinosaki-cho, the residents decided to rebuild hot-spring inns, etc. with wooden construction as it had been for preservation of their townscape.

Otani River, which often flooded, was widened, deepened while the ground of both banks being raised by dredged soil-sand. Winding roads were straightened and widened. The revetments were stonewalled basalt while parapets and reinforced concrete bow bridges were built.

Decisions were made by the residents themselves through many discussions, which preserved the present townscape with historical taste as a result.

Bird's Eye View "Tourism Guide of Kinosaki-Spa in progress"(1938)

Townscape of Kinosaki-spa and Otani River

Fire Drill and Memorial Service 2017

In Kinosaki-cho, a fire drill is held every year on the morning of May 23rd. After the siren at the time of the earthquake, the residents pray along with the priest's reading in front of the disaster victim tower.

On the same day, in Kinosaki Elementary School, children listen to a lesson about the earthquake and conduct a evacuation drill every year since the disaster.

In 2015, "Toyooka Machi Juku (a society for studying townscape)" was formed in order that the townscape which consists of remnants of recovery from the earthquake would be known to local residents – diagonal and lattice streets in the city center, so-called "Reconstruction Buildings" installed as fireproof belt and wooden houses deliberately built for fire preservation.

In 1982, also, "Kinosaki Onsen Machinami no Kai (a society for preservation of townscape)" was formed. The purpose of the society is to keep the identity and atmosphere of Kinosaki created by the Otani River which flows the center of the town, bridges, lines of willow and two or three-story buildings along the river.

Each of these societies do activities which is rooted locally.

松井憲
Ken Matsui

August 20, 2014

The Mountain Where Dragons Live

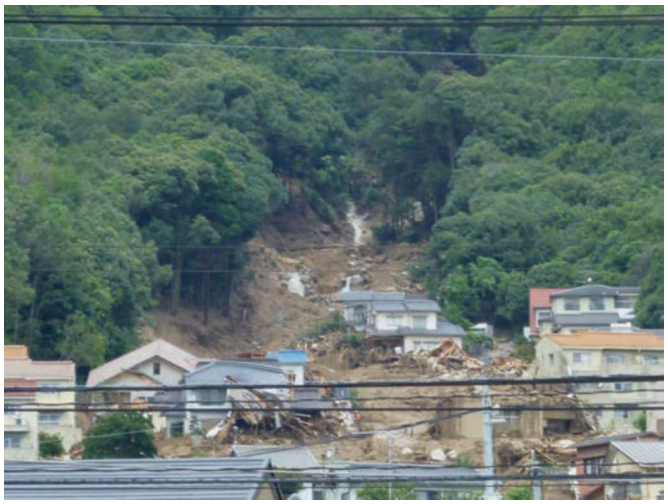
f rom 8.20 Torrential Rain Disaster in Hiroshima City

ドラゴンが棲む山 - 8.20 広島豪雨災害 -

Reconstruction & Interaction House
Mondragon Director Ken Matsui
復興交流館 モンドラゴン 事務局長 松 井 憲

August 20, 2014

2014年8月20日



That disaster,

took the lives of

77 people,

Injured many people…

あの災害は

77人もの命を奪い、

多くの人にケガを負わせ、

Broke homes,
buildings,
roads …

住まいを
建物を
道路を 壊した…

Complete / half destruction,
damage … 418 units
Floor / underfloor
inundation … 4,091 units

全 半 壊・損 壊…418戸
床上・床下浸水…4,091戸

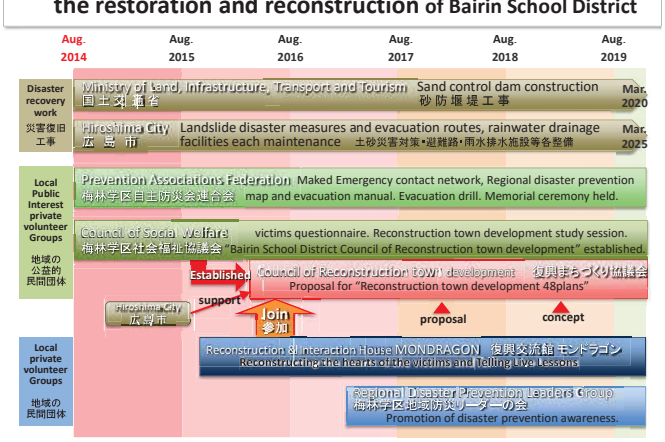
In addition,

Residents 'hearts
It was broken …

そのうえ、
住民の心を
壊していた…

Bairin School District *August 20, 2014*
During 8.20 Torrential Rain Disaster in Hiroshima

Organization involved in the restoration and reconstruction of Bairin School District
梅林学区の復旧・復興に掛かる団体組織



■ Ministry of Land, Infrastructure, Transport and Tourism
Disaster recovery work 災害復旧工事 国土交通省

From the disaster	Period Date	Content
next month	6 years	Sand control dam construction 25 units initially → 40units 砂防堰堤工事 当初25基 → 40基

■ Hiroshima City
Disaster recovery work 災害復旧工事 広島市

From the disaster	Period Date	Content
7 months	10 years Mar. 2015～	Announcement of "Reconstruction town development vision" Landslide disaster measures and evacuation routes, rainwater drainage facilities each maintenance 『復興まちづくりビジョン』発表 土砂災害対策・避難路・雨水排水施設等各整備

Hiroshima City 広島市

From the disaster	Period Date	Content
1 year	Aug. 2015 ～2017 3 times	Memorial ceremony held (to 3 years Prefecture City, co-hosted) 追悼式典開催（～3年 市県共催）
		
1 year 4 months	Dec. 2015～	Started support for community reconstruction activities for residents Council of Social Welfare → Council of Reconstruction town development 住民の復興まちづくり活動の支援開始 社会福祉協議会 → 復興まちづくり協議会

Bairin School District Prevention Associations Federation 梅林学区自主防災会連合会

Attribute Disaster prevention organization by local residents determined by the Disaster Countermeasure Basic Act

From the disaster	Period Date	Content
4 months	6 times Dec. 2014～ May 2015	Maked Emergency contact network for residents, Regional disaster prevention map and evacuation manual 住民緊急連絡網・地域防災マップ・避難マニュアル作成
10 months	June 2015	Evacuation drill (200 → 1,700 people) 避難訓練実施（例年200人→1,700人）
1 year	every Aug.20	Memorial ceremony held 追悼式典開催

Bairin School District Regional Disaster Prevention Leaders Group 梅林学区地域防災リーダーの会

Attribute School district disaster prevention leader volunteer group. Promotion of disaster prevention awareness. 学区防災リーダーのボランティア・グループ. 防災啓蒙推進

From the disaster	Period Date	Content
2 year 8 months	Apr. 2017	Preparation for launch 発会準備
3 year 8 months	Apr. 2018	Starting (with 10 people, currently 12 people) Held a study session once a month 発会（10名でスタート、現12名）勉強会（毎月1回）
4 year 11 months	Jul. & Nov. 2019	Disaster prevention class at Bairin Elementary School 梅林小学校で防災教室（2019年7月, 11月）

Build a facility to deepen bonds between residents, aiming for "Reconstruction of the heart" …

住民どうしの絆を
深めるための施設を建設し、
“こころの復興”を目指したい…

Children and grandchildren for the next generation We want to connect the idea of disaster prevention ……

子や孫たち 次世代に
防災減災の想いを繋ぎたい…

Reconstruction & Interaction House Mondragon 復興交流館 モンドラゴン

Attribute Volunteer group centered on victims. 被災者を中心にしたボランティア・グループ

Theme テーマ

Reconstructing the hearts of the victims
And Telling Live Lessons
－復興と伝承－

The goal of the activity 活動の目標

In 3-5 years,
Act aggressively and broadly, become a local symbol,
We aim to build facilities and build permanent systems.

3～5年間で地域のシンボルになるよう
積極的かつ広範囲な活動を行い、恒久的な制度・施設の建設を目指す。

Reconstruction & Interaction House

Mondragon

震災交流館 モンドラゴン

From the disaster	Period Date	Content
1 year 4 months	Dec. 2015	Established (with 13 victims, now 22 people) 発足（被災者13名でスタート、現22名）
1 year 8 months	Apr. 2016	Opening
4 year 10 months	Oct. 2018	Over 10,000 visitors (after open 31 months) 来訪10,000人超（open31ヶ月後）

Fundraising

Donations from individuals, organizations and companies are 44%,
Sales are 40%, Disaster relief is 10%, City subsidies are 6%,
寄付…44%、売上…40%、 災害義援金…10%、補助金…6%

Reconstruction & Interaction House

Mondragon

震災交流館 モンドラゴン

Activity category Disaster victim support 被災者支援

Reconstruction of the victims of heart
Okonomiyaki Canteen

被災者の心の復興
お好み焼き食堂

Community rebirth コミュニティ再生
salon/classroom
Seasonal events
Flower garden planting
Lecture (family care / life related)
Support that can be done by victims

Building a network with the affected areas
Share of the affected areas reconstruction wisdom and skills
被災地とのネットワークの構築・・・・・・被災地復興の知恵やスキルの共有

Reconstruction & Interaction House

Mondragon

震災交流館 モンドラゴン

Activity category Telling Live Lessons 伝承（語り継ぎ）

Collection, exhibition and Storage of materials	資料の収集・展示・保管
Explanation of materials	資料の解説
Disaster area guide and explanation	被災地ガイド・説明
Storyteller	語り部活動
Collection and digitalization of old documents	古文書の収集・デジタル化

Reconstruction & Interaction House
Mondragon
復興交流館 モンドラゴン

Activity category	Disaster prevention 防 災 啓 蒙
Disaster prevention classroom / lecture / forum	防災教室・講演会・フォーラムの開催
Installation of surveillance cameras and rain gauges	監視カメラ・雨量計の設置
Visit the museum	災害関連資料館の視察行
Production and independent screening of disaster prevention enlightenment movies	防災啓蒙映画の製作・自主上映
Acceptance of inspection (Administration・general) research groups and students Guide and storyteller	視察（行政・一般）研究団体・学生の受入れ ..... 案内・解説

Reconstruction & Interaction House
Mondragon
復興交流館 モンドラゴン

■Visit status （来館件数） April 3, 2016 to Dec.31, 2019

Fiscal year 年度	Number of Visitors 来訪者数	Number of Visits 来館件数					
		Administration 行政	General 一般	Inspection* 視察*	research Institute 研究	Student 学生	Media メディア	total
total	14,486	85	120	112	49	46	91	503
2016	3,492	16	18	25	20	11	6	96
2017	3,876	20	35	33	18	11	14	131
2018	4,227	28	46	29	9	12	36	160
2019*	2,891	21	21	25	2	12	35	116

* As of Dec.31, 2019
*"Inspection" is a number in "Administration" and "General"
*「視察」は「行政」と「一般」の内数

■Activity status （活動件数） April 3, 2016 to Dec.31, 2019

Fiscal year 年度	Community rebirth / Disaster victim support コミュニティ再生・被災者支援						Disaster prevention course/lecture 防災 講演・教室	
	salon/classroom サロン・教室		Seasonal events 通時行事		etc.			
	times 回数	number of people 人数	times 回数	number of people 人数	times 回数	number of people 人数	times 回数	number of people 人数
total	128	1,288	17	434	5	143	32	4,167
2016	32	336	10	218	4	114	4	197
2017	36	297	2	58			7	814
2018	33	321	2	59			13	1,399
2019*	27	334	3	99	1	29	8	1,757

* As of Dec.31, 2019

Reconstruction & Interaction House
Mondragon
復興交流館 モンドラゴン

Activity category	Participation in local reconstruction activities 地域復興活動への参加
Participating in community development activities	地域のまちづくり活動に参加
Participated in "Bairin School District Council of Reconstruction town development"	『梅林学区復興まちづくり協議会』に参加 地域部会、コミュニティ専門部会

* At the community special committee Proposed `` Reconstruction exchange base facility establishment '',Adopted in the recovery town development plan.

