ポスターセッション発表ポスター/
Poster Session Presentations

リープダム
Leap Dam

Incorporating community lessons in building disaster resilient housing of the Mekong river communities

UN HABITAT
FOR A BETTER URBAN FUTURE

RESILIENT HOUSING FOR ALL

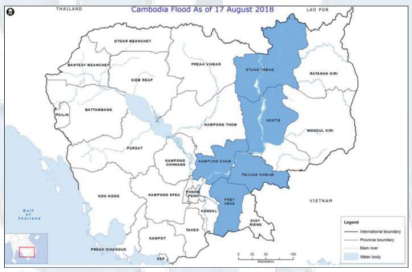


BACKGROUND

Cambodia is one of the world's most vulnerable countries to natural disasters and the country has suffered repeatedly from floods, storms and strong winds which has caused the loss of lives and destruction of livelihoods.

In 2018, due to the heavy rainfall from ***Tropical Storm SON-TINH***, the Sepa-Nam Noi dam in Lao PDR collapsed affecting 62,317 households, causing 16 deaths, and forced 5,398 households to evacuate in the five downstream provinces in Cambodia.

The rural poor communities near the Mekong river have suffered the destruction of their houses. Many families have been forced to evacuate their homes to the shelters with no sufficient food and access to clean water and sanitation.



As a response to the flooding, UN-Habitat in Cambodia with the support from the Government of Japan has been implementing the "***Project for Improving Living Environment and Disaster Prevention Capacity in Cambodia***" since April 2019. The project aims to complete the full reconstruction and repair of over 200 houses by March 2020 that will benefit over 2,000 families.

PROJECT

With the generous fund from the Government of Japan (JPY 100,000,000), the "***Project for the Support for Improving Living Environment and Disaster Prevention Capacity in Cambodia***" (Total duration: 12 months) aims to reconstruct housing to respond to the immediate need for safe shelters in the flood-affected communities Tbong Khmom Province. The project focuses on providing housing that is resilient to disasters using environmentally sustainable materials. Final beneficiaries are:

At least 200 households (1,000 persons based on average family size of 5) supported with core shelters

Approximately 2,148 households (10,740 persons based on average family size of 5) in total get benefit from hazard maps, community development support, and livelihood assistance

Approximately 50 construction workers in the flood-affected community get benefit from trainings on resilient construction methods

Approximately 50 national and subnational government officials will get benefit from capacity building on policy development skills of disaster risk management policies

ACTIVITIES

This project activities contribute to the implementation of National Housing Policy, which was formulated by the Ministry of Land Management and Urban Planning and Construction with the technical support of UN-Habitat to promote sustainable housing sector.

1. Conduct field recovery assessment in target province and select community organization and involvement of all relevant actors
2. Conduct detailed mapping of shelter (material) needs and safe areas (flood map) in target communes
3. Reach consensus with communities and affected families on which households will be assisted and on the safe locations for rebuilding houses, including sanitation facilities (toilets), based on the flood risk information collection and mapping – ***Selection of 200 households***
4. Identify low cost and local materials that can be used to construct resilient houses
5. Select community carpenters, masons, and skilled workers to participate in the housing construction and train them in disaster resilient construction methods – ***50 artisans (including youth)***
6. Community mobilization for housing construction – ***200 households***
7. Design and construct resilient houses using local low -cost materials – ***200 housing units***
8. Integrate disaster risks reduction elements into local plans
9. Conduct lessons learned workshop and disseminate the results at national level – ***100 people***

PEOPLE'S PROCESS

UN-Habitat has been taking a unique approach called ***"People's Process"*** that involves the participation of the community members in housing reconstruction and the use of their knowledge and skills. The People's Process brings about a paradigm shift moving from a model of control by authorities to one of support to people — this is done through a participatory community development methodology built around 5 steps.

KEY PARTNERS

UN-Habitat has a strong track record providing shelter and WASH assistance in Cambodia, which works closely with the Royal Government of Cambodia, Ministry of Land Management; National Committee on Disaster Management (NCDM); Provincial committees on Disaster Management (PCDM); Local Authorities; NGOs; and Communities.

UN-Habitat is also a member of Humanitarian Response Forum and Shelter Working Group that actively works to produce Low Cost Resilient Housing Construction Guidelines and for build back better to communities most severely hit by flood and cyclones in 2014 .

Photos from the field © UN Habitat Cambodia






ジャン イ
Jiang Yi

Keep Memories Alive

Situational Drama in
DRR Education for Children

Painting of The Dancer, by Henri Matisse (1869-1954)

Designed by Jiang Yi , 2019

アブデシュクマールガングワル
Abdhesh Kumar Gangwar

RCE Srinagar

TeLL-Net 2020

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

Tales from Indian Disasters

Indian Tsunami

26 December 2004
07:58 hrs, 9.3 Richter Scale

Undersea (depth 30 km)
Waves 30 m high
Deaths 18,045



Kashmir Earthquake

8 October 2005
09:20 hrs, 7.6 Richter Scale

Deaths 945, Injured 6,149
Houses damaged 92,608
Population affected 4,50,000





Leh Cloudburst

6 August 2010
00:00 - 00:30 hrs

Deaths 255
Missing 29
Houses damaged 1,500




Kedarnath Uttarakhand floods

16-17 June 2013

Deaths 5,700




'Mehfooz' School Safety

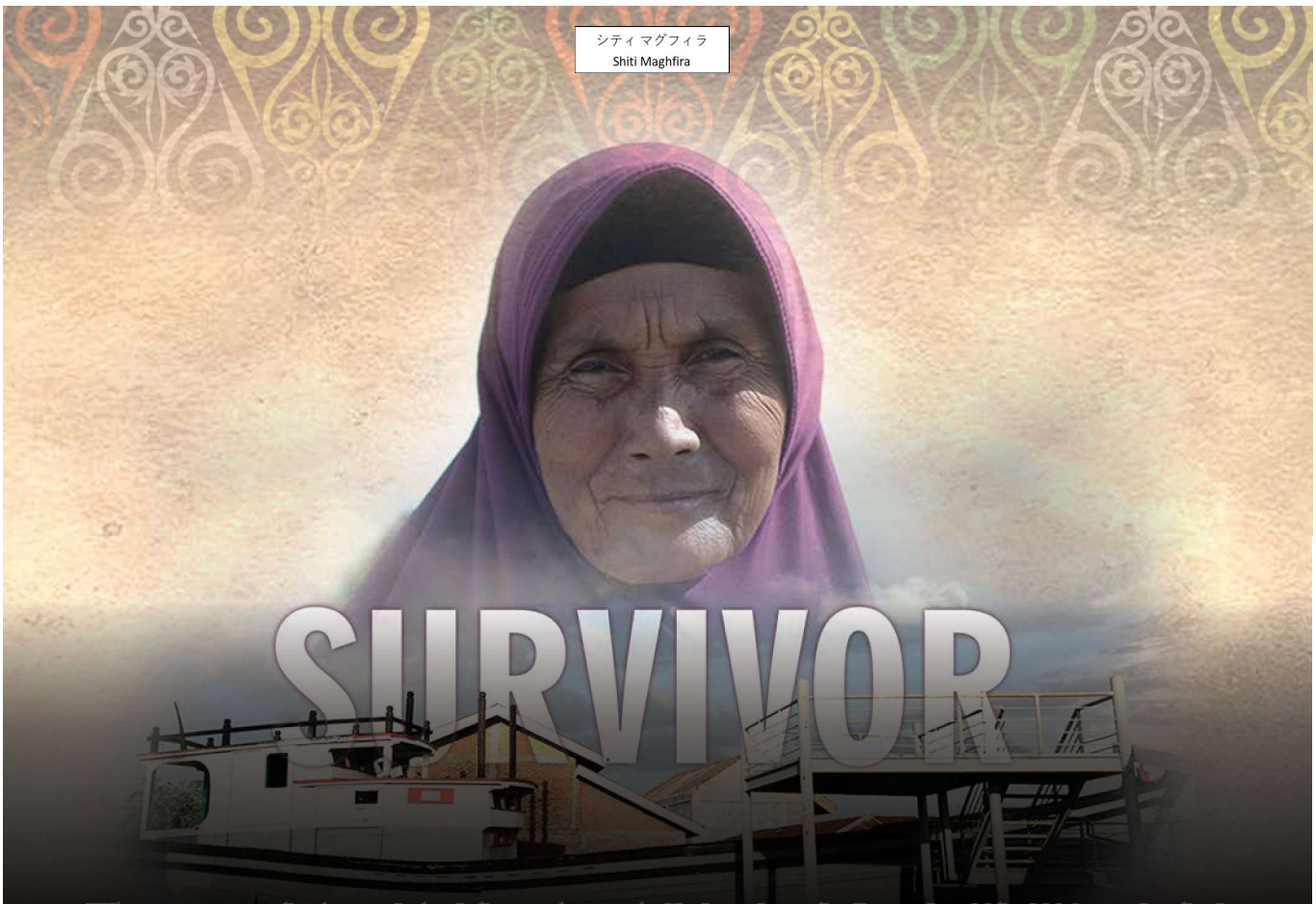
Safety of all Everywhere All the time




Design: Rambabu

Photo Credits: Abdhesh Kumar Gangwar, G.S. Bedi, CEE Himalaya, RCE Srinagar

シティ マグフィラ
Shiti Maghfira



SURVIVOR

Fifteen years ago, the tsunami struck the western part of Indonesia on the December 26th, 2004, causing the loss of many lives and of a great amount of infrastructure. The earthquake with a magnitude of 9,1 occurred at 7.58 am. After the earthquake occurred, the tsunami hit the coast of Aceh caused 126, 741 people died and left a memory that has became a tsunami tourism site in the Lampulo, Banda Aceh, Boat on the Rooftop.

This village is named Gampong Lampulo and really close to the shore. This is where I used to selling breakfast. We call it TPI (fish auction). At that time, many anglers stopped by. When they came back from the sea, loading and unloading fish, I sold the breakfast for them there.

When earthquake happened, I sat here. After the earthquake stopped, I went home. Then returned to the port once again. A boat came from the sea and the crew yelled, "The tide is coming. The tide is coming." It was very high. The color was black. I ran to my neighbor house and went to the second floor. At that moment, a boat somehow hooked on the top of the house.

There were 59 people on the boat. We spend 9 hours here. There is a wisdom under this calamity. We do not carry our properties. We only bring our charity. This is what I can conclude that our life is just a moment. Now fifteen years after tsunami, the infrastructures are managed properly. The economy of the local people also starts growing. Everyone can smile because Aceh has peaceful condition once again.

PHOTO : AHMAD ARISKA
TEXT : SHITI MAGHFIRA

DESIGN : AMONDAYA CREATOR

LIVING IN HARMONY WITH DISASTER AT MERAPI.

アンディ フェルダナ
Andi Ferdana

This Poster Contains the Desription of Petung Citizens “Before And After Eruption 2010"

find me : andi_ferdana | andiferdana@gmail.com

BEFORE ERUPTION 2010

Petung vilages is 7 Km from the peak of Merapi. Before the eruption of residents raising livestock, have a cofffe garden so that it becomes a tourist village.

ERUPTION 2010

Petung exposed to pyroclastic flow and thann all destroyed and residents must move to relocation.

AFTER ERUPTION 2010

Residents who moved to relocation made their old village a tourist destination. For residents of Merapi is not a threat, they can coexist with Merapi in harmony.

モハメドアリザマニ
Mohammad Alizamani

2020 INTERNATIONAL FORUM ON TELLING LIVE LESSONS FROM DISASTERS, 24-26 JANUARY 2020. KOBE, JAPAN

The role of Technical Services & Building Materials Exhibit Complex in Bam Earthquake(2003)

BAM BEFORE THE EARTHQUAKE

BAM AFTER THE EARTHQUAKE

Bam earthquake- Total damaged Units

Magnitude: 6.6 (R.Sc.)-Date: December 26- 2003- 26721 Dead

URBAN RESIDENTIAL & COMMERCIAL UNITS	To Be Reconstructed	25562
	To Be Repaired	828
RURAL RESIDENTIAL UNITS	To Be Reconstructed	24332
Total		50722

KEY GOALS

PRESERVATION OF IDENTITY + **PARTICIPATORY RECONSTRUCTION** + **PHYSICAL RESILIENCE**

THE PROBLEM
HOW TO REALIZE THESE GOALS?

THE IDEA

ESTABLISHING TECHNICAL SERVICES & MATERIAL EXHIBIT COMPLEX

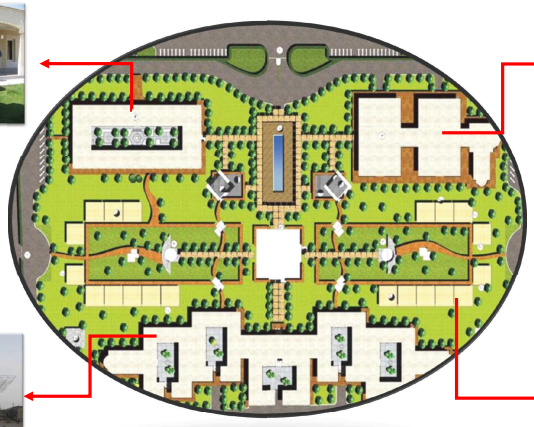
1. CREATING A SUITABLE SPACE FOR INTEGRATED PROCESS IN DESIGNING THROUGH THE VICTIMS, DESIGN CONSULTANTS
2. EXHIBITION OF BUILDING MATERIALS FOR THE LOCAL PROFESSIONALS, ARTISANS AND TECHNICIANS
3. PRODUCING DOORS, WINDOWS, FIXTURES AND JOINERY ELEMENTS
4. PROVIDING HOUSING APPROPRIATE SAMPLES PROPOSING ARCHITECTURAL & STRUCTURAL PATTERNS

Technical Services & Building Materials Exhibit Complex

Participatory Design

- URBAN & ARCHITECTURAL PRINCIPLES
- SPECIAL BUILDING CODES

Building Materials Workshops



Building Materials Exhibition

Architectural patterns & building technology

BAM AFTER THE RECONSTRUCTION

RECONSTRUCTION OPERATIONS

CREDIT AMOUNT (By Government & donors)	1.7 billion $
RESIDENTIAL UNITS	5.2 million m2
RECOVERED AGRICULTURE AREA	625 ha.
EDUCATIONAL BUILDINGS	194 units
GOVERNMENTAL BUILDINGS	81 units
RELIGIOUS BUILDINGS	52 units
HOSPITAL & HEALTH CENTER	35 units)20000 m2(

マニヴァースヤヴォン
Manivanh Suyavong

Background: From **28-30 September 2009, Typhoon Ketsana** hit Southern Laos causing some of the most severe damage from a natural disaster in living memory. Across **Sekong, Salavan, Attapeu, and Savannakhet** Provinces, widespread flooding was compounded by flash floods and landslides from heavy wind and rainfall, and rivers rose to 28 meters in some areas. With no early-warning or preparation, extensive damage to houses, food storages, water supplies, infrastructure, and livelihoods left an estimated **181,000** people at-risk and in need of immediate assistance.