＊コミュニティ専門部会にて、「復興交流拠点施設設置」を提案、復興まちづくりプランに採用。

Bairin School District
Council of Social Welfare
梅林学区社会福祉協議会

Attribute	Social welfare organization by local residents, which is defined by the Social Welfare Act	
From the disaster	Period Date	Content
1 year 3 months	Nov. 2015	Disaster area check and victims questionnaire 被災地確認・被災者アンケート
1 year 4 months	Dec. 2015	Reconstruction town development study session ... 4 times 復興まちづくり勉強会開催...4回/月1回
1 year 10 months	June 2016	"Bairin School District Council of Reconstruction town development" established 『梅林学区復興まちづくり協議会』発足

Bairin School District 梅林学区復興まちづくり協議会
Council of Reconstruction town development

Attribute Subordinate organization of Bairin School District Social Welfare Council

From the disaster	Period Date	Content
1 year 9 months	May 2016	Established (Regional group×5, Specialized group×2) 発足（地域部会×5,専門部会×2）
3 year 5 months	Jan. 2018	Proposal to the Mayor of Hiroshima for "Reconstruction town development 48plans" 『復興まちづくりプラン』を広島市長へ提言

Bairin School District 梅林学区復興まちづくり協議会
Council of Reconstruction town development

Activity Creating of "Reconstruction town development 48plans"
『復興まちづくりプラン』48項目の策定

Period Date	Content
Apr.-Dec. 2017	Held 4-5 meeting each at 5 regional groups 2 specialized groups and 4 board meeting 5地域部会 2専門部会で各4〜5回 評議委員会を4回開催
Jan. 2018	Proposal to the Mayor of Hiroshima *community group suggested: 1. Establishment of Telling Live Lessons facilities 2. Conducting disaster drills and classrooms 3. Maintenance, such as walking path that connects the local resources 4. Training the storyteller 5. Collection and storage of materials 6. Revitalizing the community 広島市長へ提言、コミュニティ部会では6項目を提言 1.復興交流施設設置 2.防災訓練・教室実施 3.地域散策路整備 4.語り部育成 5.災害資料収集 6.コミュニティ活性

Bairin School District 梅林学区復興まちづくり協議会
Council of Reconstruction town development

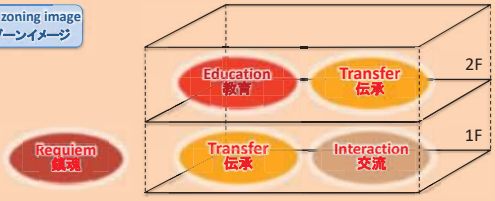
Activity Creating of a concept proposal
『復興まちづくりプラン』項目の構想案の策定

Period Date	Content
Jul. 2018-Feb. 2019	Held 8 meeting at community specialized group and 1 board meeting コミュニティ専門部会 8回，評議委員会を1回開催
Feb. 2019	Submit a concept proposal to Hiroshima City Community specialized group : "Telling Live Lessons facilities establishment concept plan" The first block regional group : "Park maintenance plan" 構想案を広島市へ提言 コミュニティ部会：「復興交流拠点施設 整備構想」 第1地域部会：「第1ブロック 公園整備構想」

Telling Live Lessons facilities 復興交流拠点施設 整備構想
establishment concept plan

Main functions 主要機能

Facility zoning image 施設ゾーンイメージ



Telling Live Lessons facilities 復興交流拠点施設 整備構想
establishment concept plan

Incorporation Functions 導入機能

1. Telling Live Lessons 災害の記憶の伝承
2. Display of disaster memories 災害の記録の展示
3. Disaster prevention education 防災教育
4. External collaboration / Acceptance of inspection 外部連携 / 視察受入
5. Public relations / Transmission of information 広報 / 情報発信
6. Interaction / Communication 交流・コミュニティ

- Listed the functions performed by the base facilities
  拠点施設としての機能をリストアップ
- For each item, the role sharing between Hiroshima City and residents was roughly assumed.
  各項目につき、公民の役割分担を想定
- In the future, we will examine facility specifications, construction site selection, access, construction work plans, and management systems
  今後、施設仕様・建設地選定・アクセス・工事計画・管理・運営等を検討
- Aimed at opening of the 2022 fiscal year.
  2022年度の開館を目指している

Telling Live Lessons facilities 復興交流拠点施設 整備構想
establishment concept plan

Expansion of the experience of past activities at *MONDRAGON*
これまでの *復興交流館 モンドラゴン* での活動経験の展開

1. Standardization of the "storyteller" 1.「語り部」の標準化
2. Search for a new form of "storyteller" 2.「語り部」新しい形の模索
3. Facility branding 3. 施設のブランド化
   In the education example: 教育例：
   - Development of original training Creating an original scenario for disaster ethnography
     オリジナル研修の開発 エスノグラフィー・オリジナルシナリオ作成
   - Trainer certification system adopted トレーナー認定制度 - ライセンス発行
   - Certificate of completion (card) issued 受講終了証(カード) 発行

Future plans 将来構想

Using this facility as a base, I would like to link the areas organically and make the whole Bailin school district a park with the theme of disaster prevention.
施設を拠点として、梅林学区全体を有機的にリンクした防災パークに…

“Reconstruction
of the heart”
of the disaster area residents …

被災地住民の
“こころの復興”

Regeneration
of
community
of residents …

住民の
コミュニティの再生

For
next generation
disaster mitigation …

次世代の
減災に向けて

Telling Live Lessons
this disaster
to the next generation…

次世代へ
語り継いでいきたい

Thank you
for
your support.

皆様のご支援を
お願いします。

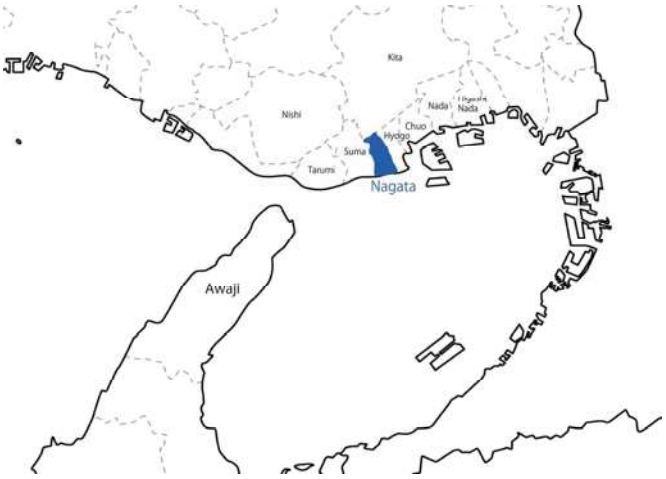
Reconstruction & Interaction House
Mondragon

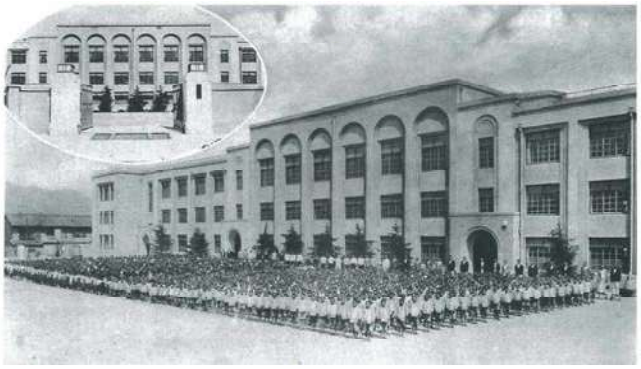
Planning: Reconstruction & Interaction House **Mondragon**
Product by: Office Kysh @2019~2020

山住勝利
Katsutoshi Yamazumi

Reviving the Memories of the Local Community through Earthquake Disaster Experiential Learning

Katsutoshi YAMAZUMI
(Chief, Earthquake Disaster Experience Learning Lab. Futaba Gakusha)





Futaba Elementary School (1929)

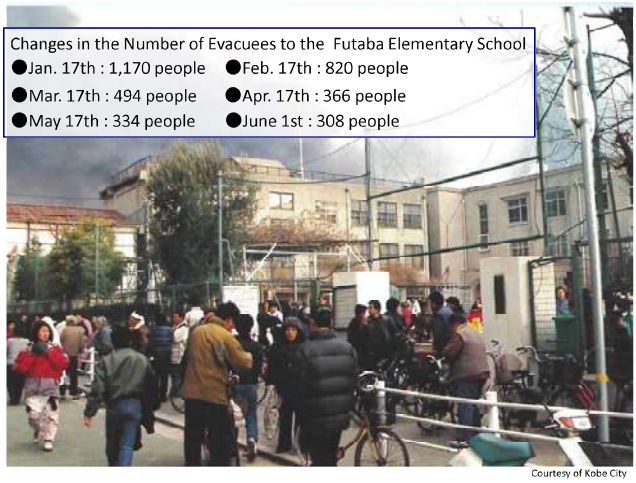
Futaba Gakusha (2010-)

The Great Hanshin Awaji Earthquake struck on January 17, 1995.
Futaba Elementary School, located in the south-west area of Nagata ward in Kobe city, became an evacuation center for many victims of the earthquake

Courtesy of Kobe City

Taisho shopping street

Courtesy of Kobe City



Courtesy of Kobe City

The assembly hall of the Futaba Elementary School became an evacuation center during the Great Hanshin-Awaji Earthquake.

The Futaba Gakusha's earthquake disaster experiential learning programs

The Futaba Gakusha's earthquake disaster experiential learning programs have been developed based on the memories of the local community related to the Great Hanshin Awaji earthquake. Furthermore, this building (the former Futaba Elementary School and current Futaba Gakusha), which was able to survive the earthquake, acts as a physical reminder that helps to better reinforce such memories.

Evacuation center experience : participants use cardboard boxes to make their own evacuation space. By experiencing first hand the living environment at an evacuation center, the participants can get an idea of what it is like to stay there during a disaster.

Stories about actual earthquake experiences: the aim of this activity is for participants to hear first-hand accounts of the Great Hanshin Awaji Earthquake from people who actually experienced it, and to understand the fear of such a disaster from a personal perspective, as well as get a sense of the bonds between people and consideration shown that helped the victims of the earthquake disaster to overcome it.

Comments from the Earthquake Disaster Experiential Learning Activity Participants (Junior High School Students)

"Although I had previously thought that I could just deal with an earthquake after it has occurred, this experience helped me to drastically change such thinking."
"I was very shocked to hear about how hundreds of people died in Nagata Ward."
"By actually experiencing the evacuation shelter, I was able to learn how difficult life must have been, and I felt as though I couldn't live under such conditions for more than a couple of days."
"This was a very useful experience, and although I previously had absolutely no interest, this experiential learning activity helped to excite my curiosity, and I felt that I need to learn to be more vigilant in the future."
"It was easy to visualize the stories of the people who experienced this ordeal, and it helped me understand how difficult it must have been. Since I never had the chance to hear about life at the evacuation shelter in such detail, this was a very good experience for me."
"I hope that I am able to take what I have learned today and to make use of it whenever the Nankai Trough earthquake happens to occur."

チョン カイリン
Chong Khai Lin

THE DEVELOPMENT OF "BENCANA" BOARD GAME AS A DISASTER EDUCATION TOOL IN PRIMARY SCHOOLS.

A STUDY ON SK KAMPONG LERANGAN, KUALA KRAI, KELANTAN & SK BUKIT TANGGA, KEDAH. (STAGE 3: PILOT PROGRAM IMPLEMENTATION

Khai Lin Chong, Faizatul Akmar Abdul Nifa, Sharima Ruwaida Abbas, Suria Musa and Mohd Nasrun Mohd Nawi

Disaster Management Institute,
School of Technology Management & Logistics,
Universiti Utara Malaysia, 06010 Sintok, Kedah, MALAYSIA.

PRESENTATION OUTLINE

- Background of Study
- Aim & Objectives
- Method of Study
- Pilot Stage
- Initial Findings
- Future Work

BACKGROUND OF STUDY

- In December 2014, three states in Malaysia, Pahang, Terengganu and Kelantan received heavy rains which led to a massive flood which was locally termed as the "Yellow Flood".
- The state of Kelantan suffered the biggest impact of this flood, where 8 of 10 territories were inundated, leading to destruction of livelihood of local communities.
- Although massive floods were not a foreign occurrence in Kelantan, the locals admitted to not have expected the severe devastation caused by the 2014 flood. It was the worst flood experienced in 100 years.
- Many schools were shut down for more than 2 weeks due to seas of mud in the buildings and the access roads were destroyed during the flood.