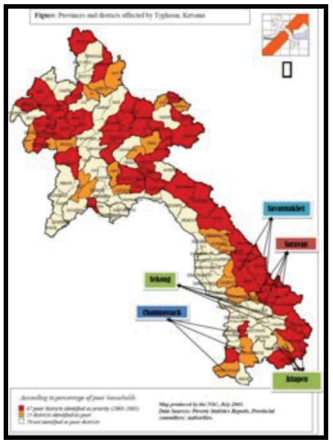
Voices of Resilience: Lao Women in Community Based Humanitarian Response

As National Programme Manager at Oxfam Australia (in Laos), my team was deployed to Ta Oy and Samoui Districts in Salavan Province, and Kalum District in Sekong Province to provide urgent humanitarian assistance and community-based disaster management. Our primary goal was distributing rice, hygiene and kitchen kits, and temporary shelters.

Our mission faced challenge after challenge as the diversity of ethnic groups created severe language barriers; logistical breakdowns left us with rice shortages; the remoteness of many villages meant some had to walk up to 5 days to reach areas inaccessible by truck or boat; and security obstacles from UXOs made coordination an uphill battle.

As the 10 year anniversary of Typhoon Ketsana approaches, I am reminded of two things. Firstly, the countless interactions I had with people who despite their suffering, were determined to survive and never hesitated to show their gratitude for our support. Secondly, I reflect on the lessons learned and acknowledge the achievements that came from devastation. The experiences I had during my time at Oxfam ignited my passion for grassroots development and lead me to my current position as Director of Gender Development Association. Since Typhoon Ketsana, the Government of Laos has taken great initiative to improve policies, mechanisms, procedures, and invested valuable resources to support programs for disaster preparedness, management, and response.

Our journey through recovery comes full circle; representing perseverance, growth and the bond shared by communities who overcome disaster



Manivanh Suyavong
Director, Gender Development Association
Vientiane, Lao PDR

オンケシン
Ong Ke Shin

TALES OF FLOOD YOURS AND MINE

crowdsourcing flood stories through social media

Ong Ke Shin
PhD Candidate, Universiti Sains Malaysia
Fellow, Japan Foundation HANDs Program 2017/2018
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Background

Flood is the most destructive natural disaster in Malaysia. When flood strikes Penang, be it natural or man-made, precious lives are lost, families broken, infrastructure and personal assets are wasted. Despite its severity and the high possibility of reoccurrence of flooding due to the escalating climate change, awareness and preparedness of communities previously affected by flood remained lukewarm. Memories of flood faded, forgotten fleetingly, deliberately or subconsciously when traces of flooding were effaced.

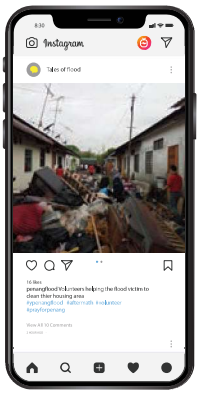
Objectives

This pilot project "Tales of flood, Yours and Mine" aims to

- explore the possibility of leveraging social media to recollect memories of the most severe flood in Penang, Malaysia that took place in 2017 via crowdsourcing
- to provide a virtual platform to engage the public in preserving, interpreting and reflecting and remembering on flooding
- better understand how public perceive flood.

Problem statement

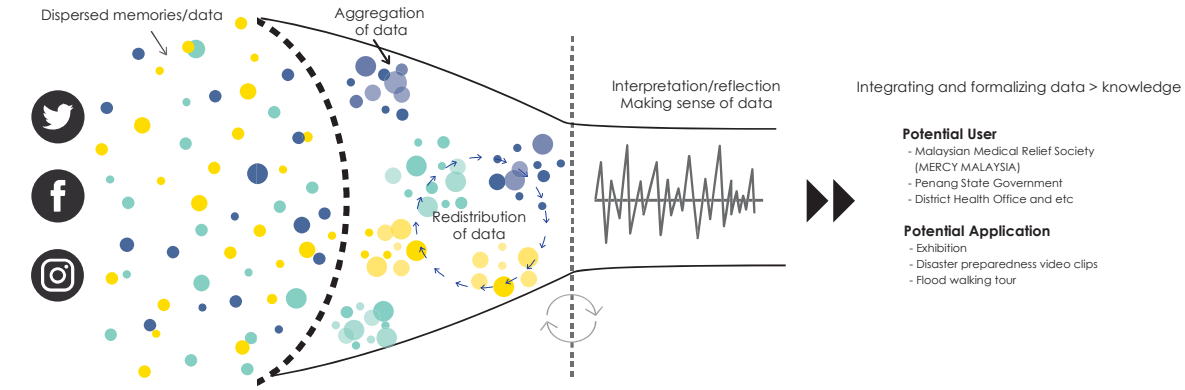
Growing interest in and active contribution on social media provide a new approach for flood victims and witnesses to record and construct disaster memory. The 2017 disastrous flood that occurred in Penang, Malaysia left tremendous traces and valuable records in social media, yet loads of these informal public generated data remain unstructured and dispersed, therefore underexplored.



Why Crowdsourcing

- "Process of leveraging public participation in or contributions to projects and activities." (Hedges & Dunn, 2018)
- Foster civic participation and discussion by engaging public that is not part of a formal institution
- Collect bottom up resources, amplifying citizen's voices.

Conceptual framework



Sources: Adapted from the crowd capital perspective (Prpić, Shukla, Kietzmann, & McCarthy, 2015)

Application of the framework to crowdsource flood memories in Penang, Malaysia

Constructing the crowd	Acquisition	Assimilation	Harnessing crowd capital
Who? • Social media user • Flood victims • Flood witnesses • Public Type of content • Photo • Video • Written narrative	**How?** • Invite and engage potential participant • Submit stories / photos through social media • Data mining • Interaction, exchange between participants • Identify emerging theme #tagging • Prompt to trigger response	**Then?** Making sense of the information • Value creation • Value capture • Curate, process and contextualize information • Periodizing emerging and interesting content	**How?** • Invite and engage potential participant • Submit stories / photos through social media • Data mining • Interaction, exchange between participants • Identify emerging theme # tagging • Prompt to trigger response

Challenges

The challenges faced executing this on-going pilot project is

- While the aim is to provide an inclusive platform for citizens to share their stories, relying on social media exclude non – social media users
- Users' information privacy concern limits participation and data collection
- Time consuming to create and maintain active crowd (Martí, Serrano-Estrada, & Nolasco-Cirugeda, 2019)

Acknowledgements

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Labour intensive to process, validate and interpret large volume of dataHedges, M., & Dunn, S. (2018). Introduction. Academic Crowdsourcing in the Humanities, 1–12. https://-doi.org/10.1016/b978-0-08-100941-3.00001-2

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Prpić, J., Shukla, P. P., Kietzmann, J. H., & McCarthy, I. P. (2015). How to work a crowd: Developing crowd capital through crowdsourcing. Business Horizons, 58(1), 77–85. https://-doi.org/10.1016/j.bushor.2014.09.005

Cyclone Nargis: A First Hand Narrative of the Aftermath (Presented by Nyi Soe, Myanmar)

ニソエ
Nyi Soe

The Worst Natural Disaster in Myanmar

Myanmar is the largest country in mainland Southeast Asia with a total land area of 676,578 square kilometers and a population of 51.5 million. Its long coastline of about 2,000 km covers almost the entire coast of the Bay of Bengal. As a country prone to heavy rainfall, floods occur regularly during the mid-monsoon period (June to August) in areas traversed by the rivers.

On 2 and 3 May 2008, Cyclone Nargis, category 4 cyclone, swept in from the Bay of Bengal and made landfall in Myanmar's Yangon and Ayeyarwady Regions, resulting in large-scale loss of life and destruction of infrastructure, property and livelihoods. Approximately 140,000 people were killed or unaccounted for following the Cyclone. One third of the inhabitants of Ayeyarwady and Yangon Regions, 2.4 million people were affected. The Cyclone struck 37 townships, covering an area of 23,500 square kilometers, a landmass slightly smaller than the country of Haiti. Globally, Cyclone Nargis was the eighth deadliest cyclone ever recorded and it was by far the worst natural disaster in Myanmar's history. Strong winds and heavy rain caused the greatest damage in the Ayeyarwady Delta where a storm surge compounded the impact of the cyclone.

Cyclone Nargis had a substantial long-term impact on people's livelihoods and resulted in enormous physical losses, including the destruction of homes and critical infrastructure such as roads, jetties, fuel supplies, electricity and water and sanitation systems. A large proportion of water supplies were contaminated and food stocks were damaged or destroyed. The damage was most severe in the Delta region also known as the country's rice bowl, where the effects of extreme winds were compounded by a 3-4 metre storm surge, devastating most of the fertile areas and submerging countless villages. Cyclone Nargis caused devastation to the environment of the two regions where local livelihoods are heavily reliant on the natural resource base. It destroyed 38,000 hectres of natural and replanted mangroves, submerged over 63 percent of paddy fields and damaged 43 percent of fresh water ponds. Immediate action was required to address the basic humanitarian needs of the Nargis-affected population given the immensity of human suffering and the social and economic toll the disaster had on families and communities. An early recovery programme that could ensure that transition into medium and long-term recovery was an urgent need to focus on the restoration of livelihood, assets of the poor and essential services.

Source: ASEAN Secretariat

National Response and International Assistance

Though the National Disaster Preparedness Central Committee (NDPCC) was activated the next day and assigned rescue, relief and rehabilitation tasks to ministers and deputy ministers, the scale of the devastation quickly proved overwhelming and supply stocks existing within the country were limited and soon exhausted. In this context, it was vital that the international community be granted access to bring in relief for the Cyclone-affected communities. The government's reaction to the international assistance sparked confusion and it said that it would only accept bilateral aid and welcomed donations of cash and emergency aid but was not ready to receive search and rescue teams or journalists from foreign countries.

Coordinating Mechanism for International Aid

Amidst the chaos and confusion ASEAN took the lead in braking down the communication and trust barriers that were preventing the flow of aid and international relief workers into the country. The Secretary-General of ASEAN personally persuaded the leaders of Myanmar to permit the entry of relief workers in to the country to assist Cyclone survivors in the spirit of ASEAN Agreement on Disaster Management and Emergency Response (AADMER) so ASEAN-Emergency Rapid Assessment Team (ASEAN-ERAT) was permitted. He was then urged by the governments and organizations around the world to broker agreements with Myanmar to open up space for humanitarian assistance. As a result, the ASEAN led mechanism was agreed and the ***ASEAN Humanitarian Task Force (AHTF)*** was established. Aid and relief workers from international community as well as medical teams were allowed. After the establishment of ASEAN Task Force, ASEAN-UN International Pledging Conference attended by representatives from 51 countries was successfully held on 25 May.

Message on Cyclone Nargis and is aftermath

- The devastation of Cyclone Nargis was ***enormous***.
- Imagine the ***enormity*** of the Cyclone : killed 140,000 people and affected 2.4 million people.
- Estimated damage : US$ 4 billion
- Winds up to 215 km/h and 3.5meter storm surge which travelled 40 km up the 2 regions and the tide was like a monster.
- ***Unpreparedness*** & ***Negligence*** on the effective early warning system.
- Lessons learnt from this tragic experience : **must not underestimate the natural disasters.**
- One big challenge : ***Resilience from the people*** living in remote areas.
- ***Disaster awareness and DRR trainings*** : a "must" for areas prone to disasters.
- ***Updating early warning systems*** : vital in the struggle to prevent disasters and save lives.
- Blessing in disguise : A few years after Cyclone Nargis, 2010 General Elections: ***political change began to open Myanmar up to the outside world.***

HTF set up a Yangon based ***TCG (Tripartite Core Group composed of representatives from ASEAN, Myanmar and United Nations)*** as a working mechanism for coordinating, facilitating and monitoring the flow of international assistance to Myanmar. To support the ASEAN led coordinating mechanism, a Coordinating Office was established to work closely with representatives from the government and UN under the TCG. The first meeting of TCG agreed to conduct a Post-Nargis Joint Assessment (PONJA) to determine the full scale of the impact of Cyclone Nargis and requirements for both immediate humanitarian assistance needs and medium-to longer-term recovery. In early 2009, TCG launched the Post-Nargis Recovery and Preparedness Plan (PONREPP) to provide a platform for the transition from emergency relief and early recovery towards medium-term recovery. The TCG set 3 levels of coordinating mechanisms:

1) Recovery Forum: focused on strategy and policy with wide stakeholder membership;

2) Recovery Coordination Centre : technical coordinating unit at the operational level and aimed to exploit opportunities for enhanced coordination of funding;

3) Recovery Hub : coordinating unit at the field level both at township and village levels.

The TCG set out a three-year framework to guide recovery efforts following Cyclone Nargis provided a platform for transition from emergency relief and early recovery towards a medium-term recovery with three themes: productive lives, healthy lives and protected lives. commissioned a series of interim assessments refers to as Periodic Reviews to gauge the status of relief and recovery and revolving needs of the Cyclone affected population and could implement up to Periodic Review IV.

The TCG was successful in building trust and confidence in the post-Nargis humanitarian relief and recovery effort and facilitating cooperation between the Myanmar Government and the international community. The TCG has been lauded as an innovative example of a body that ASEAN and other regional associations around the world could replicate in response to future emergencies. The mandate of the AHTF and TCG were extended to the end of July 2010 by the ASEAN Summit and the ASEAN led coordinating mechanism completed on 31 July 2010.

Lessons Learnt

High-level government leadership is critical to the success of any disaster response especially in the case of large-scale disasters. Myanmar's high-level natural disaster coordinating body called the National Disaster Preparedness Central Committee was established in 2005 in accordance with the Hyogo Framework for Action. A key strength of the NDPC was that it was positioned at the highest level of government and its strong leadership helped ensure continuity throughout the recovery process and the smooth transition from one phase to another, from relief to early recovery, early to mid-term recovery and eventually to long-term development.

Post-Nargis experiences underline the need for any other ***countries to be prepared for disaster but also to possess the knowledge and skills to respond***. Methods and needs for assessing needs, damage and loss, community-based monitoring systems, aid tracking systems and all the other tolls and mechanisms required for post-disaster relief and recovery efforts ought to be readily available prior to disasters. Training for assessment teams should be conducted on a periodic basis and their capacity needs enhanced and supported so that they can be easily dispatched when the need arises.

Effective assessment and monitoring are vital to guiding the coordination and implementation of aid programmes and ensuring that relief and recovery efforts reflect the needs of the affected community. According to periodic reviews, the affected population must be active participants in surveys and results must be grounded in meaningful consultation. The initiatives were part of wider efforts to ensure that the post disaster relief and recovery programmes were people-centred and focus squarely on the needs of the affected communities.