BACKGROUND OF STUDY

- Children who have been taught about the phenomenon of disasters and how to react to those situations have proved to be able to respond promptly and appropriately, thereby warning others and protecting themselves during times of emergencies (Shaw et al, 2015)
- The importance of disaster education at school is increasing because of the following reasons (Shiwaku, 2009; UN/ISDR 2006):
  - children are one of the most vulnerable sections of the society during a disaster;
  - they represent the future;
  - school serves as a community's central location for meetings and group activities;
  - effects of education can be transferred to parents and community

BACKGROUND OF STUDY

- The formulation of an effective disaster education programs should include collaborations with the researchers, local community and school so so that the learning process not only be based on hard facts but also cross-learning through sharing of stories, facts and cultural approaches (Shaw et al, 2015; Petal, 2008; Sharma, 2008).
- Paton (2005) highlighted the need for integrating community development initiatives to increase resilience with disaster education and facilitate self-help capacities within the vulnerable community to reduce the reliance on external response and recovery resources.

GAMES – AN INDISPENSABLE TOOL IN DISASTER EDUCATION

- The attention span is an important consideration in the education of young people. This tendency is for a positive relationship between the distance of attention and the level of teaching of teaching techniques.
- Therefore, games, simulations and games are an effective tool for delivering disaster knowledge to children. However, the importance of details and accuracy of information is not sacrificed for teaching. Children who have the same age can respond differently to the techniques used for their education.
- Therefore, due consideration should be paid to the means of communication used in the dissemination of disaster risk information to young children and must cover a variety of interactive and visual techniques and, as far as possible, including hands-on learning and experience (Wisner, 2006).

AIM OF STUDY

Through collaborative efforts and expertise, this research shall focus on the **issues of community resilience and safety** and how **disaster education in primary schools** may benefit the **overall community preparedness**.

OBJECTIVE

- *To explore school community awareness and preparedness toward flood disaster*
- *To explore school community knowledge on disaster risk reduction and knowledge how to reduce risk due to disaster*
- *To identify current initiatives on disaster risk reduction among school children undertaken by the school*
- *To propose a disaster related board game that can be applied by the primary school in flood disaster prone area*

This presentation reports Stage 3 of the study – the pre-development stage of "Bencana" Board Game in SK Kampong Karangan, Kelantan and SK Bukit Tangga, Kedah.

METHOD OF STUDY

Stage 1: Literature study of disaster education program in schools.

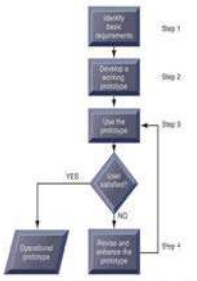
Stage 2: Fieldwork – Semi Structured Interview with School administrators, students, community leaders.

Stage 3: Fieldwork – Pilot Stage of Bencana Board Game implementation.

Stage 4: Integration of data and revisions to the Bencana Board Game – ready for periodic future implementation

STAGE 3 – BOARD GAME DEVELOPMENT

- This stage involves the development of the game prototype. Development of a prototype also requires choosing a suitable methodology.
- The prototyping process consists of four step model which is adapted from Laudon (2000).
- In this study prototyping process involves four steps, where the first step is identify basic requirement, step two develop initial prototype, step three use the prototype step four evaluate as operational prototype or revise and enhance the prototype.
- Two focus group sessions were conducted in 2 primary schools; one school located in disaster prone area indicating that the students may have experience disaster and the other school is located in a relatively safe area thus the students may not have experience disaster previously.



PILOT STAGE – BOARD GAME TESTING (1)

KEY FINDINGS (1) – PILOT STAGE IN SK KAMPONG KARANGAN, KELANTAN

- Only 35% of the students got the information on disaster from their teachers – this is because disaster education is not included in the National Curriculum for Primary Schools.
- Television & Newspaper are their main source of information when it comes to disasters.
- Students feel that loss of property is the biggest effect of disaster while loss of human life is considered minimal when it comes to flood disaster.

KEY FINDINGS (1)
– PILOT STAGE IN SK KAMPONG KARANGAN

- While the students feel that the game is interesting and has simple rules, they feel that the questions part of this game is very challenging - this could be due to their lack of technical knowledge in disaster preparedness.
- The game was tested for Year 3 and Year 4 students. It was apparent that the Year 4 student thoroughly enjoyed the game more and understood the questions - Kelantan locals spoke a slightly different dialect compared to the rest of Malaysia and this may cause some misunderstanding of terminologies for younger students.
- 90% of the students feel that the board game is very useful to add their knowledge in disaster preparedness, look forward to play the game again and are happy with the design aspects of the game.

PILOT STAGE – BOARD GAME TESTING (2)

KEY FINDINGS (2)
– PILOT STAGE IN SK BUKIT TANGGA, KEDAH

- While the students feel that the game is interesting and has simple rules
  - Students' awareness level increased after playing board game.
- The game was tested for Year 4 and Year 5 students. It shows that they are enjoyed the game and understood the questions.
- 90% of the students feel that the board game is very useful to add their knowledge in disaster preparedness, look forward to play the game again and are happy with the design aspects of the game.

FUTURE WORK

- An improved version of the board game will be developed by making revisions in the following aspects;
  - Level of difficulty for questions suitable for Year 3 and 4 students (age 9-10)
  - Linguistics aspects for the regulations & questions – suitable for local understanding.
  - Materials and images (to avoid copyright infringement)
  - Increasing the size of the game – enlarge to be 3m x 3m so students can stand on the mat, taking into consideration of the children's natural characteristics (active, moving, physical activity is preferred)
  - Including the role of the teacher to be the game master, so this could be a class activity to teach disaster preparedness.

THANK YOU FOR YOUR TIME

中川和之
Kazuyuki Nakagawa

分科会　ジオパークと語り継ぎ

自ら語ってくれない大地の声を伝える

中川和之　時事通信社　解説委員
静岡大学防災総合センター客員教授
日本ジオパーク委員会調査運営部会員（地震学会推薦）

1

私の郷里　兵庫県芦屋市　六甲山の南麓

ボースカウト芦屋1団で家から歩いてキャンプ場へ
小2までは、ビーチサンダルで浜まで歩いて水泳

私たちは目の前に証拠がありながら
キャンプ場や夜景、世界有数の港町は
地震＝地球の営みがもたらしたことを
知らなかった

六甲山を高くする地震を繰り返してできた
諏訪山断層の断層崖上の諏訪山公園からの夜景

ジオパークは大地の物語を語り継ぐ運動

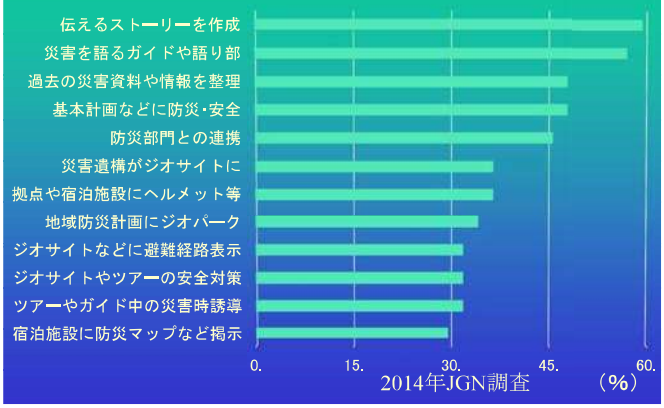
44か国161地域がユネスコ世界ジオパーク（2004年～2020年1月現在）

世界ジオパーク認定9地域
日本ジオパーク認定35地域
合計33都道府県150市町村

ジオパークって、なんだ？

秋田・ゆざわジオパークの子供たちから聞いて見よう

6割のジオパークで災害伝承や語り部、3分の1に災害遺構

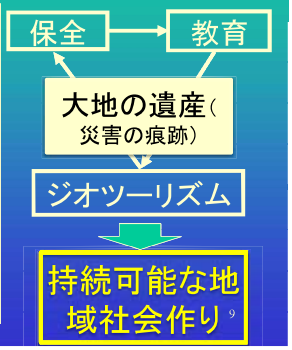


ガイドラインを元に4年ごとの再審査でチェック
活動はネットワークに加盟してともに価値づくり

OPERATIONAL GUIDELINES FOR UNESCO GLOBAL GEOPARKS
ユネスコ世界ジオパーク運営指針

UNESCO Global Geoparks are living, working landscapes where science and local communities engage in a mutually beneficial way.

ユネスコ世界ジオパークは、科学と地元社会が相互に利益をもたらす方法で連携する、生きた、動的な景観である。



ユネスコ世界ジオパーク運営指針

- UNESCO Global Geoparks use geological heritage, in connection with all other aspects of that area's natural and cultural heritage, to enhance awareness and understanding of key issues facing society in the context of the dynamic planet we all live on.
- ユネスコ・グローバル・ジオパークは、当該地域の自然・文化遺産のあらゆる分野と関連した地質遺産をもって、我々が暮らす変動する惑星の中で、社会が直面している重要課題への意識と理解を高める。
- including but not limited to increasing knowledge and understanding of: geoprocesses; geohazards; climate change; the need for the sustainable use of Earth's natural resources; the evolution of life and the empowerment of indigenous peoples.
- 重要課題には、地球科学的プロセス、ジオハザード、気候変動、地球の自然資源の持続的利用の必要性、生命の進化と先住民のエンパワーメントに関する、知識と理解の増大が含まれるが、それに限定されない。

みなさんと議論したいこと

- ジオパークならではの語り継ぎ方とはなにか。
- ジオの恵みと、ハザードの災いを、どのように伝えるか。
- 語らない大地を、誰がどのように語らせるのか。
- ジオパークで培った手法を、社会にどう活用してもらうか。

- 共同座長のイブラヒム コモオ氏は、アジア太平洋ジオパークネットワーク コーディネーターで地質学者、土砂災害の専門家でもあり、日本では見られない古い大地が特徴のマレーシアのランカウイユネスコ世界ジオパークを率いています。ジオパークの地域ではないです、世界自然遺産に認定されているマレーシアのキナバル山の麓での地すべり災害の事例を紹介いただきます。

- パネリストのナンシー アグダ氏は、フィリピン大学国立地質科学研究所に所属する地質学者で、国内で新たなジオパークをスタートさせようとしています。フィリピンは、南海トラフ地震を引き起こすフィリピン海プレートの西南側にあり、地震や火山、台風も多い地域。ジオパークの考え方を活かした災害からの復興を進めている事例を報告いただきます。

- 西谷香奈氏は、日本のジオパーク運動が始まる以前からのプロのネイチャーガイドで伊豆大島ジオパーク推進委員会の委員です。数十年に1度繰り返される火山噴火だけでなく、土砂災害や昨年の台風15号などの災害について、ガイドという立場でどう語るのかの悩みなど、火山島伊豆大島での具体的な事例を紹介いただきます。

- 地質学の博士号を持つ柴田伊廣氏は、現在は文化庁文化財第二課で天然記念物を担当。入庁前は室戸ユネスコ世界ジオパークの専門員で、日本ジオパーク委員会調査運営部会員でもあります。阪神大震災を起こした地震によって地表に現れた野島断層などの天然記念物の現状とともに、地域でボトムアップな利活用を進めようとしている熊本地震の布田川断層の状況などについて、紹介いただきます。

イブラヒム コモオ
Ibrahim Komoo

KUNDASANG TOWN

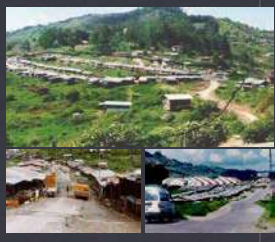
- an highland agriculture
- Gateway to Mt. Kinabalu (410m) – World Heritage Site
- Small town surrounded with many villages
- Elevation more than 1000m, slope 5 – 25 degree
- Major issue: ground instability