The aftermath of disaster like Cyclone Nargis provided an entry point to integrate DRR (Disaster Risk Reduction) into relief and recovery programmes. Several studies have concluded that ***investing in DRR initiatives is more cost-effective than conducting post-disaster activities***. DRR is valuable because it encompasses a multi-hazard risk reduction approach to ensure sustainable development. The outcomes of implementing DRR in Nargis-affected areas: enhanced engagement by communities in DRR measures; improved capacity to disseminate and act on early warning; strengthened locally-adapted mitigation measures in vulnerable areas; integration of disaster mitigation into current recovery and reconstruction efforts; and improved preparedness, mitigation policies and response mechanisms among national and local institutions.

Cyclone Nargis made ASEAN to challenge its collective response to a major disaster in a Member State. The experiences helped ASEAN better understand the nature of humanitarian architecture after a major-scale disaster and how DRR initiatives can mitigate the impact of a disaster. It was the ***first time for ASEAN to work so closely with the United Nations at the operational level*** in the coordination of a joint humanitarian effort in response to on the worst natural disasters to strike the region in decades.

Applying the lessons from Cyclone Nargis requires ***recovery and development efforts to focus on the protection, restoration and enhancement of the environment in Nargis-affected areas,*** particularly forests, land and freshwater resources. Investing in sound environmental management can provide a more sustainable basis for livelihoods and food security and build resilience to future disasters and climate change.

Source: ASEAN Secretariat

Cyclone's impacts were exacerbated by earlier damage to the environment, including deforestation and degradation of mangroves, over-exploitation of natural resources such as fisheries, and soil erosion. The heavy loss of life as a result of the storm surge was primarily due to prior loss of about 75 percent of the original mangrove cover n the Delta which could have served as buffer against the storm surge.

Experiences from Cyclone Nargis clearly demonstrate ***the vicious circle in which pre-existing environmental degradation increased vulnerability, turning a natural hazard into a major disaster.*** The disaster resulted in in further environmental damage, jeopardizing the sustainability of livelihoods and ecosystem functions.

The areas of affected by Cyclone Nargis illustrated the interdependent linkages between the environment, livelihoods and disaster vulnerability. The driving forces of degradation in the Delta and Yangon Region are closely related to people's livelihoods and their natural resource management practices as well as the way in which government policies are implemented. Low input and unsustainable farming practice, lack of awareness and knowledge, deforestation and over-exploitation of forest resources, over harvesting of fisheries, weak land use planning, inadequate information on natural resources are the key factors for environmental degradation.

Last but not least, Cyclone Nargis provided opportunity to the Government of Myanmar which was a military regime in power for twenty years to have cooperation with international community not only with the regional associations and international organizations but also with donor countries especially the western world and a few years later, ***political change began to open Myanmar up to the outside world.*** In 2010 Myanmar citizens voted for their first elected leaders in two decades and the political opening pushed the country to collaborate with neighboring countries and international partners.

Struggle for Heritage Conservation:

Post 2015 Gorkha Earthquake Reconstruction of Ranipokhari in Kathmandu, Nepal

バルシャ シュレスタ
Barsha Shrestha

サンジャヤ ウプレティ
Sanjaya Uprety

Introduction/ Background

The devastating Gorkha earthquake-2015 in Nepal has affected about 2,900 structures with cultural, historical and religious heritage value. Among these, was the Ranipokhari (Queens Pond) built from 1664 to 1669 AD by King Pratap Malla to console his wife who was mourned by the untimely demise of their son. The originally iconic 'Sikhara-style' Hindu temple ('*Balgopaleshwor Mandir')* in the middle of the pond*, rebuilt in Gumbaz style after* the great Earthquake in 1934, was completely damaged during 2015 Gorkha quake. The popular myth is that the pond was constructed filling it with holy waters from 51 different holy pilgrimages of Nepal and India.

Ranipokhari Complex

(Source: Creative Commons, 2014)

Temple in Shikhara Style by Pratap Malla

(Source: Study Report of Ranipokhari Restoration, 2018)

Temple reconstructed by Jung Bahadur Rana

(Source: Study Report of Ranipokhari Restoration, 2018)

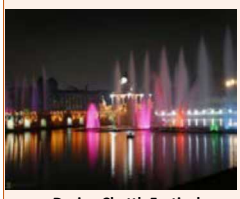
Ranipokhari before earthquake

(Source: Creative Commons, 2006)

Heritage Value

The pond is a testimony of the use of ancient knowledge of Malla-era archeology and water distribution system of medieval city of Kathmandu which is characterized by:

- Construction of several wells in pond bed for water supply, recharge and drainage with sand and black cotton soil, construction of dykes using traditional bricks (Ma Appa) in lime mortar
- The live heritage site serves as a melting pot of various cultures and religions in the Kathmandu valley; Bhai Tika (festival for brother), Chat Puja (worship to Sungod by Terai people)



During Chatth Festival

(Source: The Kathmandu Post, 2015)

During Bhaitika Festival

(Source: Creative Commons, 2010)

Civic /Community Protest

Ranipokhari after earthquake

(Source: Creative Commons, 2016)

Under-construction in 2016

(Source: Kantipur, 2016)

Use of bull dozer and excavator

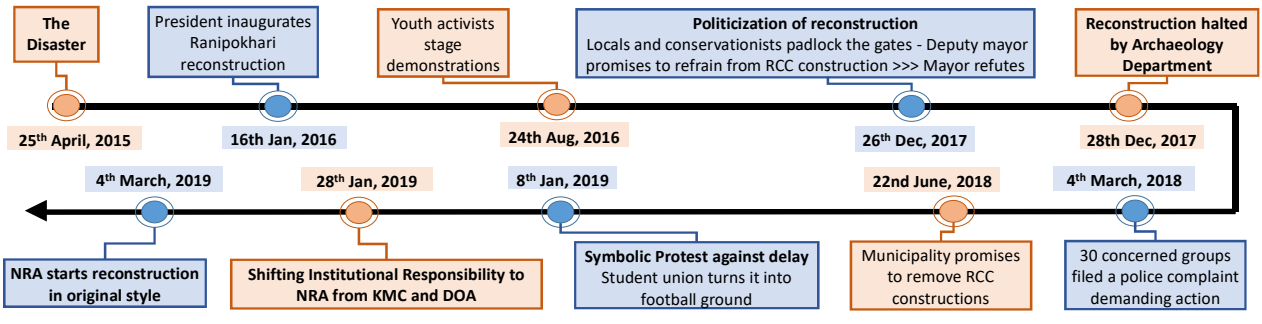
(Source: The Himalayan Times, 2017)

Breaking gate in Mayor's presence

(Source: The Himalayan Times, 2017)

Heritage Risk

- Loss of traditional wisdom of water urbanism and cultural faith
- Planning to turn the pond complex into a commercial park using RCC construction of pond bed, dykes, temple
- Use of bulldozer and excavators for removing of debris-loss of traditional bricks 'ma appa'



Impact

Activists and conservationists united for authenticity in heritage reconstruction >>>> Activism led Government to change its reconstruction approach to authentic conservation of several other heritage sites in the valley

Lessons Learnt

Civic protests can be instrumental in bringing positive decision and policy changes to save heritage from mishandling of post-disaster reconstruction

Protest as football ground

(Source: The Himalayan Times, 2019)

Protest by gifting grass to Deputy Mayor

(Source: The Kathmandu Post, June 2018)

Protest by activists

(Source: Glocal Khabar, September 2016)

Reconstruction by the NRA

(Source: The Kathmandu Post, November 2019)

DOA- Department of Archaeology; KMC – Kathmandu Metropolitan City; NRA – National Reconstruction Authority

ルペシュ シュレスタ
Rupesh Shrestha

Living heritage of Patan -
rebuilding heritage inside Kathmandu valley

Submitted by:-
Mr. Rupesh Shrestha, B.Arch, M.Sc.
Affiliation: Kathmandu Valley Preservation Trust- Nepal
email: rupeshshrestha2005@gmail.com

Abstract

Monuments fall & monuments rise. That is a reality. It is also true that during the rise - wisdom, skills, memory come alive and contribute to something which can be truly remarkable.

Kathmandu Valley Preservation Trust (KVPT) is working in Nepal to reconstruct all the monuments of Patan Durbar Square dating between 15th to 18th century that was destroyed in the earthquake of 2015. No where else in Nepal can you find so many creative architects, engineers, craftsman & artists assembled and working as a team to preserve Patan's Genius loci/spirit of place, sensitivity, values & authenticity. The intangible aspect which creates this tangible heritage is often neglected & undocumented. New wisdom is being created in Nepal. It comes from process, practice and syncretism of centuries-old philosophies, religious and cultural values.

Real heroes - the newar craftsmen

Newar craftsman who are indigineous people of Kathmandu valley are creating unique items from materials like brick, timber, stones and metal. Heritage of Patan are not just temples and monasteries but also the craftsmen with their extra ordinary skills - which they didnt acquire by studying in a vocational school or taking course in a training institute. Most craftsmen working here is able to do his/her work, by copying & looking up to his father, who was doing this same work. Again his father learned it from his grandfather. This skill dates back to many generations. The craftsmen are also - **living heritage of Patan.**

Knowledge revival and transfer

- Although 2015 earthquake was a calamity, it has also given an opportunity to revive the craftsmen's skills & livelihood.
- Gender stereotype is decreasing and females are increasing taking part in reconstruction and in some cases learning the crafts which traditionally only men were doing
- The concept of Build Back Better and Safer is being translated into the construction sites

Rebuilding with community

This is an ancient 200 years old community building & rest house called Om Bahal sattal located in Patan city. This building was heavily damaged after 2015 earthquake in Nepal. Date:- May 13 2019

Community of Om Bahal is rebuilding its heritage with support from Nepal Government and technical support from KVPT. Newar craftsmen & community play a pivotal role in rebuilding. Date:- July 28 2019

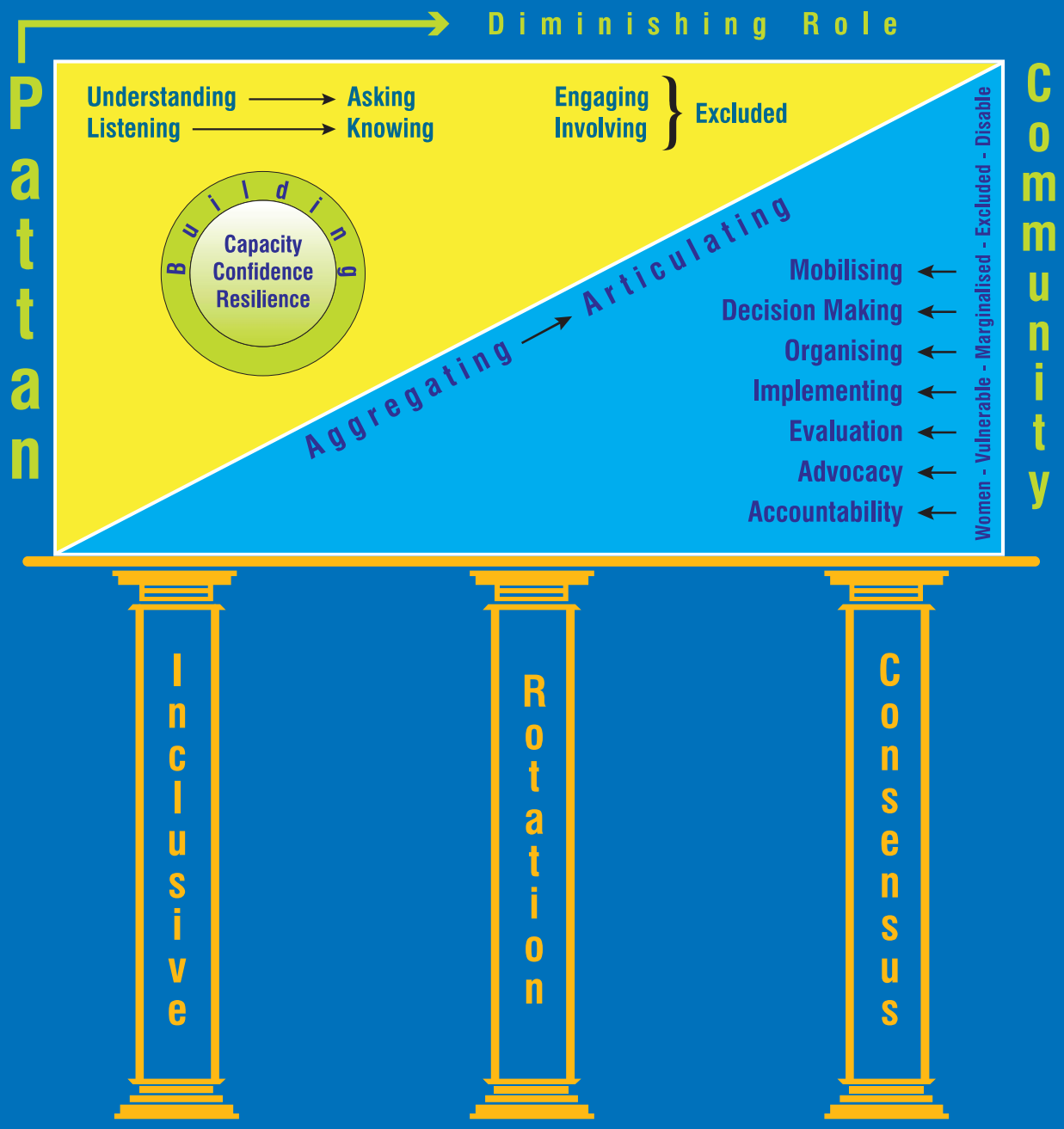
- Young generation are enthusiastic about heritage & culture.
- There is a lack of skilled manpower which also means knowledge transfer is ongoing to create skilled manpower to continue rebuilding works. Young craftsmen are being trained & they can practice their new skills in coordination with the skilled craftsman.

Message

There are dialogues, constructions, modifications, preservation and strengthening ongoing – right at this moment. There is a strong message from Nepal that heritage preservation does not mean fencing or protecting the ruins rather it means modification and preservation so that people can touch the monuments, live, roam or worship inside. Patan is a living city. It has multi-layered urban environment with inherent culture and values which feeds into the preservation of tangible heritage.

サルワルバリ
Sarwar Bari

Building Local Resilience Through Democratisation



House 5, St.58, F-10/3, Islamabad, Pakistan. Email: info@pattan.org www.pattan.org

サジャ マジード
Saja Majeed

Disaster survivor to disaster researcher

The story of Saja from 2004 Tsunami response worker to 2019 PhD in disaster resilience

2004 Tsunami in the East coast of Sri Lanka

2005-06 Tsunami Response

2006-10 Humanitarian crisis in the middle of Tsunami recovery

2010-13 Post-war recovery and rehabilitation

2013-16 Teaching/Research on disaster risk reduction

2016-19 PhD studies on building community resilience to disasters

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

INTERNATIONAL TSUNAMI MUSEUM
KHAOLAK, THAILAND

Tsunami storytelling from a museum
The 15th memorial and friendship between Japan and Thailand
津波博物館による語り継ぎ: 15周年記念及び日タイの友情

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. 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. 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.