Early Discovery of the Landslide

- *Tanah Pandai Berlari* (soils easily running)
- what they observed: ground gives rise to different varieties of inconveniences - land more susceptible to depression, lateral movements & various manifestations of instability
- living with danger
- learning to adapt with ground movements

AUTHORITY'S APPROACH TO GROUND INSTABILITY

- they know about ground instability, especially about 'road depressions' but not aware about large-scale landslides
- does not exist planned control & mitigating measures
- short-term measures: repairing basic utilities such as water pipes, electric poles and village roads
- investigation and remedial measures of failures along major roads

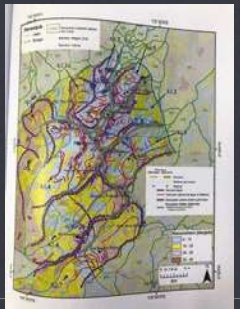


EARLY OBSERVATION

- Early observation and mapping (1997 – 1999)
- Kundasang is under the threat of 5 large-scale landslides systems each measures around 1000m length & 500m wide
- Signs of landslide: slope failures, road depression, tilted houses and lamp posts; water pipe burst; ground cracks, bulging and seepages because of the large size, unclear boundary and slow movement – many are aware of their existence

SYSTEMATIC LANDSLIDE MAPPING

- Systematic landslide mapping was conducted in 2000-2002
  - Utilizing several thematic maps – DSM IFSAR; River basin map; satellite SPOT
  - Geomorphological interpretation
  - Field mapping
  - Detailed deformation mapping
  - Landslide synthesis map
  - Large-scale landslide complex



FAILURES AT KUNDASANG SCHOOL & ZEN

Kundasang Secondary School

- gentle sloping ridge was leveled for the school
- located at the boundary of two large-scale landslide systems
- one of landslide scarp intersects the school's 3 building, causing the building to break into two parts
- These resulted the building has to be demolished, and finally the school to be relocated

FAILURES AT KUNDASANG SCHOOL & ZEN

Zen Garden Hotel

- the hotel was built at steeper slopes using the 'cut and filled' method
- medium size slope failure occurred and destroyed a row of hotel building
- This incident provide 'visual image' of landslide damage to public and finally can be used to explain to community the danger of landslide

Impacts to Community

- At large area, the lateral movements were only from few centimeters to several meters per year. These had resulted:
  - Loss of lives, injury & psychological pressure
  - Damage to private properties – house, continuous repair
  - Damage to public properties – schools, roads, water pipes
  - Impact to public conveniences – transportation, water and power supplies
  - Land degradation and boundary

PUBLIC ENGAGEMENT

- Between 2000 to 2003, several public engagements were conducted mainly through meetings and seminars.
- Target groups were:
  - Community leaders of affected areas
  - Local authority and political leaders
  - Public Work Department and other implementing agencies

MITIGATION MEASURES

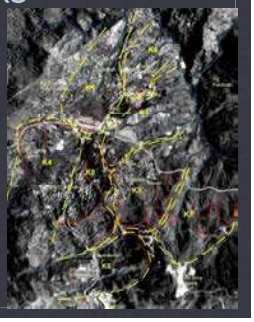
- Mitigation measures mainly by public authority to protect main roads and government buildings.
- Private properties are still mitigated by their owners.

Lesson Learned

- Public and authority are aware that Kundasang is affected by large-scale landslide complex.
- Community leaders are able to inculcate the concept of public safety.
- Public authority provide plans for better mitigation measures.

CONCLUDING REMARKS

- Large-scale landslide are major issues to the government and the local community. It has great impact to the people and the development of the area.
- For many years, the uncertainty about ground instability has created problem to the development of the area.
- Our detailed scientific research has provide short- and long-term solution to the authority and local community at large.



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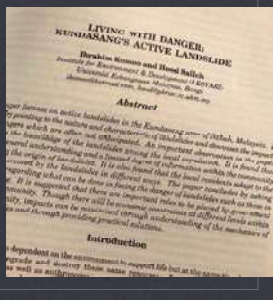

LIVING WITH DANGER:
KUNDASANG'S ACTIVE LANDSLIDE

Abstract

Introduction

ナンシー アグダ
Nancy Aguda

BOHOL ISLAND GEOPARK: 2013 M7.2 EARTHQUAKE AND COMMUNITY'S RISE FROM DISASTER

Nancy R. Aguda
University of the Philippines
School of Urban and Regional Planning (UP-SURP) & National Institute of Geological Sciences (UP-NIGS)
January 2020, Kobe, Japan

Philippine Setting

Population = 109 Million (2019)

Land Area = 300,000 Th sq km

Coastline: 36,289 km

Pop. Growth Rate = 1.5%

Pop. Density = 368 persons/sq km

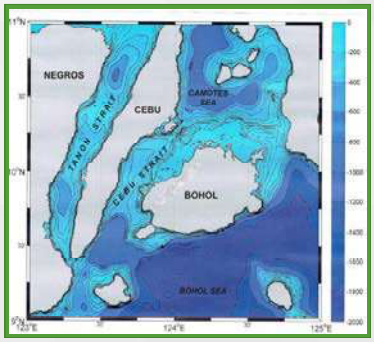
Administrative Units
: 18 Regions
: 81 Provinces
: 1,489 Municipalities
: 145 Cities

Bohol Island

Regional geologic setting:

Boundary: Cebu Strait, Camotes Sea and Bohol Sea

Geomorphology:
N: undulating hills
E: rugged, hilly
W: marine terraces, coastal plains
S: uplifted marine terraces



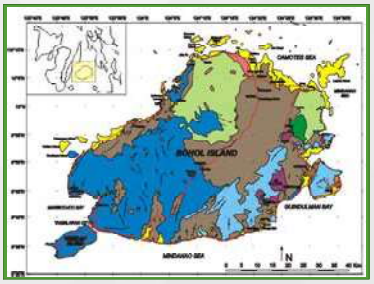
Bohol Island

Stratigraphy:

Clastics:
Limestones (Carmen, Sierra Builliones and Maribojoc formations)
Volcaniclastics (Ubay Formation)

Igneous:
Jagna Andesite
Talibon Diorite

Basement:
Bohol Ophiolite
Alicia Schist



Bohol Province

Population = 1.2 Million (2010)

Land Area = 411,726 hectares

Pop. Growth Rate = 0.96%

Pop. Density = 3 persons/ ha

Administrative Units
: 1 City; 47 Municipalities
: 1,109 Barangays
: 3 Congressional Districts

Coastline: 654 kilometers

Municipal H20 : 6,245 sq km

M7.2 Earthquake

Date: October 15, 2013

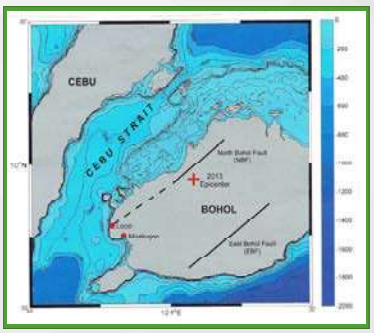
Time: 8:12 AM

Location: 9.86 °N, 124.07°E

Depth: 12 km

Generator: North Bohol Fault

Aftershocks: ~4,000 1 month after



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III. M7.2 Earthquake
IV. Damages
V. Recovery
VI. Bohol Island Geopark

Damages

Death: more than 200

Injured: more than 700

No. of persons needed assistance: more than 350,000

Damaged houses: more than 54,000

Affected Localities: 22 out of 48

Cost of damage: 2B PhP (50M USD)

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Damages

Bohol Chocolate Hills

Ground rupture Anonang, Inabanga

Damaged houses Sagbayan, Bohol

Portion of National Highway Getafe, Bohol

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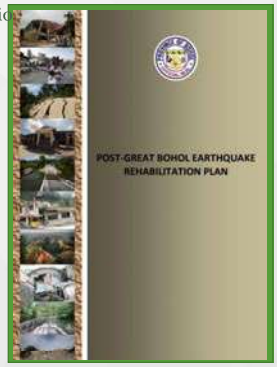
Recovery and Rehabilitatio

Relevant Sectors:

a. Food and Warehouse Cluster
b. Shelter Cluster
c. Protection Cluster
d. Camp Coordination and Camp Management (CCCM) Cluster
e. Health Cluster
f. Water, Sanitation and Hygiene (WASH) Cluster
g. Infrastructure Cluster
h. Government Structures and Facilities
i. Education Cluster
j. Logistics Cluster
k. Livelihood Cluster



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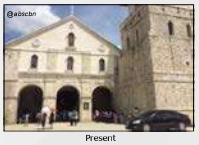
Recovery and Rehabilitation

Baclayon Church

Before 2013 Earthquake

After 2013 Earthquake



Present

Loay Church

Before 2013 Earthquake

After 2013 Earthquake

Present

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Recovery and Rehabilitation

Before 2013 Earthquake

Bohol Provincial Capitol

After 2013 Earthquake

Present

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Bohol Island Geopark

April 2015:

Revisiting Bohol after disaster

Coordination with Bohol Officials re establishment of geopark

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Bohol Island Geopark

2016
Writing of book on Bohol Geopark

2017
Book Launching

Geopark consultations with technical volunteers, Bohol Province officials, National agencies

Geopark consultations with technical volunteers, Bohol local govt officials, National agencies

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Bohol Island Geopark

Oct 2017
4th Bohol Earthquake Commemoration

Launching of Bohol Island Geopark

Symbolic unveiling of Chocolate Hills Geopark Marker

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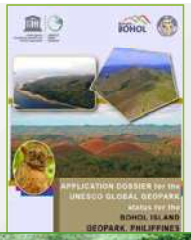
Bohol Island Geopark

Nov 2018
Submission to UNESCO

July 2019
UNESCO Evaluation Mission



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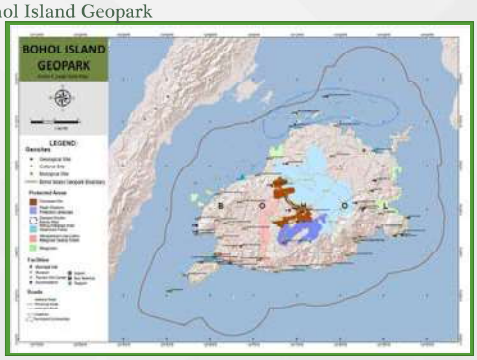
Bohol Island Geopark



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Important Bohol Geosites

Chocolate Hills

UNESCO Global Geopark Focus Areas:
- Education
- Science
- Geoconservation
- Sustainable Development

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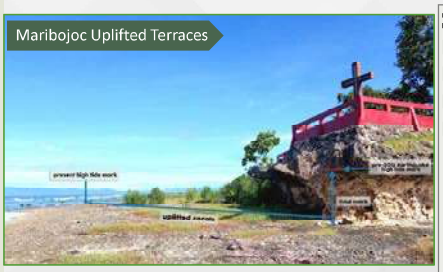
Maribojoc Uplifted Terraces



UNESCO Global Geopark Focus Areas:
- Education
- Science
- Climate Change
- Geological Hazards

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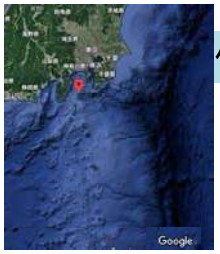
Inabanga Ground Rupture
Photo: PHIVOLCS
UNESCO Global Geopark Focus Areas:
Education
Science
Climate Change
Geological Hazards
Bohol Island Geopark | 19


THANK YOU.

西谷香奈
Kana Nishitani

伊豆大島はどこにある？



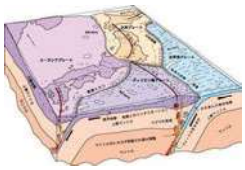
伊豆大島は活発な火山の島

東京から南へ約120km

年間4cm富士山に向かって移動中

2万5000年前水面に出てきた海底火山。100～200年周期で大噴火。

江戸時代後半からは、36～38年間隔で噴火継続中。



全国地質業協会連合会Webサイト
https://www.zenchiren.or.jp/tikei/plate.html

地球の動きを体感できる島！
災害が身近な島！

過去100年以内の自然災害

噴火　1957年　死者1名　重軽傷者53名
1986年　山腹割れ目噴火で全島民島外避難
地震　1978年　伊豆大島近海地震(震度5)
住宅一部損壊150軒
1923年　関東大震災　岡田地区津波波高12m
死者7名　家屋全半壊117軒
台風　1958年(狩野川台風)死者2名　家屋全半壊104軒
2013年(台風26号による土砂災害)
死者行方不明者39名、家屋全半壊77軒
2019年9月(台風15号による家屋全半壊)
大火　1965年　元町408世帯焼失

たとえば元町に生まれ育った63歳の知り合いは…

私自身も2013年10月16日
台風の大雨による土砂災害を体験
(33名死亡3名行方不明)

多くの島民にとって予想外の出来事
狩野川台風の経験はあったが…

言えなくなった言葉

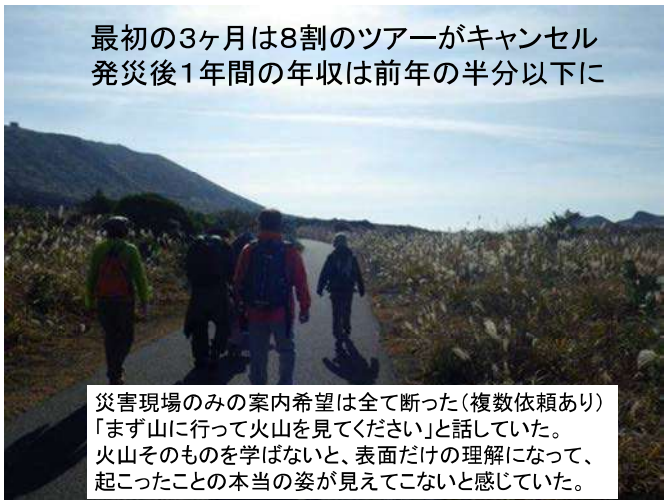
この言葉の奥には、たくさんの人の恐怖、苦しみ、悲しみがあることを知った

「火山が噴火しなければ、波に削られてやがて島は無くなってしまうでしょう。噴火が作った地面の上に、私たちは暮らしているんです。」

半日山を歩きブログで情報発信
半日泥かきボランティアの日々

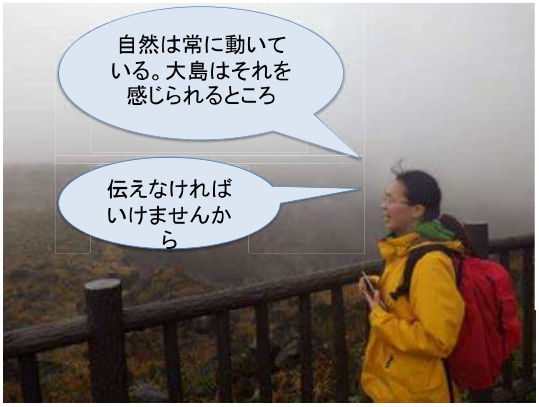
火山の大きさを体感した

最初の3ヶ月は8割のツアーがキャンセル
発災後1年間の年収は前年の半分以下に



災害現場のみの案内希望は全て断った（複数依頼あり）
「まず山に行って火山を見てください」と話していた。
火山そのものを学ばないと、表面だけの理解になって、起こったことの本当の姿が見えてこないと感じていた。

2013年11月2日（災害17日後）
初めてのお客様



住民セミナー

11月17日(災害1ヶ月後)

溢れるマスコミ情報に住民は不安。町は説明会を開く余裕が無い。道路が原因で崩れたという声も複数聞かれた。

ジオパーク推進委員会と東大地震研究所共催の説明会を実施。

参加者数160名

感想（アンケートより）
9割が「良かった！」
1割が「聞きたいのは、明日どうすれば良いか」

科学が間に入ることで、感情的にならない。

私の仕事はジオガイド。様々なお客様と歩いている。（年に160日前後ツアー）

何かを語り継いでいるのか？

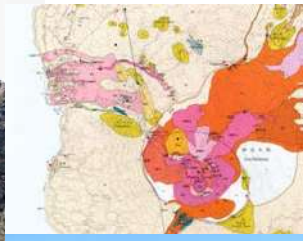
熟年夫婦　仕事仲間　「水源の会」の研修

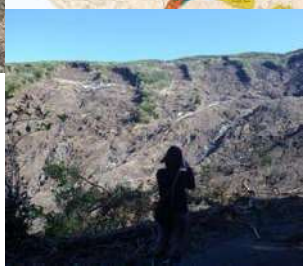
高校の理科授業　3世代家族　ひとり旅

歩いて、見て、触れて、
想像して…

地球（火山）は
生きている！

溶岩流の断面を観察しながら…





人の暮らしも災害も
全て大地と
つながっている！

科学は日々進歩しているが
わかっていないことがたくさんある！
（人は地球の活動に抗えない）

火山観測機器の働きを紹介しながら…

2013年大雨に掘られた大地は…

風がくぼみを埋め、元に戻していった！

昨年9月の暴風でなぎ倒された山の植物は…

（写真は台風3日後）

台風の3日後に、地面から若葉を
伸ばし始めた！

暴風で樹皮を剥がされた木は…

わずかに残った樹皮から再生を始めた！

生命ってすごい！

私がしているのは“語り継ぎ”というよりも
目の前の景色や体験を通しての“思い”の共有？

地球も人も全ての生き物も
つながりあい、変化しながら
ただ一度きりの大切な時を生きている

地震、津波、暴風雨、土砂崩れ、火山噴火などは全て、地球の活動によって起こるもの。
これらの人が抗うことのできない大きな力は、風景を一変させ、私たちの心身にとても大きなダメージを与える。でも人も生き物も必ず再生しようとする…つながりあい、変化し続ける。
目の前の景色や体験を通じ、地球と生命がつむぎ出す物語を、お客様と一緒に楽しみたい。

伊豆大島には、次の噴火が迫っています！

（噴火間隔が今まで通りなら、あと3～5年で噴火）

今後、大きな災害が起きても…

ジオガイドとして備えて、生き残って
ありのままを見て、伝え続けていきたい

柴田伊廣
Takahiro Shibata

天然記念物の保存活用と地震断層
Conservation of natural monuments and earthquake faults

柴田伊廣（文化庁文化財第二課）
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Cultural Properties Second Division,
Agency for Cultural Affairs-Japan

北淡震災記念公園

What is a Naturel Monuments?

- First nature conservation law in Japan.
- 2020th is the **100th anniversary** of the designation of the first natural monument.
- Animals, plants and geological sites. **It is of high academic value for Japan.**
- Number of natural monuments：**1,031**

※**10 active faults** have been designated as natural monuments.

Landscape created by Earthquake, landslide...etc


きさかた
象潟（秋田県にかほ市）


屏風ヶ浦（千葉県銚子市）


佐渡小木海岸（新潟県佐渡市）


仏宇多（仏ヶ浦）（青森県佐井村）

Japan's longest fault system(MTL).


提供：中央構造線博物館


写真提供：中川和之

Akiba highway was created along the fault topography.

People passing the Akiba Highway passed culture from urban areas to mountainous areas.

Faults are indispensable for understanding and developing culture.

写真提供：大鹿村教育委員会

Futagawa Fault Zone

提供：前原康博（広島大学）・大学合同地震断層調査グループ

- Mashiki town, Kumamoto Pref.
- **Source fault of the 2016 Kumamoto earthquake**
- Following the magnitude 7.3 earthquake, a surface earthquake fault of about **31 km in length appeared**, and the ground caused a right strike-slip of up to about 2.5 m and a vertical step of about 1 m.
- 3 places of the Futagawa fault zones have been designated as natural monuments.

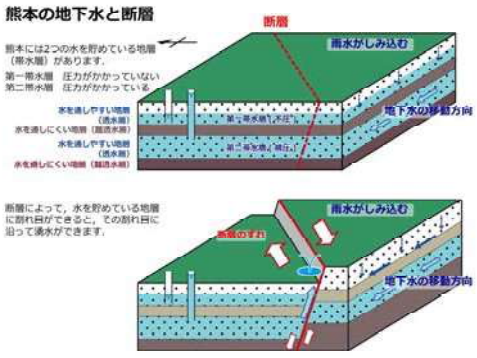
Narrative testimony
(October 2017)

Today, I thought it was a study for a narrator. Japan is a land where typhoons, volcanoes, earthquakes and tsunamis occur. As a person living near the fault, I would like to tell you how to live and how to deal with natural disasters.
I didn't remember the teacher's class, but it was fun anyway.

Sugido, Mashiki town
(Shioi Shrine)

Sugido, Mashiki town
(Shioi spring water)

Map of springs at Mashiki Town



Education to learn the relationship between the earthquake and the formation of Mashiki town .

Terrain created by earthquakes taken by children.

Active faults preserved as natural monuments are ...

"The real thing" used to pass down disasters

⬇

"The real thing" to talk about local identity

ポール ミラー
Paul Millar

The UC CEISMIC Canterbury Earthquakes Digital Archive: Supporting Post-Disaster Research

Dr Paul Millar, Professor of English Literature and Digital Humanities, Deputy Pro-Vice-Chancellor

College of Arts, University of Canterbury
Christchurch, New Zealand

UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Disaster Remains and Passing-on of Memories Panel
International Forum on Telling Live Lessons From Disasters
January 2020, Kobe, Japan

paul.millar@canterbury.ac.nz

22 February 2011, many deaths

He aha te mea nui o te ao?
He tangata! He tangata! He tangata!
What is the most important thing in the world?
It is people! It is people! It is people!

UC CEISMIC
Canterbury Earthquake Digital Archive

CEISMIC: Canterbury Earthquakes Digital Archive

- 200,000+ items
- Stories, images, documents, video, and audio
- Mix of research, community, cultural heritage and crowd-sourced content
- A specialised search engine, powered by DigitalNZ

ARCHIVES NEW ZEALAND
Christchurch City Libraries
CERA Canterbury Earthquake Recovery Authority
NZ ON SCREEN
National Library of New Zealand
Manatū Taonga Ministry for Culture & Heritage
Canterbury Museum
TE PAPA
NHRP Natural Hazards Research Platform
UC UNIVERSITY OF CANTERBURY

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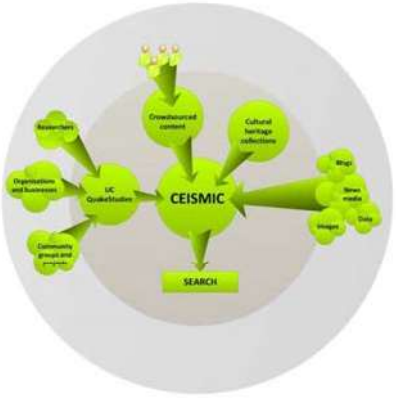

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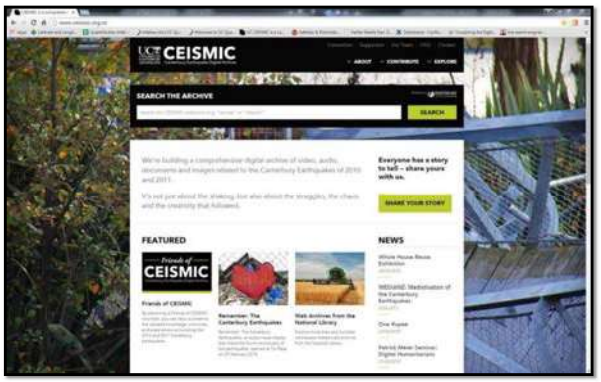

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Photographs: Copyright, Fairfax Media NZ

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Canterbury Earthquake Digital Archive

SCIRT
Learning Legacy

UC launches Earthquake Scholarships

The QuakeBox
Korero Mai: Tell Us Your Story

Collected from April-December 2012
8 different sites across the city
722 stories collected in 13 languages
120 hours of video, and 800,000 transcribed words

UC CEISMIC
Canterbury Earthquake Digital Archive

Te Kāhui Roro Reo • New Zealand Institute of Language Brain & Behaviour

Retelling post-disaster stories facilitates

- Analysis of evolving narrative structure
- Understanding of the way people think, feel, respond and communicate
- Consideration of the changing relationships between people, spaces and places
- Investigation into how changes to stories relate to post-disaster factors

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Individuals' stories are

- Efforts to make sense of the world in crisis and uncertainty, to regain order and facilitate recovery
- Cultural performances that can foster dialogue, debate, and social action.
- Show us what is personal and absent in the languages of public issues, policies, and broad population studies

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Individual Stories vs Official Accounts

- Stories resist idea of disasters becoming safe and controllable over time
- In times of great grief and passion they have been employed or appropriated to covertly politicise disaster behind guises of nation building or patriotism.
- **Disaster Narratives vs Resilience Narratives.** A crucial distinction if 'resilience' depends on a progressive-oriented dominant narrative that views the devastation and rebuilding of cities as a version of capitalism's process of 'creative destruction'.
  (Vale and Campanella, *The Resilient City: How Modern Cities Recover from Disaster* (2005) *p.15)*
- Stories resist efforts to homogenise or valorise disaster by, for example, revealing disaster vulnerability, impact, response and recovery to be profoundly gendered or ethnicity-based.