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. 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.

Ms. Ratchaneekorn Thongthip
Director, International Tsunami Museum
Director, Tsunami Memorial Museum
Received B.Ed. and M.A. in Political Science from Chulalongkorn University, and B.A. in Political Science, Ramkhamhaeng University.
Working as Director of International Tsunami Museum and Director of Tsunami Memorial Museum, Phang-nga Province since 2006.
Also working as President of Institute for Education and Culture (NPO).

International Tsunami Museum, Khaolak, THAILAND
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Website: www.InternationalTsunamiMuseum.org
Phone: (+66)081 412 5660

マーレーン　ムリー
Marlene Murray

SHARING STORIES

How the Pacific Tsunami Museum Keeps Tsunami Memories Alive

Tsunamis have killed more people in the State of Hawai'i than all other natural disasters combined. Tsunamis are a fact of life in Hawai'i, especially in Hilo, which has suffered more damage and loss of life than any other area of the islands. From 1900 to 1964, a tsunami with runup exceeding one meter occurred an average of once every five years. On April 1, 1946 and May 23, 1960, Hilo experienced devastating tsunamis that completely reshaped the social and economic structure of the community.

In recent years, Hawai'i has experienced enormous growth in both resident and visitor populations, with extensive development in potential inundation areas. During this same time period very little destructive tsunami activity has occurred. Consequently, generations of people have grown up without experiencing a major tsunami. Less than half our resident population and few visitors to Hawai'i have had any experience with tsunami hazards. Aging tsunami survivors, many of whom still reside within the State, are passing on. These tsunami survivors have invaluable stories to tell that can help document the cultural history and socio-economic development of Hawai'i. In the Hawaiian Islands, natural disasters, especially tsunamis, have played a significant role in determining where people live and conduct business. Currently, few tsunami education programs reach the general public or Hawai'i's school children.

DEADLY TSUNAMIS TO STRIKE HAWAI'I ISLAND IN HISTORIC TIMES

YEAR	SOURCE	AREAS IMPACTED	DEATHS	WAVE HEIGHTS (METERS)
1837	Chile	Hilo	14	20
1868	Hawaii	Kau	46	20
1877	Chile	Hilo	5	5
1923	Kamchatka	Hilo	1	6
1946	Aleutians	Hilo	96	10
		Rest of Hawaiian Islands	63	17
1960	Chile	Hilo	61	11
1975	Hawaii	Halape	2	8

Men running as third wave in 1946 tsunami crashed ashore near Kamehameha Avenue and Ponahawai Street in downtown Hilo.

Image from the Cecilio Licos Collection, Pacific Tsunami Museum

In response to the need for tsunami education in Hawaii, the Pacific Tsunami Museum was incorporated in 1994 and has provided that service to thousands of residents and visitors for the last 25 years.

KEY QUESTIONS
THAT DRIVE THE MISSION OF THE MUSEUM

- 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 people 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 WE ACHIEVE OUR MISSION

- Collection, preservation and dissemination of powerful materials.
- Museum Displays — Photos, Stories, Science
- Outreach — Tsunami Awareness Month, Workshops and Lectures, School Groups, Documentaries, News Outlets
- School Curriculum and Preparedness
- Scientific Research
- Support Emergency Management Agencies

"Experts agree, it is not a matter of *if*, but *when* the next tsunami will strike again."

CHALLENGES

- It is increasingly more difficult to collect tsunami survivor stories in Hawai'i 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.

Virtual Reality for Disaster Preparedness & Response

丸林祐子
Yuko Marubayashi

Recipes for the Dead

An Attempt at Integrating Japanese Death Culture and Acts of Testimony

Some records of written testimonies of families of the deceased of the 1995 Hanshin-Awaji earthquake show that these family members contemplate the dead by means of sharing meals. These particular personal acts in the domestic space derive from internalized rituals of communicating with the dead via food. My research will be able to present how food embodies testimony of the dead.

I consider practices of performance such as workshops, creating memorials, holding rituals, etc. as alternative expressions that further revitalize the relation between a family and their lost loved one. This concept of an act as testimony is clearly embodied by the practice of preparing and offering drink, food, and meals prepared for the dead in Japan, that is called *shisha-kuyo.*

Slice thinly ginger and *myoga*, and add the to the rice

Add sesame seeds and gently mix all ingredients well, cooling temperature down by using a fan

Inari Sushi, inspired by image of late daughter

Yuri Nakakita

Put a damp towel on rice while setting aside, to prevent rice getting dry and hard

Steam mushrooms for a few minutes

Cook white rice with two table spoons of black rice

Add vinegar to rice

Season steamed mushrooms with *dashi*/soy sauce

Cook deep-fried tofu with sugar, *mirin*, sake, soy sauce until tofu absorbs all liquid

Boil some shrimps for a few minutes

Get rid of remaining liquid from shrimps using a tea towel

Gently place rice ball inside tofu

Decorate with shrimp, mushroom, and bean

Peel skin off the black beans

All ingredients are ready

The on-going relationship between Yuri Nakakita, Tomiyo Nakakita, Koh Nakakita is embodied by the recipe for the late daughter. This aesthetic experiment is not specifically about memory of her but an example of a transformed way of expressing their testimony of loss.

Make small rice balls

Gently place each rice ball within a pocket of deep-fried tofu

Yuri Nakakita in her cradle

2020 International Forum on Telling Live Lessons from Disasters

伊藤駿 / 中丸和
Shun Ito / Nagomi Nakamaru

語り継ぎの担い手育成のため 学生向けプロジェクトベースドラーニング

Project Based Learning for Training Youth to Tell History of Disasters

伊藤　駿　Shun　ITO　（OSAKA University / ROJE）
中丸　和　Nagomi NAKAMARU　（KYOTO University / ROJE）

BACKGROUNDS／背景と目的

これまで日本では多くの災害が発生し、語り部やミュージアムの活動などによってその伝承が行われてきた。しかしながら、記憶に新しい限りで災害が発生していない地域においては特に、なかなか災害が「自分ごと」になりにくく、災害が発生していない地域においては特に、災害が発生した際の対応が遅れたり、適切な防災・減災が行われていなかったりすることがある。東京や京都に事務所を置く弊団体も、大学生を中心に被災地支援や防災教育の活動を行なっているが、被災した方のお話を伺うだけではどうしても他人ごとという感覚が抜けきらない学生も見られた。阪神淡路大震災を直接体験し、自分ごととして語り継ぐことができる方が減っていく中、語り継ぎを次世代にまで行なっていくには、次世代を担っていく若者たちが災害を自分ごととして捉え、それを伝えていく必要があると考える。このようなことから、未災地の大学生を主なターゲットとして、次世代に震災を語り継ぎ、それを自分ごととしてさらに次世代へと伝えていくことを目的とした活動をしている。以下ではその活動の紹介を行う。

Nowadays, we are facing risk of disasters including earthquake, heavy rain and typhoon. Although people working for gathering attention to disaster management and transmission of experiences of disaster, people those who do not have experiences as victims of disaster cannot have relevance for disaster management. In our organization which is located in Kyoto and Tokyo, students who are working as volunteer also cannot have relevance to disaster. Then, we launch the project which aims to transmit the memory of disaster and make relevance to disaster in future. In this presentation, we introduce our work and result of transformation of students' mind to disaster management.

METHODS／方法

特に教員志望や教育に関心がある大学生を対象に、被災地におけるプロジェクトベースドラーニングを行う。プロジェクトベースドラーニングの内容としては以下の通りである。

In the project, we focus on students who would like to be a teacher because they will have opportunity to transmit the memory of disaster to their pupils in classroom. Method of this project is "Project-Based Learning", which students are learning from the following process.

1）被災地におけるフィールドワーク

Fieldwork for finding the problem of the area.

まずは被災地を訪問し、現地の方にインタビューをしたりミュージアムを訪問したりして震災について学生が学ぶ。また、その中で被災地の今の課題を学生に見つけてもらう。

We start finding the problem by observation museum and interviewing with people who live in the area.

岩手県大槌町にてフィールドワークを行なったときの様子。

2）被災地での課題について解決方法を考える

Considering solutions for the problem.

フィールドワークを通して見つけた課題についてグループに分かれて自分たちができることを考える。

We discussion what problem we focus on and making solutions for the problem.

3）考えた課題解決の方策を実施

Carrying out the solutions.

グループごとに考えた課題解決方策を実施する。

We are carrying out the solutions for the target and problem we found.

大学や関西について知れる子ども向けイベントを開催。
Ex) We made activity for pupils to know about university.

4）大学生が震災・防災についての研究会・イベント開催

Distribution through sharing students' experiences in this project to people in outside of disaster area.

被災地における課題解決学習を通して学んだことを、今度は自らの言葉で周囲の人々に伝えていく研究会やイベントを行う。

We distribute our experiences for people in outside of disaster area.

この活動を通して、まずは学生が震災について知った後、被災地の課題の解決方策を考える中で、震災が他人ごとから自分ごとになるとともに、震災支援にも繋がる。また、教育に関心のある大学生が震災を伝承されるだけでなく、プロジェクトベースドラーニングを通して学んだことを研究会やイベント、教育現場にて自らの言葉で伝承する立場になることでさらに次の世代までも伝承が可能になると考えられる。

As a result of the project, youth people are working for participation to the community on their own initiative.

Conclusion／結果

以上の活動は、被災地を訪問し、現地の方のお話を伺ったり、ミュージアムを観覧するのみよりも、学生の中で震災支援や防災活動に対する主体性が向上した。

In comparison with other method of learning, such as observation, conducting interview to people those who live in the disaster area, students feel their self-efficacy. For future project, we are conducting self-evaluation of students fulfillness in this project.

朝廣和夫
Kazuo Asahiro

Support for Farmland Restoration through Mutual Assistance after Disasters

Dr. Kazuo Asahiro
Department of Environmental Design, Faculty of Design, Kushu University, Japan

Introduction.

Today's topic is the conservation of agricultural mountain villages, especially, relationship between tourism in normal time and agricultural volunteer activities in disaster time . The activities of agricultural volunteers had been developed in the recent disasters in Northern parts of Kyushu. I'll introduce it and future issues.

Phase of depopulation in countryside.

In recent years, depopulation and aging are being got progress in mountain villages so that the harsh agricultural and forestry production and urbanization. On the other hand, these area, which extend for nearly 70% of Japan, plays an important role in supporting not only natural scenery but also agriculture, forestry, and cultural landscape conservation.

Disaster and difficulties in countryside.

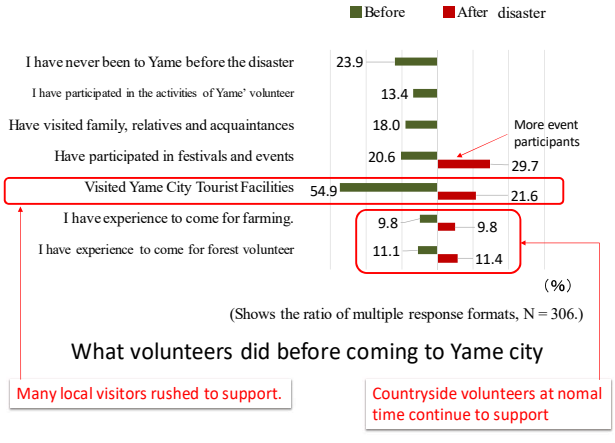
Northern Kyushu have been suffered severe disasters such as the heavy rains in July 2012, 2017 and the Kumamoto earthquake in 2016 too. In some areas, it was said that the depopulation got progress for 10 years by disaster happened.

What issues occurred after disaster ?

Farmer in rural had not only being affected damage of crops and agricultural facilities, but also affected daily food and health. If you saw a landscape that have severely damaged, you would had been felt like giving up, and mental damage such as loss of self-confidence. In generally, disaster volunteers have been not dispatched to agricultural support because it regard as the support for profitable businesses. Some say it is against the volunteer spirits. Agriculture is a profitable business. However, it preserves the farmer's life, health and natural environment. If we want to maintain a sustainable and diverse farming and mountain village in the future, we need to have more involvement of volunteers after disaster.

What sorts of people joint to volunteer? Kyeword is "tourism" before disaster.

A questionnaire was sent to participants of agricultural volunteers at the NPO Sansonjyuku（山村塾）, which had carried out in 2012's flood disaster.



Stood up volunteer in these region.


Removal of sediment from waterways in Kurogi, Yame city, Fukuoka in 2012' flood disaster.


Removal of sediment from waterways in Yase, Mifunemachi, Kumamoto in 2016' earthquake .


Rice harvesting at side of flooded river in Kurogawa, Asakura city, Fukuoka in 2017.


Potato management support in Nishihara, Kumamoto in 2016' earthquake .


Soil removal at Kaki orchard in Asakura city, Fukuoka in 2017' flood disaster site.

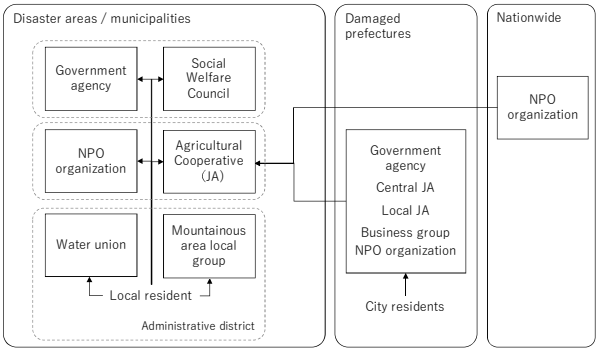

Pebble removal of terraced rice paddy in Kurogi, Yame city, Fukuoka in 2012' flood disaster.


Pebble removal of tea garden in Kurogi, Yame city, Fukuoka in 2012' flood disaster.


Green house cleanup in Kurogi, Yame city, Fukuoka in 2012' flood disaster.

Future task for more empowerment.

Future issues are the systematization of agricultural volunteers and human resource development. Currently, Fukuoka Prefecture has started the manual publishment and the coordinator training seminar to establish an agricultural volunteer center at the Agricultural Cooperative (JA) when disaster happened in the future.



Kumamoto Earthquake Experience Project (KEEP)

アンドゥルー ミッチェル
Andrew Mitchell

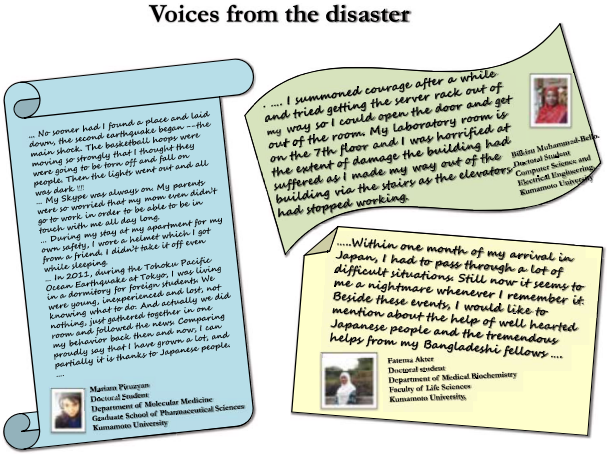
Introduction

- In April 2016, Kumamoto Prefecture in Kyushu, Japan, suffered two major earthquakes. Many foreign residents found their lives tough, especially who could not speak Japanese and struggled to get help and information.
- The Kumamoto Earthquake Experience Project (KEEP) was started in May 2016 with the support of Kumamoto University, by Kumamoto University students. Our initial ambition was to hold a single workshop to allow both Japanese and foreign residents to share their earthquake experience
- The feedback from our first event in Jul 2016 was so positive we decided to carry on our activities and keep the voice of the foreign experience of the earthquakes alive.

Our Aim

- Spread the message of the foreign residents who experienced the earthquakes to people so that they can learn and better prepare
- Help with the creation of better disaster policy for foreigners
- Help Japan to become a more multicultural country

Voices from the disaster



Current members


Andrew Mitchell
(United Kingdom)


Francis Wargiral
(Papua New Guinea)


Luis Francisco Japa Soto
(Dominican Republic)

Media appearances

- KEEP have appeared on Kumamoto TV and radio shows since 2016
- Received an award from the Kumanich Shimbun in 2017 for keeping the voice of the foreign residents alive
- KEEP has been featured on NHK twice this year: once on TV with Andrew Mitchell discussing his earthquake experience, and once on NHK radio with all members discussing their unique experiences and challenges from the earthquake
- You can see KEEP's KKT interview online at tiny.cc/kumakeep

Some of KEEP's Activities

- Grand Challenges Workshop, Kumamoto (Jul 2016)
- The Council of Local Authorities for International Relations (Jan 2017)
- Kagoshima University (Feb 2018)
- Kobe disaster forum and Life in a Evacuation Shelter event, Kobe
- Sophia University, Tokyo International Communication Committee (Nov 2018)
- Sociological Society of West Japan Annual Meeting, Saga (May 2019)
- Saga University (Nov 2019)
- Many of Kumamoto International Foundation events (2016 - now)





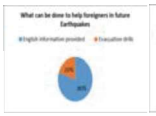

KEEP LOGO

- The castle represents the damage and suffering of those in Kumamoto
- Two helping hands in different colours represents the local and international communities, together embracing Kumamoto with care and love, forming a heart
- With our motto – Let's Keep Together !!!

KEEP Official Booklet

- In 2016 KEEP conducted a questionnaire survey, focus groups and 1-1 interviews, as well as collecting essays, in order to better understand the needs of foreigners during emergencies
- We published these results in our KEEP booklet, along with information about and photos of the disaster
- The booklet is free to download at tinyurl.com/KEEPBo





Social Media and Web Presence

facebook.com/kumadaiquake

- KEEP's Facebook page is the main way which KEEP shares information about it's activities and information related to disaster prevention. Through our page we have made contact with many people from across the world.

kumadaiquake.wordpress.com

- We also launched a WordPress site which contains shared experience stories, photos, and all the activities of the project.
- This site is no longer updated but contains a lot of information, essays, etc. from our activities between 2016-17

Future Activities

We are currently conducting research into the Islamic experience of the Kumamoto earthquakes; how they came together as a community and some of the problems they faced in interacting with the Japanese community.

KEEP are key organising members for the The National Solidarity Forum with Migrants Japan (NSFMJ), which will be held in Kumamoto in 2020

Despite being a volunteer project, we are still working hard to collect more experiences and to spread these across Japan.

Words from KEEP

- We have two mottos at KEEP: "Let's KEEP together!" and "We can't predict, we can't prevent, but we can prepare"
- By preparing for disasters together, and by working together as one community when they happen, we can all live much safer and richer lives

Words from KEEP's members

- "Everybody told me that Kumamoto doesn't have natural disasters so I didn't make any preparations"
- "Preparation is very important. If you're prepared you won't panic, and that might save your life and the lives of those you love."

- "By working together with my neighborhood, I felt relieved and safe being part of a community."
- "Most of the information I couldn't understand from the media, I got from talking with my neighbours."

- "The signs on the street and the information on the news were hard to understand for most foreigners."
- "Foreign residents should learn some Japanese so that they can communicate in yasashii Nihongo during a disaster"

HIROSHIMA UNIVERSITY

川崎梨江 / 匹田篤
Rie Kawasaki / Atsushi Hikita

2020 INTERNATIONAL FORUM ON TELLING LIVE LESSONS FROM DISASTERS

Study of Survivors' Storytelling about Sediment Disaster in Hiroshima, 2014

Rie KAWASAKI, Atsushi HIKITA

HIROSHIMA UNIVERSITY Graduate School of Integrated Arts and Sciences

Introduction & Method

In this study, we focused on "personalization" of disaster experience and examines how to use the storytelling of survivor for future disaster prevention. Experiences and memories are usually weathered with time. However, they interpreted with personal context are remembered for a long time. In contract, even if people suffer the same disaster, personal experience and memories tend to remain over time.

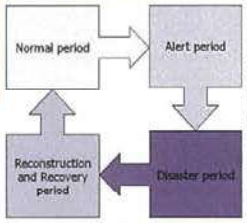
This photo is the sediment disaster caused by heavy rain that occurred in Hiroshima City on August 20, 2014. (taken by a survivor)

Human Damage

Ward	District	Dead	Injured
Asaminami	Yagi	53	53
	Midorii	16	
	Yamamoto	2	
Asakita	Miiri	1	15
	Kabe, Kabehigashi	5	
	obayashi	0	
total		77	68

Hiroshima Prefecture Civil Engineering Bureau Erosion Control Division, (2015), *Occurs on August 20, 2014, 8.20 Earth and sand disaster*

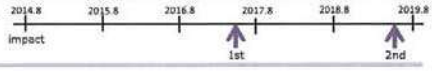
We interviewed 19 survivors living in the Yagi and Midorii districts of Asaminami Ward, the most damaged area.



Created baced on Mitsuaki Okamoto, (2011), *Characteristic changes and problems in media disaster reporting in the Great East Japan Earthquake*, Reference, National Diet Library Survey and Legislation Examination Bureau

	1st interviews	2nd interview	male / female	Age of disaster	Damage to housing
a	12th Jan. 2017	11th Jul. 2019	male	60s	Inundation above floor level
b	19th Jan. 2017	10th Jul. 2019	female	50s	Inundation above floor level
c	20th Jan. 2017	13th Jul. 2019	male	60s	Inundation above floor level
d			female	60s	
e	5th Feb. 2017	18th Aug. 2019	male	30s	half collapse
f			female	30s	
g			female	30s	
h	5th Feb. 2017	19th Aug. 2019	male	60s	half collapse
i			female	60s	
j	5th Mar. 2017	20th Jul. 2019	female	20s	inundation below floor level
k	21th Mar. 2017	19th Jul. 2019	female	80s	large scale destruction
l	17th Apr. 2017	29th Jul. 2019	female	50s	complete collapse
m	21th Apr. 2017	9th Jul. 2019	female	50s	large scale destruction
n	21th Apr. 2017	9th Jul. 2019	female	20s	large scale destruction
o	22th Apr. 2017	14th Jul. 2019	female	60s	inundation above floor level
p	24th Apr. 2017	18th Jul. 2019	female	50s	half collapse
q	27th Apr. 2017	11th Jul. 2019	female	50s	large scale destruction
r	28th Apr. 2017	18th Jul. 2019	female	50s	× (Lifeline damage only)
s	15th May 2017	9th Jul. 2019	male	60s	large scale destruction

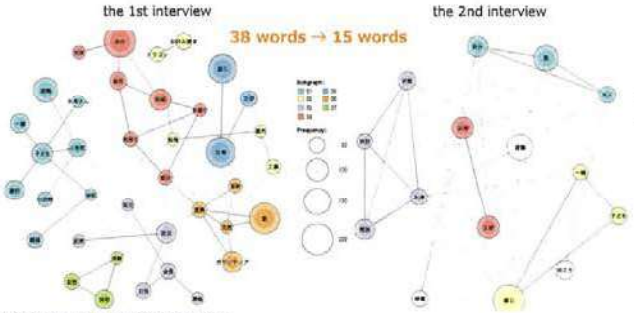
We interviewed survivors twice. The first is the in third year and the second it the fifth year after disaster. These two periods were set based on the location of the prefecture's maintenance plan. At first interview, structures were under maintenance, so it is "Reconstruction and Recovery period". At second interview, structures were after maintenance, so it is "Normal period".



Results

We text mined the contents the 1st and 2nd interviews respectively.

Co-occurrence networks based on text analysis of two interviews



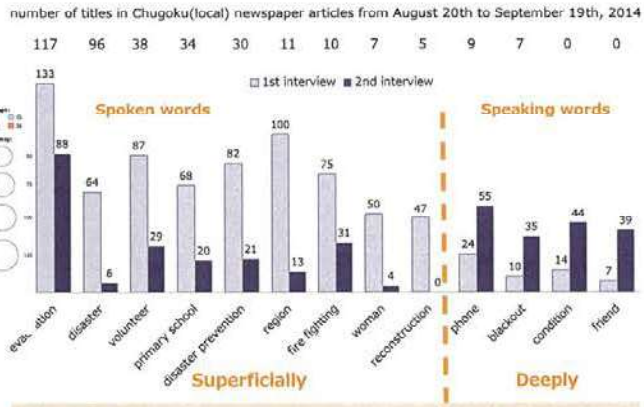
Change from the 1st to the 2nd

1. **The number of common words is less than half.**
2. **The number of superficial words that are easy to share is decreasing or disappearing.**

The content analysis of the two these interviews with the survivors provided results that supported this theory. In the second interview, personalized experiences began to talk about personalized experiences and feelings that they only know. However, they no longer talked a little about the superficial memories that are easy to share.

Superficial words may appear frequently in newspaper. We compared the words used in the titles of newspaper articles with fewer or missing words from 1st interview to the 2nd.

number of titles in Chugoku(local) newspaper articles from August 20th to September 19th, 2014



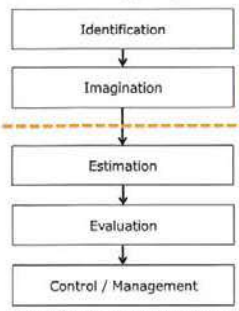
As a result of analyzing the titles of newspapers, we confirmed that the words frequently mentioned in newspaper articles tend not to be spoken in 2nd interview. We consider these words are superficial expressions as "spoken words". On the other hand, we consider the words that increased in 2nd interview are deep and personalized expressions as "speaking words.

Discussion

When a miserable event occurs, people seek out the narratives of the person who actually experienced the event. They tend to talk about superficial experiences and memories as shared by the audience. They then increase their chances of recalling the more easily shared superficial memories. As a result, they are less likely to talk about personalized experiences because the more easily shared surficial memories are recalled. There are two challenges.

1. If people who are not disaster survivors want to know the superficial experience and information, survivors don't necessarily have to talk..

Citizen's risk recognition process



Takashi Kusumi, (2006), *Citizens' risk recognition process*, Risk encyclopedia Augmented edition, Hankyu Communications

【Identification】 Awareness of the existence of risks.

【Imagination】 Form an image of risks. There are two types of images. 1) seriousness / fear, 2) unknown

Identification and Imagination are formed by providing information in one direction, such as mass media. The story of survivors also provides one-way information.

【Estimation】 The experts calculates based on the probability of occurrence based on past statistical. On the other hand, citizens make intuitive judgments using heuristics.

【Evaluation】 Assessing whether citizens can accept risks. They weigh the benefits that can be obtained and the risks that may occur.

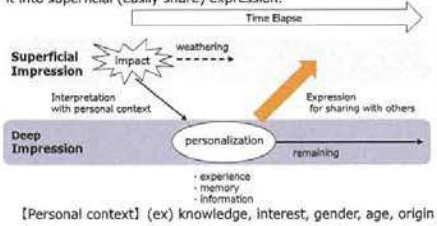
【Control and Management】 Actions to reduce the probability of the the perceived risk and the extent of damage.

Finally the conditions for risk communication are established.

In other word, just listening to the survivor's story does no lead to risk communication.

2. Personalized experiences and memories are difficult to share because they are personalized.

The personalized episode is the reality of the survivors. However, in order to share personalize memories with others, it is necessary to convert it into superficial (easily share) expression.



People experience and memorize certain impacts through the interaction three contexts: **personal context**, **sociocultural context**, and **physical context**.

Therefore, in order to share personalized memory and experience with others, we need to consider these three contexts.

【Personal context】 (ex) knowledge, interest, gender, age, origin

【Sociocultural context】 Relationship with others. For example, the effect is different if person accepts the same information alone and accepts it at the same time as others.

【Physical context】 environment and situation. There are different ways to receive the stories of survivors in the lecture room and in the disaster area.

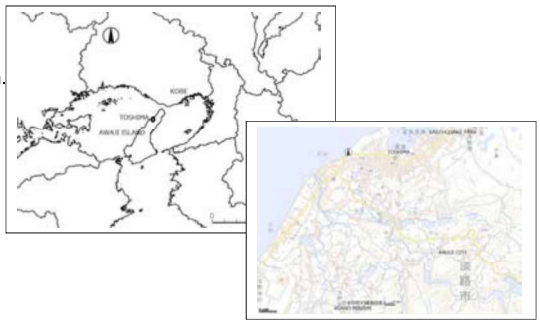
We will continue to consider effective methods to share personalized experiences and memories.

森康成
Yasushige Mori

A Personal Story of Catastrophe of the 1995 Earthquake in Awaji Island in Japan

Mori Yasushige
Volunteer Story Teller, Hokudan Earthquake Memorial Park in Awaji

1993-4 We recently had our house renovated at a cost of about 8 million Japanese Yen. I never thought any big earthquake would happen.



1995 Jan 17 AM5:46

A fault line appeared on the north-western coast of Awaji Island.

Town of Toshima
26 were killed

Our house before the earthquake
The hill nicknamed 'Joyama, castle mountain'

An old man in my neighborhood:
'My grandfather told me that two of the three cliffs at Joyama collapsed due to an earthquake."
People think there is a fault around there
One of the cliffs also collapsed in 1995, as a result of the earthquake.