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Narrative accounts of Māori experiences

- Resilience and rejuvenation within whānau and communities
- Cultural confidence, whanaungatanga (social capital) and individual experiences of mana motuhake (agency/self-determination) in disaster responses and recovery
- Impact of the pre-existing socio-economic disadvantage on experiences of community resilience
- More vulnerable to natural disasters when government policies 'fail to respect indigenous rights and fail to acknowledge the relevance of indigenous knowledge to both social and environmental recovery'

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'four days being at home with no power and water... you could hear the helicopters the police sirens … [like] a war zone'.

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杉本伸一
Shinichi Sugimoto

Preservation and utilization of disaster remains

A case study of the Mt. Unzen Fugendake eruption disaster and the Great East Japan Earthquake tsunami

Sanriku Geopark promoting office
Coordinator Shinichi SUGIMOTO

Outlines of volcanic disaster at Unzen

- Started on November 17, 1990
- End in February 1995
- continuous growing of lava dome
- Generation of pyroclastic flows due to partial collapses of the lava dome.

The Disaster remain of Unzen Volcano

Remains of a disaster in the eruption of Mt.Unzen.

- Ohnokoba elementary school building burned down by pyroclastic flow
- damaged houses by the debris flow

Process of the preservation of Disaster remains

- By the suggestion of inhabitants.
- Support of the expert from the outside.

➢Ohnokoba elementary school
- ①Request for volcanic sightseeing from residents
- ② Reflected in the town's reconstruction plan
- ③Preservation and maintenance as a memorial base

➢damaged houses by the debris flow
- ① Residents need funds for reconstruction
- ② The prefecture approved the request and bought it
- ③Conservation and maintenance as a memorial park

The relations between revival plan

Not only direct damage the city of Shimabara.
A big influenced was given a whole Shimabara peninsula.

- The settled reconstruction plan

The revival plan was development by the local inhabitants and company, various groups repeated a discussion as well as administration all in one body.

- revival plan
  - ① Reconstruction of life
  - ② To build disaster prevention city
  - ③ Regional revitalization

Volcano tourism is planned, and preservation and maintenance of disaster remains.

Great East Japan Earthquake tsunami

- Occurs at 2:46 pm on March 11, 2011
- Tohoku district Pacific coast earthquake of magnitude 9.0
- Strong shaking and domestic observation history maximum tsunami of maximum seismic intensity 7.
- It brought serious damage in the wide range around Tohoku, the Kanto district.

Process of the preservation of disaster remains

- The problem of “disaster remains” is highlighted as a symbol of “pass down of disaster”
- Residents' opinions are divided, and local governments cannot make clear policies.
- Disaster remains and planned disasters are removed one after another.
- Government support for preservation of earthquake remains.
- Securing sufficient time for discussion on the preservation of the remains of residents.

Remains which were trying to store by Great East Japan earthquake disaster

- Preservation of disaster remain is being promoted by the government.
- In some cases, preservation has not progressed due to conflicting opinions among residents.

The remains of structure which was not able to store

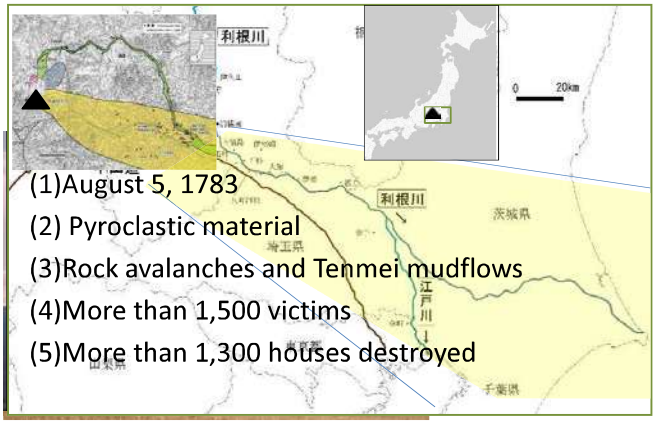
- Minamisanriku disaster prevention government building
  - A direction of the preservation at first
  - An express a policy of the removal in September 2013
  - The local voice was divided over the preservation or dismantling of the government building.
  - Prefecturally preserved for 20 years after the earthquake, then final decision
- Otsuchi-cho government office building
  - Reconstruction volunteers lead the preservation campaign
  - The town council rejected the petition for conservation
  - The mayor sets up a review committee and decides to preserve some of the reports.
  - Candidates who promise to dismantle in the mayoral election
  - Final dismantling completed

One necessary for preservation and utilization to disaster remains

1. The activity that inhabitants were made up mainly
2. For connected with revival plan
3. Support of the expert who administration and inhabitants contact part
4. With a process for the preservation , it is important that I find a route of the utilization at the local whole including explanation and the disaster prevention education by local guides

関俊明
Toshiaki Seki

1. Overview of the Asama Disaster in the Third Year of Tenmei



(1)August 5, 1783
(2) Pyroclastic material
(3)Rock avalanches and Tenmei mudflows
(4)More than 1,500 victims
(5)More than 1,300 houses destroyed

2. Excavation of the Tenmei3

- Conducted only in Gunma Prefecture
- The same time axis due to the phenomenon of disaster
- The Edo Period Archaeology In Response to Literature and Tradition
- Elucidation of disaster

- [Oral] : "(return to take the family mortuary tablet) After saying goodbye farewell Gosuke…."
- [Relics / Tradition]: "The wooden parts of the damaged houses are part of the Buddhist altar"
- [Remains] :Example of conveying recovery and reconstruction: recovery earth mine

3. Excavation of Kamahara Kannondo, the stage of the sad story

→Unearth of local old people progresses to academic research

The only museum dealing with this disaster

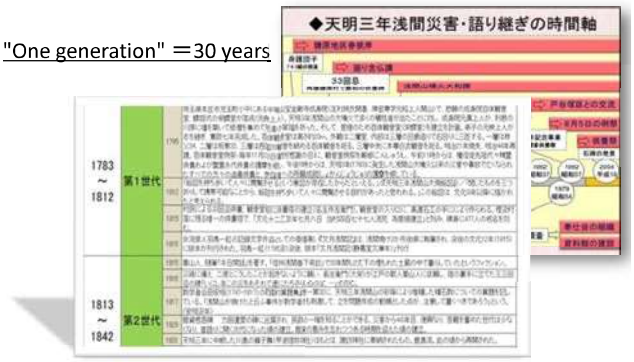
Unearth of local old people advances into academic research
→The place where the residents' identity is based

4.Monuments (Natural Objects and Disaster Topography)




5. More than 390 items (local journals)

"One generation" ＝30 years



5.(1)Episodes related to the 33rd memorial service

- Feeding Monument
- Publishing things
- Fiction
- Drawing
- the act of transcribed a damage record


→Generational change: Things handed down (1st and 2nd generation)

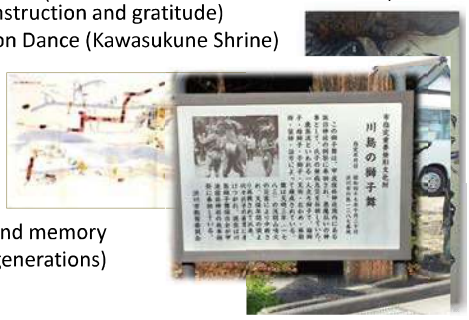
5.(2)Anniversary events

Anniversary events that have been held in the year of the break

→With the thought of the memorial service, the recollection of a new memory

5.(3)Things that remember reconstruction and damage

- 「浅間焼吾妻川利根川泥押絵図」(Damage Drawing drawn 73 years later)
- 「植野堰・広瀬桃木堰絵図」(41 years later)
- “Sintaikannnonnhi” (A monument with a sense of thanks ,47 years after reconstruction and gratitude)
- Revival of the Lion Dance (Kawasukune Shrine)



→Reconstruction and memory arrangement (2-3 generations)

5.(4)Discovery of relics in the riverbed and sediments

- The Bells of Jorin-ji Temple(127 years later)
- Gate stone of Enmei-ji Temple(134 years later）
- The horse's head Kannon built 11 years before (around180 years later)

→A series of contingent discoveries brings back new memories (5-6 generations)

5.(5)Discovery in the former village of Kanbara

- Discovery of relics associated with the construction of charcoal-grill
- Discovery of the victim during construction grounds work
- Unearth of relics by the local geriatric association and old-fashioned volunteers

→The action of recalling the memory by the relic, and tracing their ancestors (6-7 generations)

5.(6)Academic research begins

- "Comprehensive Survey of Buried Villages at the Foot of Mt. Asama"(1979-)
- Discovery of two bodies of victim under the stone steps (1979)
- Excavation of other towns and villages in the lower reaches
- Opening of the Tumagoi Local Museum(1983)

→Media, textbook description for students, many visitors, local service association activities, etc. for archaeological surveys

→To tell down and establish their own identity(7 - 8 generations)

5.(7)Quiz Rally rounds Remains

→Activities to use the power of "education" to pass on to the next generation in local events (8-9 generations)

*8 generations since the disaster occured,240 years

①The remains and relics/ the real thing have the power to move people's hearts

②anniversary event / "social wisdom" to overcome sadness

③It is also able to follow the footsteps that have been carried out in the course of time axis / historical disaster

④4 "Memories of Disasters" … "Telling"

“Creating a mechanism for society to remember“

蒋正興
Chiang Cheng-Shing

國立自然科學博物館

Taiwan's 921 Earthquake

Difficulties and Challenges Faced by the National Museum of Natural Science

国立自然科学博物館は台湾921地震の困難と課題にどのように向き合うべきでしょうか？

Cheng-Shing Chiang*, I-Min Chen, Ling-Ho Chung, Chia-Hsin Tsai, Xin-He Lee
蔣正興, 陳億民, 鍾令和, 蔡佳欣, 李信和
National Museum of Natural Science, Taiwan 国立自然科学博物館,台湾

Chi-Chi Earthquake (921 Earthquake)

- Local date 21 September
- Magnitude M_w = 7.3
- Depth = 8 km
- Epicenter Chi-Chi, Nantou
- Casualties = 2,415 killed

Damage to Kuangfu Junior High School During The Chi-Chi Earthquake

Photo by 小林郁雄

Preserving Damaged Buildings to Create the 921 Earthquake Museum

Difficulties and Challenges Faced By the 921 Earthquake Museum of Taiwan

台湾921地震教育園区の困難と課題

Public opposition	Time pressure	Reduced funding	Aging building and facilities

Multipurpose Venue for Rescue Dog Training

Zhushan Site for Studying Paleo Earthquakes



Chelungpu Fault Preservation Park for Earthquake Relics Preservation

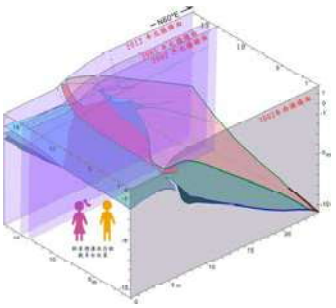


Difficulties and Challenges Faced by the Zhushan Museum

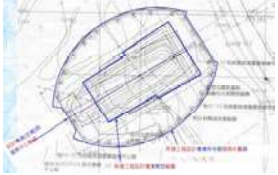
- Exhibition preservation and maintenance
- Construction difficulties