1995 Feb 4 A damaged house is pulled down and demolished.

The intervening two years spent living in the farm barn

1996 Flattened terrace fields for the new house, located 200 meters from the site of the previous house. Cost of rebuilding:10 million yen (with no financial aid from outside)

1997 Jan. 1, Rebuilt our house with loaned money

2000 Started teaching disaster mitigation subject at a senior high school nearest to Nojima Fault. Taught this subject for 12 years

2012 Started telling my story at the Hokudan Earthquake Memorial Park in Awaji

浅利満理子
Mariko Asari

Introduction to the Approach of a Non-governmental Network of Community Organizations Devoted to Preserving & Disseminating Information Relating to the 2011 Great East Japan Earthquake & Tsunami

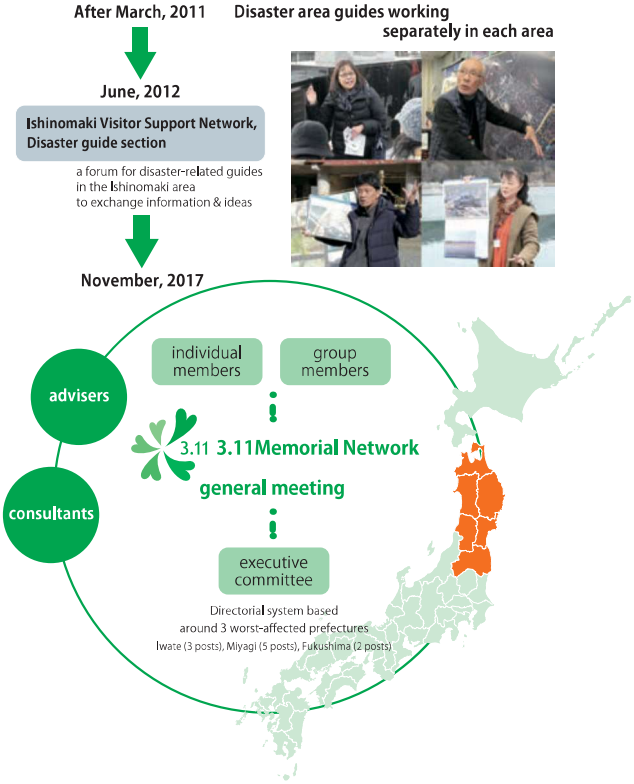
3.11Memorial Network

About 3.11 Memorial Network

3.11 Memorial Network takes as its aim: "working towards a society where as many lives as possible can be saved in the event of a disaster" and "working towards a society in which reconstruction can be carried out as easily and efficiently as possible, reducing the burden on both disaster victims and the disaster area." In order to achieve this goal, and using experiences garnered from the 2011 Great East Japan Earthquake & tsunami as its basis, a group has been formed consisting of various individuals, groups and focal facilities spanning both geographical boundaries and age groups, all devoted to preserving and disseminating the lessons learned from the disaster, in order to prepare for future events, and share this valuable knowledge resource with both the rest of Japan and the rest of the world.

The group is geographically based around the 3 prefectures of Iwate, Miyagi & Fukushima, and works towards its aims of knowledge-sharing and disaster prevention & reduction by taking a three-fold approach: networking, planning/projects & human resource development.

While the Network originated in Ishinomaki City, Miyagi Prefecture, it currently has a membership of 450 members and 70 organizations from across the country, and, under the direction of 10 directors democratically elected by the members, sees cooperation & coordination across geographical boundaries and generations.

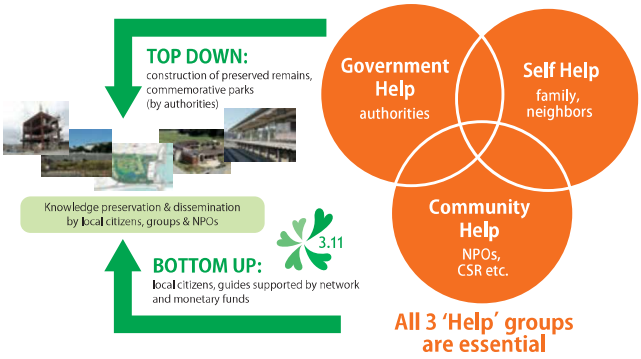


Significance of the Network & Issues Related to Keeping the Memory of the Disaster Alive

As part of the reconstruction process that has been planned out for 10 years since the disaster, over 80 preserved ruins, info facilities and memorial parks are being completed throughout the disaster area. Amidst this, issues of concern include the creation of networks connecting disaster-related facilities over and above the level of individual municipalities, and securement of funds to continue 'soft' intangible projects with a view to handing the reins down to future generations.

- training of disaster info-related positions such as guides, escorts, coordinators etc.
- improvement in planning power for disaster-related activities
- promotion of cooperation between diverse groups in the community, industry, government, academia and the media
- creation of a collaborative framework & information-sharing between relevant individuals & organizations with shared aims regarding DRRM regardless of geographical location

By networking across geographical boundaries and age groups, we are looking to solve these problems which we have in common



Main Activities Carried Out by 3.11 Memorial Network

NETWORKING

networking between 3 main disaster area prefectures

ORIGINAL PROJECTS

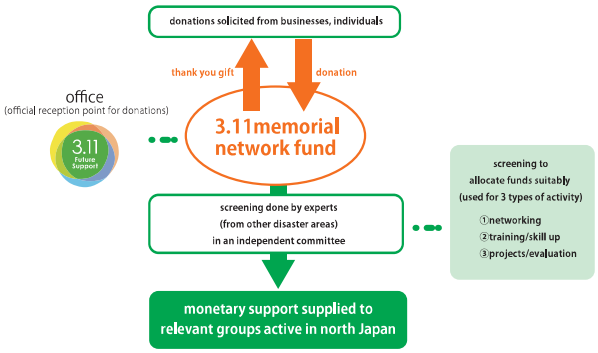
original projects organized by members

FUTURE GENERATIONS

preparation/training for future generations

Community Activities Supported by the Community

Monetary donations from individuals & businesses are used to assist in networking, training and other projects carried out by groups involved in recording and educating about the disaster and its aftermath, particularly in the 3 worst affected prefectures. 1st invitation for donations carried out in autumn 2019.

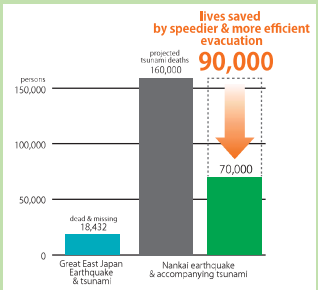


"to avoid repeating the same mistakes"

The number of casualties from the Great East Japan Earthquake & tsunami is 18,432 (includes directly related deaths and those missing presumed dead).

However, many of these deaths could have been prevented.

Making use of, and disseminating the lessons learned from the 3.11 disaster to a wider audience could result in more lives saved in the future from other disasters yet to occur in Japan.



Working towards the realization of a society where as many lives as possible can be protected in the event of a disaster, we who experienced the tsunami firsthand have a responsibility to keep the memory alive and hand the lessons learned down to future generations. 3.11 Memorial Network is supporting efforts to do this all over the Tohoku area.

中川政治
Masaharu Nakagawa

Visualization of evacuation behavior patterns in the 2011 Tohoku Tsunami

公益社団法人
3.11 みらいサポート
3.11 Future Support Association

Abstract

The giant tsunami of March 11th 2011 took 3 – 4 minutes to flow over the existing floodwalls and flood the Minami-Hama District of Ishinomaki City to a height of approximately 7m (excepting high ground).

However, since there was a duration of about 1 hour from the initial earthquake to the actual arrival of the tsunami, one can posit that all lives in the area could have been saved by speedy and early evacuation.

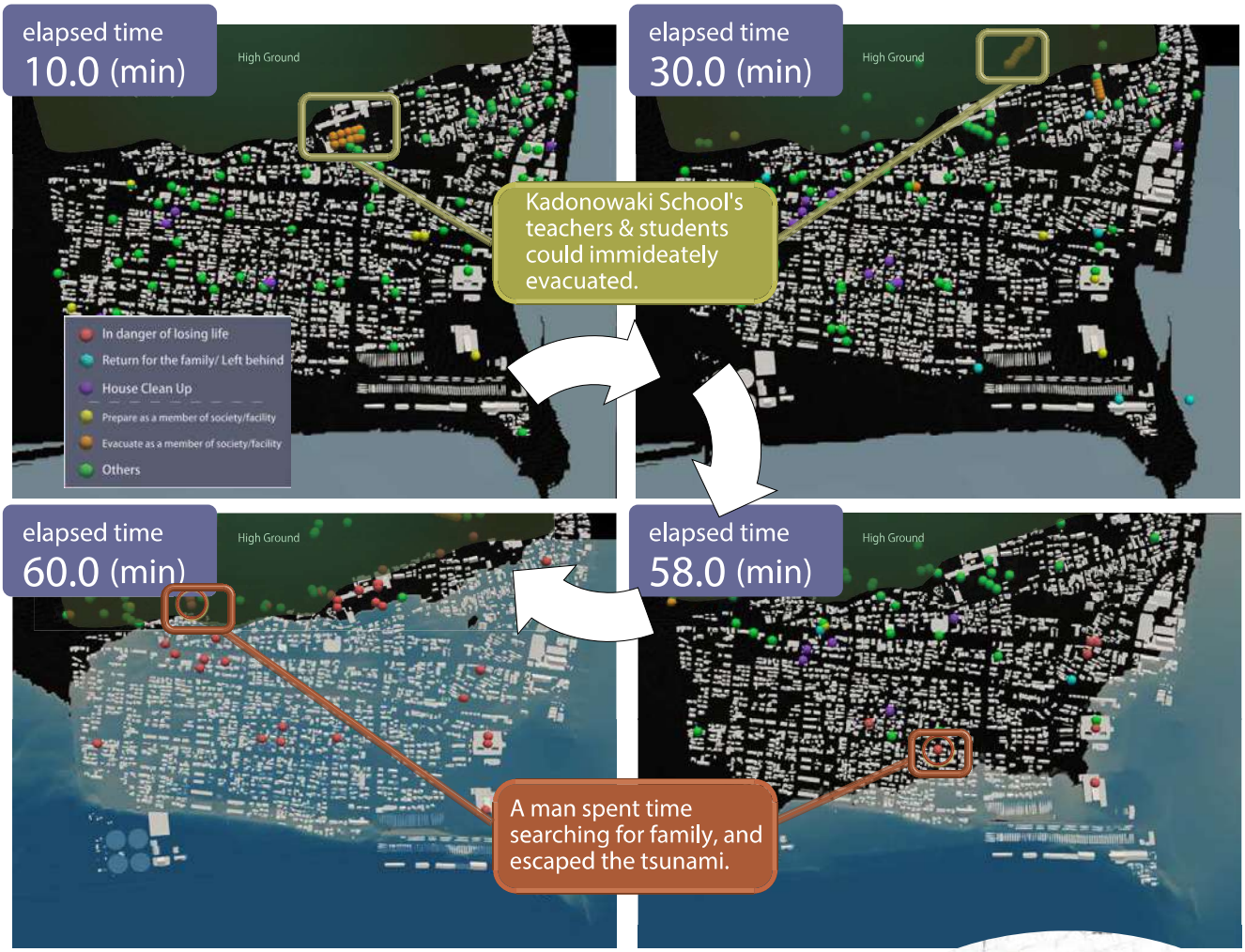
Realization into video of the evacuation behavior patterns of approximately 100 of the survivors brings to light such issues as the small number of people who initiated evacuation promptly directly after the quake, and also people who only evacuated to high ground after they had observed the tsunami from close by.

This method effectively exposes many important lessons to be learned regarding evacuation procedure, from instances of speedy evacuation to schools and other designated facilities, to cases where some returned to low-lying and flood-prone areas from high ground, some people returning again to high ground afterwards, and some spent time searching for family and friends.

Methods

The Great East Japan Earthquake & ensuing tsunami on March 11th 2011 caused catastrophic damage to the Minami-Hama District of Ishinomaki City, resulting in 389 deaths and 150 missing presumed dead.

After carefully interviewing approximately 100 survivors of the 3.11 disaster regarding their feelings and thoughts while evacuating after the quake and the routes, their evacuation behavior patterns for the 60 minutes after the quake were then visualized in conjunction with a tsunami simulation (joint design by IRIDeS: International Research Institute of Disaster Science, Tohoku University).



Prospects

The resulting evacuation behavior pattern video has proved an excellent tool for emphasizing the importance of correct and speedy evacuation, being shown at the tsunami information center in the Minami-Hama District which is visited by over 17,000 people yearly. It is to be hoped that the method will continue to be used to analyze the influence of societal relationships between family, other members of the community and local ventures on evacuation behavior, and also be of use in promoting evacuation procedures in the event of other large-scale disasters such as the possibly imminent Nankai Trough Earthquake.

Making Evacuation Behaviors a Daily Routine

Masato Tanaka* and Misa Egawa**
* Professor, Department of Regional Development Studies, Otemon Gakuin Univ.
** Student, Department of Regional Development Studies, Otemon Gakuin Univ.

Unlike earthquakes and volcanic eruptions, meteorological disasters can be predicted with high probability. Therefore, evacuation actions before such disasters occur are possible. Nevertheless, the "evacuation rate" is generally low. In order to increase the "evacuation rate," the government has revised the evacuation information expression method several times. However, no matter how refined the expression is, the effect seems to have fundamental limitations.

For example, the heavy rain in West Japan in 2018 resulted in 232 dead and missing people. The "evacuation rate" was said to be only 4.6%. In response to this, a "warning level" was added in parallel with the conventional "evacuation advisory" and "evacuation instruction."

However, according to research by the Ministry of Land, Infrastructure, Transport, and Tourism (2019) regarding this disaster, the reasons for not evacuating were: "Home is considered safe," "Nearby residents were not evacuating," etc. On the other hand, there were few responses like "I do not recognize evacuation advisories." In other words, the low "evacuation rate" is not mainly due to the fact that evacuation information is not transmitted.

Therefore, this study investigated changes in evacuation awareness and evacuation behavior among people who actually experienced disasters. The research areas included Totsukawa village in Nara prefecture, which was affected by the 2011 landslide disaster in the Kii Peninsula, and Hiroshima city, Hiroshima prefecture, which was affected by heavy rain in August 2014.

There was something in common among the actions of those who experienced severe damage, which was to make evacuation behaviors a daily routine. For example, the behaviors include staying at a low-risk acquaintance' s house or going to a shopping center with few hazards. These "evacuations" are inevitably more frequent because they take place much earlier than when the crisis is imminent. In other words, these "evacuations" are repetitive and periodic. In order to promote appropriate evacuation behaviors, it is considered necessary to incorporate these behaviors into daily life.