Evolution of Fault Trench (2002-2005)

History of Trench Excavation



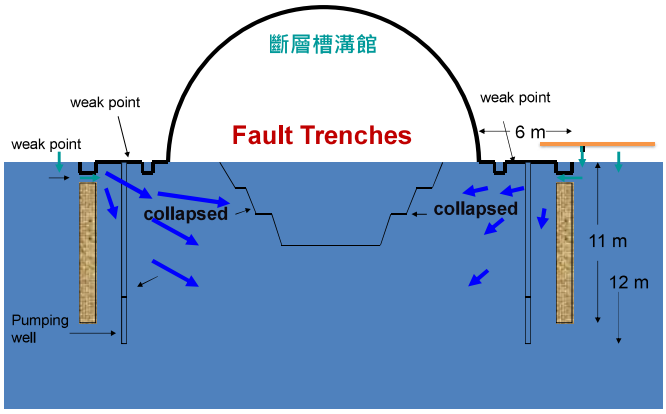
Early Difficulties at the Zhushan Site

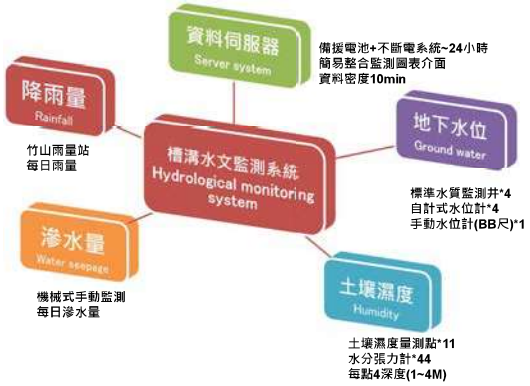

Difficulties Encountered During Construction of the Zhushan Site

Evolution of Fault Trench (2013)

Analysis of Water Seepage in Fault Trench



Hydrological Monitoring System



Conclusion

- The funding for museums in Taiwan is mainly from the government. Although stable, there are year-on-year reductions, making it necessary to find external revenue resources. As buildings and facilities become older, maintenance costs increase year on year.
- Taiwan is often in the path of typhoons. It is not easy to protect the soft soil layers or prevent trench collapses due to water seepage.

Thank you for your attention

坂口奈央
Nao Sakaguchi

Why didn't the residents preserve the disaster remains?
—A case of the Great East Japan Earthquake and Tsunami—

2020 International Forum on Telling Live Lessons from Disasters
Disaster Remains and Passing-on of Memories
25 January 2020
Nao SAKAGUCHI (Tohoku University)

Disaster Remains

- Even though it is a disaster-prone country, there are few buildings in Japan that have been preserved as disaster remains.
- After the Great East Japan Earthquake and Tsunami, the striking images of giant ships carried ashore and buildings with casualties have come to be places for prayers or icons of the disaster. This has caused emotional conflict to emerge among the surviving residents.

→The Japanese government announced that it would fund the initial cost of preserving the disaster remains, that is to say, the tsunami-damaged buildings and structures (Nov. 15, 2013).

- A total of 12 disaster remains in 9 municipalities were preserved, out of a total of 26 disaster-stricken municipalities in Iwate and Miyagi Prefectures (2018).
- It can be said that the Great East Japan Earthquake and Tsunami was the first disaster to widely and genuinely raise the question of how to handle disaster remains.
- The definition of the disaster remains by researchers and governments have been broad and fluid. On the other hand, the meaning and purpose of the disaster remains has been narrow and superficial.

Aspects of the Great East Japan Earthquake and Tsunami

- Many missing
  (15,895 dead, 2,539 missing)
  Survivors wish to keep connected to their missing family members
- Traces and remains of the homes lost: people identify the story of their lives with once-familiar things which have lost their original function
- For residents, the disaster remains evoke not only memories of the tsunami, but also of their daily lives before the tsunami.
- For survivors who have experienced the disaster, to preserve the disaster remains widely means to "console the souls."

The Ship "Kyotoku-maru" in Shishiori District, Kesennuma

(Disassembled in October 2013)

Tourist Spot = Spectacle; Residents Opposed

A former chairman of the Shishiori District Residents' Association who was a crew on a Northern Pacific salmon fishing boat commented:

- "Ships rust away. To imagine seeing it fall into ruin…."
- "Ships should be on the sea. That's the old rule of the sea." To properly mourn for the spirit of the ship, the ship should be disassembled.

→ Shishiori District was home to many seafood manufacturers before the disaster, but this elderly former fisherman's comment reveals his feelings towards the sea and the ship.

Source: Kohoku Shimpo Newspaper, Aug. 26, 2012

A Dispute over the Sightseeing Boat "Hamayuri" in Akahama District, Otsuchi Town, Iwate Prefecture

Local Women's Club Advocated for Promoting Tourism and Creating Jobs; Turned into a Conflict Among Residents

The women of Akahama District were actively involved in local activities.

Underlying was the life structure specific to the fishing community: men at sea & women on land.

→ **Financial Independence**

Husbands were on the crew of Northern Pacific salmon fishing boats which flourished until the 1970s, and deaths by accidents at sea were not unfamiliar. Women took initiative and were creative in their labor, and took pride in playing an important role in their regional economy.

What it means for the local survivors

The locals do NOT view the disaster remains as means to provide education for disaster prevention and pass down memories for future generations.

They instead find purposes of keeping the remains in connections to the daily local life they have had.

It is essential to focus on the process of formation of the meanings.

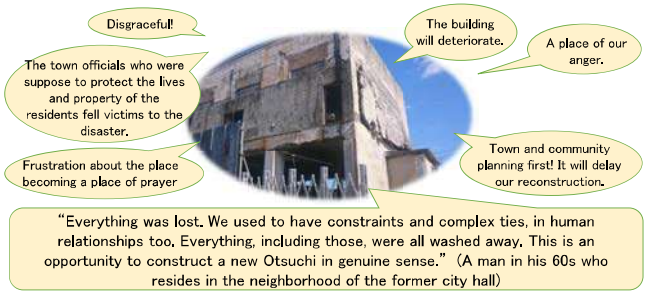
Former Municipal Hall Building in Otsuchi Town, Iwate Prefecture

Photo as of July 24, 2011

Background Story of the Demolition of the Former Municipal Hall Building

- Built in 1954. Served as the hub of the town for more than half a century.
- The mayor and 27 officials who were setting up disaster headquarters in front of the building immediately after the quake lost their lives to the tsunami.
- The next mayor, elected in August 2011, officially announced partial preservation of the building as a message for future generations.
- The following mayor, elected in August 2015, campaigned for demolition, reigniting a town-wide debate.
- The budget for demolition was approved in March 2018, leading to the establishment of a citizen's group calling for the ruin's preservation. Their petitio to suspend the demolition work was rejected in court The demolition work was completed in March 2019.

"A Scene of Shame"-- The reason given for its demolition (by a man in his 60s at the time of the disaster)



"Everything was lost. We used to have constraints and complex ties, in human relationships too. Everything, including those, were all washed away. This is an opportunity to construct a new Otsuchi in genuine sense." (A man in his 60s who resides in the neighborhood of the former city hall)

Shame Culture in Japan

Benedict, R. The Chrysanthemum and the Sword (1954), Sakuta, Keiichi (1986), Terasawa, Masaharu (1985)

- A sense of self-affirmation such as strong assertiveness and having a feeling of superiority which is self-consciousness against one's own value being accepted and appreciated by others / A sense of humiliation from having one's value denied by others: These two contradicting aspects were experienced by each individual living in Otsuchi
- ***Direct Shame***: that the then Mayor and government members became the victims of the disaster from their misguided actions. Feeling a sense of humiliation as if one's experience preceding the disaster was also denied.
- ***Indirect Shame***: Nostalgia for Otsuchi's times of prosperity, together with recollection of one's own responsibility living through Otsuchi's social decline. A sense of self-reflection

Why Did the Residents Decide Not to Preserve the Otsuchi Town Hall Building?

How the Media Described the Story of the Former Town Hall Building to the Outside World

News reports discussed the administration's functional issues, which turned into the idea of preservation serving as justice.

To the residents, the town hall building is a symbolic landmark (merkmal) which nurtured love and pride for their hometown.

However, through the dispute over the former city hall building, it was exposed to the public that Otsuchi had been suffering social and economical stagnation before the disaster, and was also continuing to suffer from social issues after the disaster. This two-pronged feeling of defeat and discord revealed itself as shame.

• The survivors of the disaster remember the disaster remains in 3 separate phases; pre-disaster, disaster, and post-disaster.

These memories bring confusion and conflicts in people. The survivors go through the process of reclaiming themselves through communications in emergency shelters and discussions at community or reconstruction meetings.

• For the locals, the disaster remains bring real and live memories of disaster that continue to transform as time passes. Thus, the disaster remains has not become a part of history yet. For the locals, the remains still constitute meanings in their life and society.

• Memories of the disaster remain as;

"The symbol of disaster " created through the time of disaster and the right aftermath. Wants to utilize the remains as much as possible.

"The symbol of pre-disaster" held mainly by the generation that went through the revolution of lifestyles

→ Two meanings come and go in people's memories.

エコ アグス プラウォト
Eko Agus Prawoto

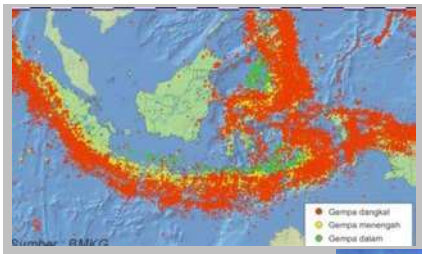
2020 international forum on telling live lessons from disaster-kobe japan

extending the memory

of the community toward disaster preparedness

from myth , scientific explanation and popular culture

eko prawoto I duta wacana christian university- indonesia



Indonesia, living on the ever-shaking ground

the moment to forget and to remember

after the disaster....

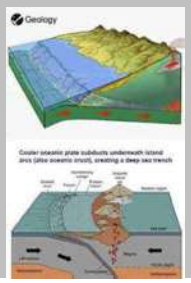
the myth from the past appear again as an 'explanation'

the spirit of togetherness as the most important social capital

physical recovery - interregional cooperation

the ritual as an extension of the memory

reaching the next generation
scientific explanation, would it be sufficient?



the power of myth
pop art as media
touching the heart of the culture

kebon harjo....
extending the memory and interregional cooperation

are we prepare?

吉椿雅道
Masamichi Yoshitsubaki

CODE

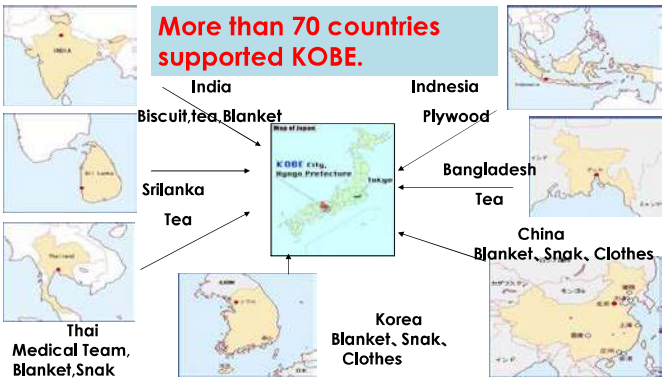
"To help one another when they are at the difficult time"

We thankfully had a huge support from over 70 countries when the Great Hanshin Awaji Earthquake hit Kobe on 17th January 1995. CODE was established to return our thankfulness. We have been supporting 35 countries and regions and implementing 62 relief activities.

Citizens toward Overseas Disaster Emergency

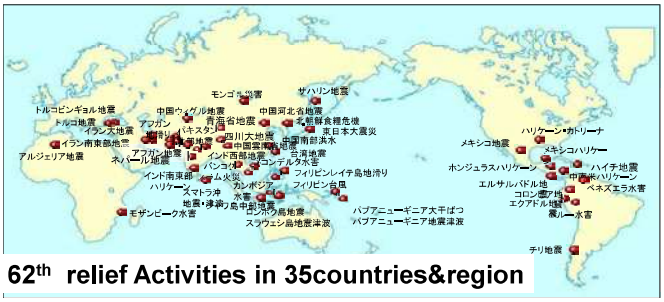
The Great Hanshin-Awaji Earthquake (KOBE Earthquake)

Magnitude: 7.2 on the Richter Scale
Death toll: 6,434
Injuries : 40,092
Houses partially or completely destroyed in the quake: 240,954
Houses partially or completely destroyed by fire: 7,456



CODE 海外災害援助市民センター

Citizens towards Overseas Disaster Emergency



62th relief Activities in 35countries&region

CODE's Relief Activities & Exchange

2008 Sichuan Earthquake in CHINA

2010 Chili Earthquake/Tsunami

2018 Lonbok Earthquake
Sulawesi Earthquake/Tsunami
Sunda Strait Eruption /Tsunami in INDONESIA

Sichuan Earthquake

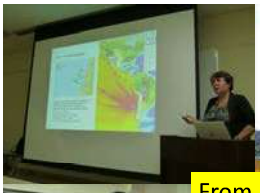
Date: 12/May/2008 14:28(Local time)
Scale: M8.0
Affected Area: Around 400km from Chengdu to the northeast
Affected peoples: 46.24million peoples
Death: 69,226 peoples
Injured: 374,643 peoples
Missing: 17,923 peoples
House damage: completely 216,000
partially 4150,000
School damage: 7,000
Total affected Area:
総被災面積: 500,000㎢
（1.3times of Japanese land）

CODE`s Relief Activities

Exchange Affected Area（Tohoku・Noto-Sichuan）

Chile Earthquake

Date：27/feb/2010　3:34（Local time）
Scale：M8.8（5th largest in history）
Epicenter：107km north-northeast of Concepcion
Deep：35km
Tsunami run-up height:　Max 28m
　　Average:5m～9m
Death:　802 peoples
　（about 500 peoples were killed by Tsunami）
Affected peoples　：200,000
Affected Area ：Talcahuano（ 6～10m）
　　Dichato（6～9m）
　　Robinson Crusoe Island（10m）



From Affected area to Not yet area

A NGO staff learned About Disaster Prevention in Kochi. And She conveyed Chile's experience to Kochi

Indonesian Disaster

「Lonbok Earthquake」
Date：29/July ,5/Aug, 19/Aug /2018
Epicenter：Northeast of Mataram,
　　West Nusa Tenggara
Scale：M6.4（29/July）,M6.9（5/Aug）,M6.9（19/Aug）
Death:555　House damage:74,000

「Slawesi Earthquake/Tsunami」
Date：28/Sep/2018
Epicenter：About 80km north of Pal,
Scale：M7.5　　Middle Sulawesi
Death:2,090　missing:680　House damage: 67,310

「Sunda Strait Eruption /Tsunami」
Date：22/Dec/2018
Affected Area：Banten province, western Java,
　　Lumpung province,Southern Sumatra
Death：426　Missing29　House damage: 1,527

Learn each other traditional wisdom with local people

「Keeping Memories Alive」
learning from support and exchange in affected area

* Not only people tell but nature speaks
（Ex :100year foresting, Tidal forest = Eco-approach）

* Even if it is not transmitted in words, it may be transmitted through songs, place names, and traditions.
（Ex :Shiawase hakoberu youni,Jono-oge, Smong,
　　Tsunami-tendenko）

張国遠
Zhang Guoyuan

Research on Status and Solutions of School Disaster Education
——China-Japan Cooperation and Response

***Guoyuan Zhang*, President & Associate Professor**
New Century Institute of Education Safety Science and Technology，
Beijing City University

Kobe,Japan
March 27, 2020

I'm from Sichuan

2008 Sichuan Earthquake

Indicators	Loss
Seriously Damaged Areas	> 100,000km2
# of death toll	69,227
# of injured pp	374,643
# of missing pp	17,923
# of dead & missing students	5,335
Direct Economic Loss	RMB 845billion

2018 Loss of Natural Disasters in China

Indicators	Loss
Damaged Agriculture Areas	> 200million km2
# of affected pp	130 million
# of death toll	589
# of missing pp	46
# of House collapse	97,000
Direct Economic Loss	RMB 264 billion

Development in School Disaster Education

international community attached importance

- UN's International Decade for Natural Disaster Reduction
- Hyogo Framework for Action and the Hyogo Declaration
- Sendai Framework for Disaster Reduction 2015-2030
- UNESCO+UNISDR：Competition with natural disasters: disaster reduction begins at the school

Chinese government has adapted

- China's International Committee for the Reduction of Natural Disasters
- National Safety Education Day for Primary and Secondary School Students
- China's Disaster Reduction Action
- Nation-Wide Comprehensive Disaster Reduction Model Communities
- National Science and Technology Model Schools for Earthquake Preparedness and Disaster Reduction

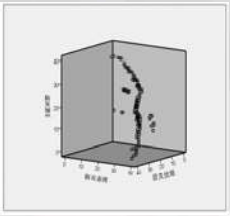
Overall society actively response

- Various government agencies and education system
- NGOs
- Communities and families

Current Situation of Students' disaster prevention literacy

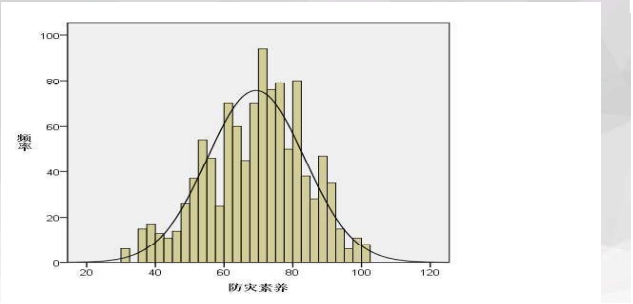
Overall level of disaster prevention and literacy of primary and secondary school students in China is low & correlations among knowledge, skills and attitudes

Disaster Prevention	Min	Max	M	SD	Failing Rate	Outstanding Rate
Literacy	12	100	60.30	11.93	48.70%	5.00%
Knowledge	0	36	18.20	5.83	70.60%	4.40%
Skills	0	36	18.87	6.25	72.40%	6.20%
Attitudes	0	36	28.10	5.00	6.60%	53.90%



Teachers' disaster prevention literacy

Overall disaster prevention quality of teachers in China is low & correlations among knowledge, skills and attitudes

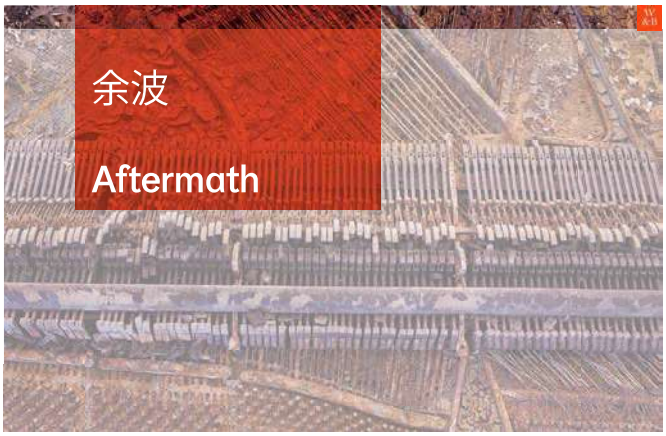


China's Study Tours in Japan

Japan's Study Tours in China

Thank you !

J. デイヴィッド ワッゴナー三世
J. David Waggonner III



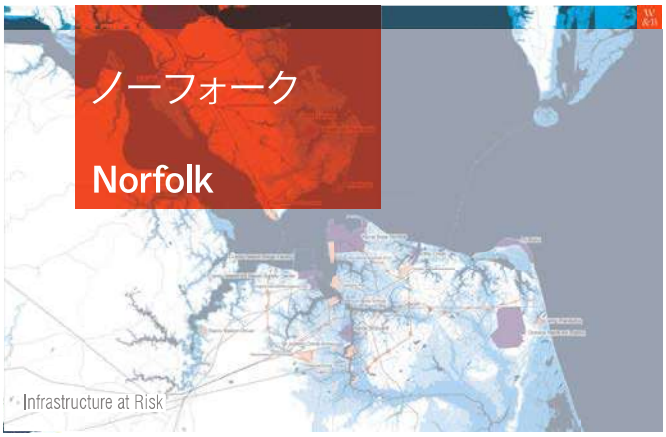

オランダとの対話
Dutch Dialogues

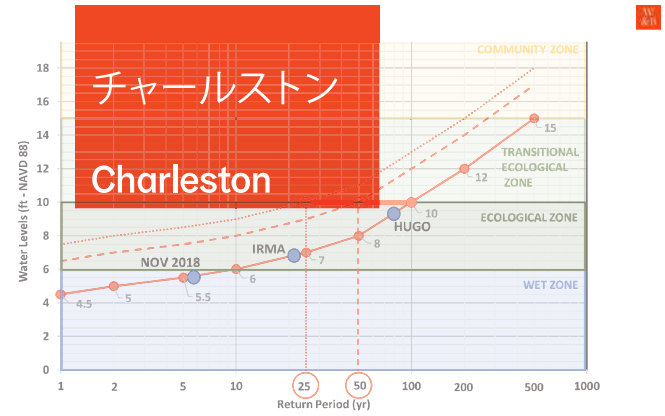

Dutch
Dialogues
NEW ORLEANS
NETHERLANDS


ニューオーリンズ
水計画
New Orleans
Water Plan

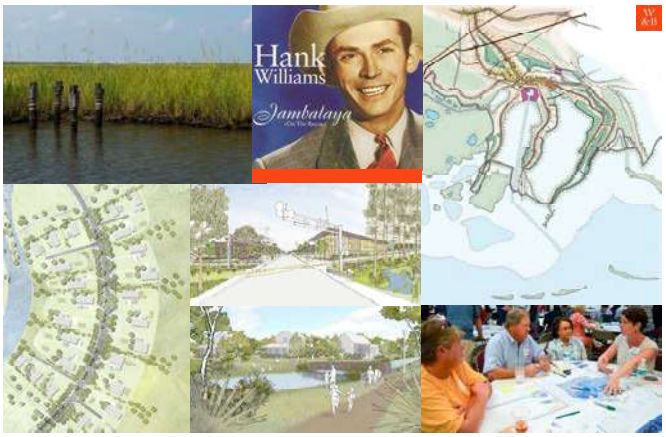

Vision
Urban Design
Implementation

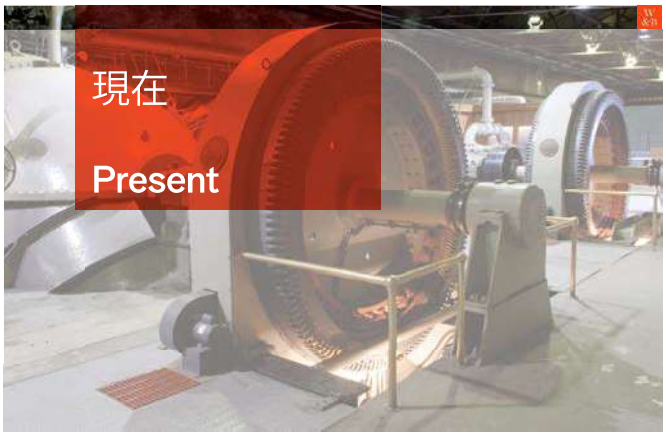

設計による再構築
Rebuild By Design


ノーフォーク
Norfolk
Infrastructure at Risk


チャールストン
Charleston
Water Levels (ft - NAVD 88)
Return Period (yr)
COMMUNITY ZONE
TRANSITIONAL ECOLOGICAL ZONE
ECOLOGICAL ZONE
WET ZONE
NOV 2018
IRMA
HUGO


ルイジアナ 安全
Louisiana
SAFE


Hank
Williams
Jambalaya



吉椿雅道
Masamichi Yoshitsubaki