Landslide Disaster in the Kii Peninsula (2011)

十津川村の人口は 3,774 人，1,894 世帯（2013 年 7 月現在），面積は 672.4km2 を占める。全域が急峻な地形で，小規模な集落が斜面地に張り付くかたちで散在している。
台風 12 号では，12 名の死者・行方不明者が発生した。河道閉塞，土砂ダムの形成により，災害対策基本法第 63 条に基づく警戒区域が設定され，長期にわたって避難指示が発令された。応急仮設住宅は被災集落の位置を考慮し，30 戸が 4 つの地区に分散的に建設された。その後，災害公営住宅が谷瀬，高森という 2 つの集落に埋め込むかたちで建設されている。
十津川村は，過去にも繰り返し水害に見舞われており，よく知られるように 1889 年の大水害からの復興にあたっては，再被災リスクを避けるべく，北海道への大規模な集団移転が行われた。

“雨が降り続くとすぐに近くの知人宅に「避難」する。梅雨や台風の時期は、頻繁に行き来する”
ー人暮らしの O さん（70 代女性）

8.20 Hiroshima Heavy Rain (2014)

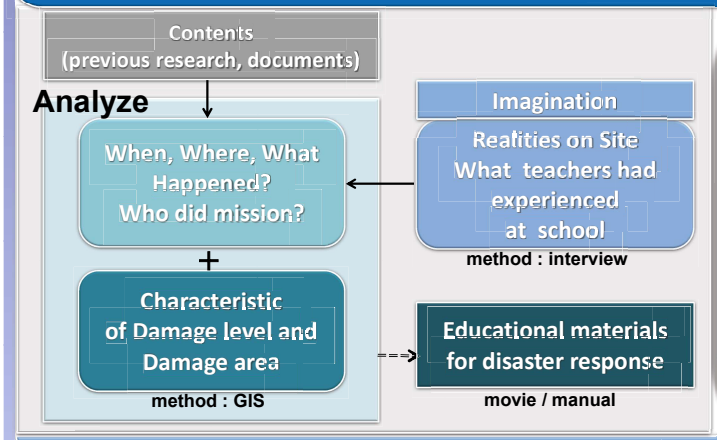
広島県は過去，繰り返し風水害の被害を受けてきた。第二次世界大戦直後の枕崎台風をはじめ，土砂災害防止法制定のきっかけとなった 1999 年豪雨，同法の真価が問われた 2014 年豪雨，そして西日本広域に被害をもたらした 2018 年豪雨。
広島市は，太田川流域に形成された沖積平野からなり，花崗岩が風化した真砂土が表層に堆積している。山麓部は集中豪雨等による斜面崩壊や土石流の発生しやすい地形的・地質的特性を有している。
2014 年 8 月の豪雨では，広島市安佐南区を中心に，前日の夜から明け方にかけて線状降水帯が形成され，3 時間累加雨量が 200mm を超える局地的な集中豪雨により，大規模な土石流が発生した。犠牲者は 77 名（関連死 3 名を含む）に及んだ。

“避難勧告が出たら、とりあえず娘夫婦の家に行くという約束で元の家に残った”
ー人暮らしの T さん（80 代女性）

“避難準備情報が出ると、自宅から離れたショッピングセンターに妻と一緒に行ってコーヒー飲んで買物したり”
夫婦で暮らす M さん（60 代男性）

Dissemination of various kinds of Experience at Educational Site
—The Case Study of the Great Hanshin-Awaji Earthquake—

Yosuke Nakamura , Asuka Maebayashi , Go Urakawa and Hayao Morinaga
(Graduate School of Disaster Resilience and Governance , University of Hyogo)



Codified Knowledge from Individual Memory

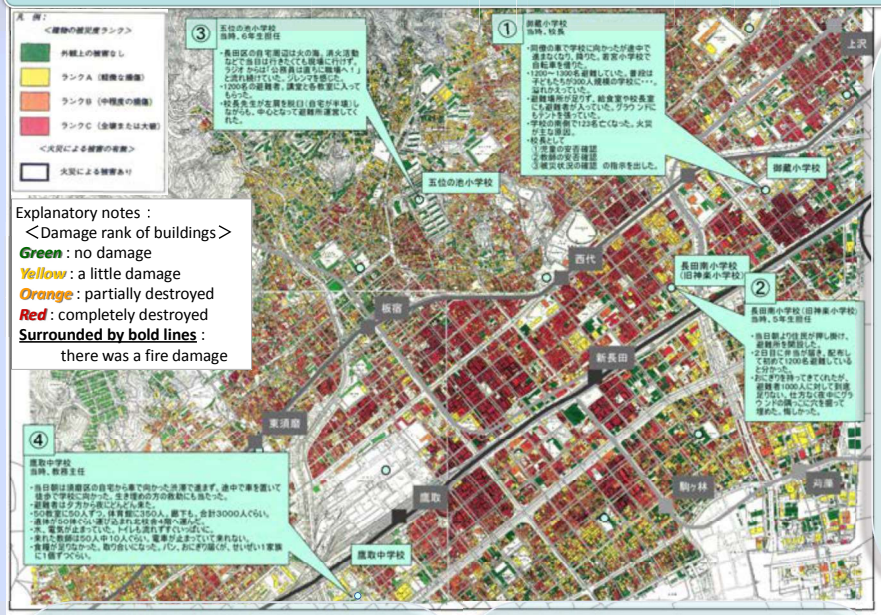
When the Great Hanshin-Awaji Earthquake occurred, many teachers had to support victims in the shelter at school in spite of their suffering damage. It was very hard for them to implement operations because they had never experienced them. It was also difficult to resume education for students. 25 yeas have already passed since the disaster, teachers who had experienced disaster were more less. Their valuable experiences will be a personal memory. It is indispensable for us to conserve memories and share as social knowledge.

Collecting of various kinds of experiences

We held forums to research realities what teachers had experienced disaster responses at school in those days. We invited some teachers and undergraduates in University of Hyogo interviewed each one as shown pictures. In addition, I collected various kinds of experiences by visiting others. It is not only important to collect information but also education for students.

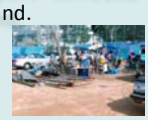
Interviewee : Kobe city teachers
Interviewer : University of Hyogo students

True Story-map (Nagata-ku Ward, Kobe City)



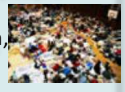
①Mikura elementary school 御蔵小
The principal

- On that day, I went to my school by a colleague's car. But we were caught in traffic, so I get off the car. I rented a bike at Wakamiya elementary school (3.5km from my school).
- There were 1200~1300 evacuees in the school. (Usually, there are 300 children.)
- We were short of space, so evacuees were also in the kitchen , the principal's room, and setting up a tent on the ground.
- 123 people were died in the south area because of fire.



- I gave three directions to my subordinates.
  1 Make sure children 's safety.
  2 Make sure teachers' safety.
  3 Make sure the damage situation.

④Takatori junior high school 鷹取中
The teacher of curriculum coordinator



- On that morning, I went to school on foot because of traffic jam. I rescued people buried alive.
- Evacuees were in the classroom, a gym, and corridors. There were almost 3000 evacuees.
- We laid about 50 dead body at fourth floor.
- Supplying water and electricity stopped, so the toilet was clogged.
- We ran short of food. There was a scene of competing for food between evacuees.

③Goinoike elementary school 五位の池小
The teacher in charge of the sixthgrade

- On that day morning, the area around my house was a disastrous fire. I wanted to go my school, but I had to do fire fighting. I felt a dilemma
- There were 1200 evacuees. We asked them to enter a lecture hall and classrooms.
- A principal got injured because of his house was damaged. But he led the operation shelter.

②Nagataminami elementary school
The teacher in charge of the fifth grade

長田南小
(旧神楽小)

- It's former name is Kagura elementary school.
- On that day morning, many evacuees rushed for the school.
- On the second day, It was not until we distribute lunch box that we knew there were 1200 victims in the school.
- A kind person brought rise balls for evacuees. But they were smaller than number of evacuees. I had no choice but to threw away it.

宮定章
Akira Miyasada

Telling disaster prevention like cherry blossoms(SAKURA)
～ Prepare first, Safety and Lively life later, for disaster. ～

Lessons we learned from disaster

① Real reconstruction requires improved local appeal and sustainability
Due to urbanization, regional recovery requires a perspective of population decline and aging
② Disaster victims cooperate with related parties to create a community with their own power.
In order to collaborate after a disaster, it is necessary to collaborate before the disaster.
③ Humans cannot overcome the threat of natural disasters. A flexible reconstruction that coexists with nature is necessary for reconstruction in the future.

Information about our district "MIKURA" in KOBE

In the Great Hanshin-Awaji Earthquake, Our district in Kobe City Nagata Ward was severely damaged, and 128 people were killed by building destruction and fires. The community and everyday life that people had built for generations was destroyed with tremendous power.

On the other hand, while it was a tragic disaster experience, it was also an opportunity to feel the importance of things not being noticed normally, such as living carefully and living together with nature. In our district, 80% of the households moved out due to the disaster, and the survivors who have left their homes have been aiming to return to the district where they lived.

Opportunities (field visits and exchanges) to interact with people around the world have increased as the survivors and volunteers from outside collaborated to create communities for recovery from the disaster, which lead to a lot of growing awareness and learning. We have learned about the importance of conveying experiences and have been carrying out exchange activities for 25 years.

Our team Activity about "MACHI-COMMUNICATON"

To provide an opportunity for residents who had evacuated to temporary housing complexes in other areas to return to the community and meet again even for a short time, Machi-Commi, hand in hand with the Association, facilitated and coordinated various events such as Bon Dance Festivals, rice cake pounding and memorial services in Mikura. Through helping out with these events and working hard with the residents, Machi-Commi gradually built close relations and trust with the residents. So Machi-Commi support community building with residents.

Documents in English (inc 5 language)

MOVIE in English

AKIRA MIYASADA (Dr. Eng)
Director of Machi-Communication Researcher, Graduate School of Disaster Resilience and Governance, Governance, University oh Hyogo
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How to telling

① Earthquake disaster experience learning

"I(Student) thought to prepare for disaster prevention by listening to the experiences of the victims."
243 schools accepted 20373 elementary and junior high school students. We also accept adult training. The contents of the disaster experience learning are explanations of the disaster situation using photo slides, talking about the story, walking around the disaster area, cooking experience, etc.

② Misuga Karuta

In December 2003, 133 residents and friends of the Community of Misuga in Kobe Japan created their own Karuta (a traditional Japanese card game). A Karuta consists of two sets of cards: Yomi fuda (reading cards) and E fuda (picture cards). The Yomi fuda are typically poems, proverbs, haiku, stories, or messages written on the cards and the E fuda are drawings that represent the writing on the Yomi fuda. For Misuga Karuta, 65 cards were created for each set of reading and picture cards.

Creating Karuta cards by individuals for their own reasons is not new in Japan. However, having 133 participants involved in the creation of a Karuta game is probably one of the highest numbers ever recorded for this type of activity. Misuga community members participated by either writing a Yomi fuda (reading card) or drawing an E fuda (picture card). The reading cards were written by people whose ages ranged from 10 to 88 years old and, the picture cards were created by people ranging in age from 6 to 70 years old.

Misuga was severely damaged by the Great Hanshin-Awaji Earthquake in January 1995. The Misuga community members who created the Misuga Karuta created the Karuta cards to help them remember the impact of the Earthquake on their lives. The cards were used to record memories about life before the Great Hanshin-Awaji Earthquake as well as memories of how Misuga and its community members were affected during and after the earthquake.

The Construction and its Process of Digital Archives for The Great Hanshin Flood in 1938 and the 1995 Great Hanshin-Awaji Earthquake
阪神間における災害デジタルアーカイブの構築とそのプロセス～1938阪神大水害と1995阪神・淡路大震災を例に～

折橋祐希 / 喜田悠太郎
Yuki Orihashi / Yutaro Kida

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Yuki Orihashi　Yutaro Kida　Go Urakawa　Hayao Morinaga　(Mail:yuki.orihashi@gmail.com)

Abstract

It is very important to pay attention to past disasters and events that we have experienced, draw lessons from them, and preserve and inherit them as social memories. However, most of the remaining materials are analog media owned and stored privately. The number of people experiencing disasters in the past has been decreasing year by year. In this paper, we focused on the Great Hanshin Flood in 1938 and the 1995 Great Hanshin-Awaji Earthquake that occurred in Hyogo Prefecture and constructed digital archives of these two disasters using information on paper media such as photographs related to them and memories of the victims. In addition, local junior high school, high school, and university students participated in the disaster prevention education process through oral communication and fieldwork with experienced persons and lore of the disasters. In case of the Great Hanshin Flood, the Rokko Sabo Office of the Ministry of Land, Infrastructure, Transport and Tourism gathered information from the victims using flyers, posters and newspapers. In addition, information on disaster itself, information from experts, and information obtained from fieldwork for junior and senior high school students were used to construct the archive. In the case of the Great Hanshin-Awaji Earthquake, we focused mainly on activities during the reconstruction period. We collected information on damages from research institutions, information on evacuation shelters and episodes and photos provided by activists in reconstruction process. Based on this information, a digital map application was created. For photos that can be located, we used Cloud GIS to give absolute position information. An area information is assigned for photographs where the location is ambiguous. These digital archives not only provide a bird's-eye view of the entire disaster, but also visualize a story about a lot of information, including photos of individuals.

The Great Hanshin Flood in 1938

What is The Great Hanshin Flood in 1938

From July 3rd to 5th in 1938(Showa 13), the rainy season front stimulated by the typhoon stagnated in western Japan, and torrential rains occurred mainly in Kobe City. The rain that began on the evening of the 3rd recorded a precipitation of 461.8mm before it stopped at 1:20 pm on the 5th. Due to this total rainfall, landslides occurred at various places on Mt. Rokko, and rivers in the city area overflowed. At the same time, debris flows mixed with megaliths, driftwood, and earth and sand flowed into the city of Kobe. In Kobe City, 616 people were killed and 89,715 houses were damaged. This is called "Hanshin Great Flood", including damage in the neighborhood caused by this torrential rain.

Near Sogo department store, where the muddy stream has gathered (Sannomiya, Chuo-ku, Kobe City)

The road in front of Sannomiya station, where the muddy stream flows (Chuo-ku, Kobe City)

Purpose

Despite the disaster that caused such a great deal of damage, only analog records remain today, 81 years after the flood. Therefore, it is indispensable to collect information about this disaster and extract lessons from it. In this effort, we constructed a digital archive to pass on the memories and records of disaster victims to the next generation through verbal communication and field work based on it with junior high and high school students.

Efforts to share records and memories

Based on the knowledge gained from workshops and town walk (Machi-aruki) conducted in collaboration with the Rokko Sabo office and information from verbal communication (interviews) with people who have experienced floods, are shown for each river basin.

GIS smartphone application

Digital archiving and lore process

Shin-Ikutagawa・Ujikawa River Basin ● (Chuo-ku, Kobe city)

Date: August 1, 2018
Target: Kobe City Nagisa Junior High School
Disaster prevention junior leader students
In advance, the Rokko Sabo Office interviewed those who were elementary school students at that time. The interview contents were the situation of the flood and the scene of evacuating home from school. In a town walk, junior high school students walked the same route from school to her home where a experienced person had walked at that time. In addition, we visited the "Kobe Great Flood Picture Scroll", drawn for each river basin from the Sonmori River in Suma-ku to the Ishiya River in Nada-ku at the Kobe City Central Library.

Togagawa River Basins (Nada-ku, Kobe city)

Date: August 8, 2018
Target: Kobe City Nagisa Junior High School
Disaster prevention junior leader students
The students were divided into two teams, each in charge of the north or south region of the basin, and conducted a town walk to identify the location information of past photographs. In the north, they received cooperation from the "Kobe Archives Photo Gallery", and in the south, from the "Nada-ku Shinzaike Community Development Council". The students took photographs from the same location as those days and recorded the interview details. Also, using a GIS application on a smartphone, the episode was entered on the electronic map along with the photos.

Sumiyoshigawa River Basin (Higashinada-ku, Kobe city)

Date: July 31, 2018
Target: Kobe City Sumiyoshi Junior High School
Students of the student council
A group study on flood damage at the Great Hanshin flood was held at Sumiyoshi Junior High School located in the Sumiyoshi River basin. The lecturer was a specialist dispatched by the Rokko Sabo Office. The students learned the outline of the flood and the situation of the damage at that time, and thought about the interview contents to a priest of Sumiyoshi Shrine. Based on them, they asked the priest about the situation of the damage, what he experienced and felt at that time. They wrote important things on a paper.

Shin-Minatogawa River Basin (Nagata-ku, Kobe city)

Date: July 31, 2018
Target: Tokiwa Girls High School
Students of the student council
Tokiwa Girls High School students, with the guidance of a priest of Nagata Shrine, identified the locations of the past damage and wrote them on a paper map along with the episode at the time of the disaster.

Significance

Long-term storage of information
・Documents remaining on paper, images of damage, and stories of disaster victims
・To store experiences of disaster victims as a digital archive

Creation of a place for communication
・To create a place to share memories and records using Communication with disaster victims through workshops through the Internet

What location information tells us
What could be clarified by visualizing information
-Pinpoint location and related information
-Overview information of region and area

A sense of responsibility for information
Through the work of providing and creating information
Responsibility by becoming the sending side instead of the receiving side is born

Digital Archive of The Great Hanshin Flood in 1938

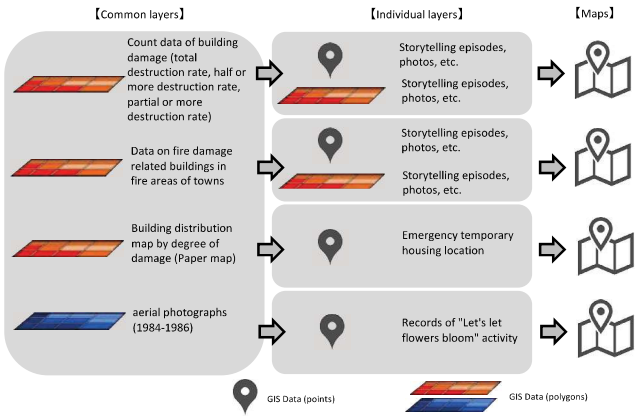
Information of these efforts and information received from the public, such as photos and testimonials, are saved as ' Digital Archive of the Great Hanshin Flood ' so that anyone can freely browse from the Internet, and will be open to the public on November 24, 2018.

The Great Hanshin-Awaji Earthquake

Constitution of Digital Archive

①Earthquake information registration workshop
This workshop included verbal communication to listeners who are not experienced from the narrator who is experiencing the Great Hanshin-Awaji Earthquake, and the process by which the listener creates the information as digital data in real time using GIS.
②Web maps
The above information is overlaid as a layer with point data and information on damage from the Great Hanshin-Awaji Earthquake.

Relationship between layers and digital maps



Development of the date entry tool

In order to visualize "what happened at that point / region" using ESRI's ArcGIS Online, it was possible to input it with points (points) and faces (polygons). Also, attribute items of free descriptions such as time zones and episodes were added.

The workshop

Opportunity of sharing records

Three groups (Groups A to C) were created. Group A researched the damage situation and reconstruction process in the northern part of Noda, Nagata-ku, Kobe, Hyogo Prefecture, and Group B surveyed the damage situation around Nagata-ku, Kobe, Hyogo Prefecture. Group C consisted of graduate students and performed identification work on the location information of the temporary housing in Hyogo Prefecture.
Group A and Group B were designed to include people who talk and listen (about 3 people). Among the listeners, the roles of listeners, information registrants, and writers were included. The listener proceeded while listening to the talker's story and asking the information that the registrant wanted. The information registrant input the interview contents into the media according to the classification method set in advance. The writer used Google Drive to leave the story of the speaker in the form of a minutes of the proceedings. The total number of registered information was 206, including those created in advance.

Registered information

班名	事前準備	当日作業	合計
A班：野田北部(ポイント)		19	19
A班：野田北部(ポリゴン)		1	1
B班：長田区周辺(ポイント)		4	4
B班：長田区周辺(ポリゴン)		18	18
C班：応急仮設住宅(ポイント)	142	6	148
ガレキに花を(ポイント)	16		16
総計	158	48	206

Digital maps

Digital map created

Summary

Linking location data to information and representing it as a digital map aims to visualize information of damage and episodes related to the disaster, and to provide a more comprehensive overview of the disaster. These efforts are also expected to have the effect of disaster prevention education, creating opportunities to think about the relationship between disasters and the formation of towns and between people and nature. In addition, it is assumed that such information storage is utilized not for the purpose of storage itself. It is hoped that various information will be released in the form of so-called open data, and that many people will develop it as applications and various contents based on various ideas.

Sharing of Local Disaster Experiences: Publication of a Digital Archive Map Showing Disaster Monuments

Hinako Suzuki, Wataru Tanikawa, Shoichiro Uchiyama, Goichiro Uramoto

鈴木比奈子
Hinako Suzuki

Digital Archive Map Showing Disaster Monuments

■ What are disaster monuments?

◇ **They are monuments with information about natural disasters carved on their surface.**

- They have various names: stone monuments, disaster monuments, traditional natural disaster monuments, tsunami monuments, etc.
- They are made of a variety of materials, such as stone and wood.

◇ **Contents: Disaster monuments usually include one or more of the following items of information.**

(1) Past disaster experiences and the extent of the damage to the region
(2) Commemoration of victims
(3) Lessons from the past and warnings of future disasters

◇ **Installation situation: usually outdoors**

- Monuments can tell us how far inland a tsunami or a flood penetrated, or report that their own location was flooded.

◇ **Problems: Stone monuments may be lost, and their significance is not always understood.**

- Carved letters are often weathered, and cursive script can be difficult to read.
- Stone monuments may be moved or lost due to natural disasters or road

A digital archive of tsunami monuments introduced by realistic 3D models.
(Tanikawa, et al. 2016)

◇**the Digital Archive Site of Earthquake Tsunami Monuments**

http://www.jamstec.go.jp/res/ress/tanikawa/index.html

- Publication of 3D software models
- Browsing of letters carved on the stone monuments and the information they convey

Earthquake monument of Kishimoto Asuka shrine (Kochi pref.)

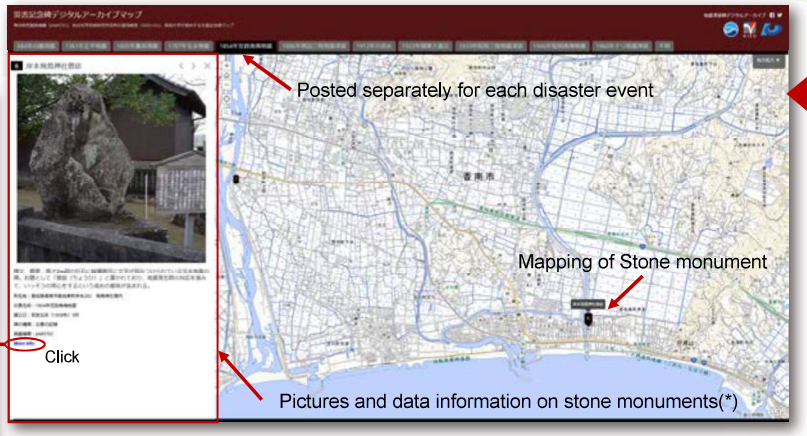
Hagitani Amida Budda Stone (Kochi pref.)

■ Digital Archive Map of Disaster Monuments

https://dil-db.bosai.go.jp/saigai_sekihi/ （Japanese only）

- Publishing information on stone monuments, etc., on the Web map.
- Sharing information on stone monuments (their content and location) on the Web.

Linking to Web pages describing the stone monument in 3D



Sharing the information on stone monuments on the Web map

***Pictures and data information on stone monuments**

- Stone monument information
- Epigraph or its summary
- The disaster it records
- Construction date
- The type of monument
- Investigation agency

The screen layout of the digital archive map of disaster monuments

Stone monuments classified by prefecture published on the map
(as of November 2019).

Disaster	Stone Monuments	Iwate pref.	Miyagi pref.	Tokushima pref.	Kochi pref.
684 Hakuhou earthquake (M8.4)	1				1
1361 Shohei earthquake (M8.5)	2			1	
1605 Keicho earthquake (M7.9)	2			2	
1707 Houei earthquake (M8.6)	14			3	11
1854 Ansei Nankai earthquake (M8.4)	42			18	21
1896 Meiji Sanriku earthquake (M8.2)	9	9			
1912 flood	1			1	
1920 flood	6				6
1923 Greate Kanto earthquake (M7.9)	1				1
1933 Showa Sanriku earthquake (M8.1)	9	7	2		
1946 Showa Nankai earthquake (M8.0)	27			8	14
1960 Great Chilean Earthquake (Valdivia Earthquake) (Mw9.5)	2	1			1
2001 heavy rain disaster on west-southern area of Kochi prefecture	4				4
Other	6	6			

[Web-GIS specifications]

◇ Data used

- The digital archive of earthquake tsunami monuments
- The monument to the Sanriku Coast Tsunami, the investigational data

◇ The engine used

- System: ArcGIS ONLINE Story Map Shortlist
- Background map: GSI Maps

[Future developments]

- Superimposition on past flood records or flood prediction maps, browsing
- Cooperation with other organizations

[reference] Tanikawa, et al. (2016) 3D modelling for digital archive of monuments that records historical Nankai earthquakes at Kochi Prefecture, JpGU G02-P01.

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Multi-hazard Risk Assessment Division, National Research Institute for Earth Science and Disaster Resilience

荒井勘
Isao Arai

「あなたにも出来る被災者支援」・ 25 年の手法を語り継ぐ

“ YOU CAN SUPPORT DISASTER VICTIMS ”

＊We introduce our method how to support suffers　　神戸 NPO・ひまわりの夢企画

１、被災後の避難所支援 （ REFUGE SUPPORT ）


給水支援・1995 年 1 月


露天風呂・1995 年 1 月


温水シャワー2011 年 3 月


洗濯機設置 2011 年 4 月

２、仮設住宅の生活支援 （ SUPPORTING TEMPORARY HOUSES FOR VICTIMS ）


お茶碗運搬 2004 年 11 月


食器市 2004 年 12 月


食器市 2009 年 10 月


食器の収集 2011 年 6 月


無料食器市 2011 年 8 月


食器市 2011 年 10 月


食器市・2016 年 5 月


食器市・2016 年 10 月

３、心の復興を支援する活動 （ SUPPORTING MENTAL CARE SUPPORT ）


復興イベント 2001 年 7 月


鯉ネット 2004 年 7 月


鯛ネット 208 年 5 月


歓鯨ネット 2013 年 6 月


カツオネット 20013 年 3 月


完成設置したカツオ


くまモン・2018 年 3 月


ひまわり植え 2005 年 6 月


山古志村①　2005 年 5 月


山古志村②震災 3 年後


山古志村③震災 5 年後


防災楽習迷路 2017 年 1 月

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

稲垣文彦
Fumihiro Inagaki

Initiatives taken for the CHU-ETSU Earthquake Memorial Corridor

Fumihiko Inagaki
Director of the Earthquake Disaster Archives and Memorial Center
Chuetsu Organization for Safe and Secure Society

Nagaoka Earthquake Disaster Archive Center KiokuMirai
Learn the lessons and findings left by the Chuetsu Earthquake

Niigata Prefecture Chuetsu Earthquake
October 23, 2004, around 17:56

1. An earthquake that hit hilly and mountainous areas where the depopulation and aging of society was advancing.
2. A sharp decline in the population of hilly and mountainous areas that were damaged severely.
3. Sustainability of hilly and mountainous areas become a big challenge for the recovery from the disaster.(Existing challenges in the communities were actualized.)

Myoken Earthquake Memorial Park
Memorial Park to morn for the victims of disasters

Initiatives taken for the CHU-ETSU Earthquake Memorial Corridor

1. Chuetsu Marugoto (comprehensive)Archive
2. Unique facilities
3. Memorial facilities that support sustainable community development on residents own initiatives

Yamakoshi Recovery Exhibit Hall Orataru
Review the life in the mountains damaged by the disaster

Kogomo Earthquake Memorial Park
Preservation of realistic scars of the earthquake disaster appealing to the disaster prevention awareness

Ojiya Earthquake Disaster Museum Sonae-kan
Experience the situations of disasters

The Epicenter of the CHU-ETSU Earthquake Memorial Park
Memories of the recovery from the disaster and dissemination of appreciation

Kawaguchi Kizuna-kan
Strengthen the bonds between people

Memorial facilities that support sustainable community development (activities aimed at resolving regional challenges) by residents own initiatives

1. Entrust the management of memorial facilities to the NPOs in the communities
2. Independent and proactive involvement of residents
3. Ensuring the sustainability by diversified management and personnel for community coordination

高田知紀
Tomoki Takada

The International Forum on Telling Live Lessons from Disasters 2020

An Education Framework for Disaster Risk Reduction by Utilizing "*Yokai*(妖怪)" as Intellectual Resources

Kobe City College of Technology
Tomoki TAKADA

What is Yokai(妖怪)?

*Yokai(*妖怪) is made up of two Kanji. Both "妖" and "怪" denote strangeness, mystery, or suspicion. Kazuhiko Komatsu, who is the leading academic authority on the supernatural in Japan, said that the concept of yokai has three domains. The first one is yokai as event(*dekigoto*, 出来事). The second is yokai as presence(*sonzai*, 存在). And the third one is yokai as object(*zoukei*, 造形). Such yokai which is drawn in Japanese anime is yokai as object. However, the Japanese people before Edo period thought that a mysterious and unfavorable phenomena is caused by work of yokai.

Diversity of Yokai

There are many kind of yokai. In addition, the environment in which yokai appears is also diverse. For example, yokai that appears in the mountain is *tengu* (Fig.1), *yamauba* and *konaki-jiji* and so on. Representative of yokai appearing on the waterfront is *kappa* (Fig.2) or *umibouzu*. Furthermore, there are yokai that appears in the house such as *akaname* (Fig.3) and *zashikiwarashi*.

What is important is that many kind of yokai have been told set with types of environment. In other words, yokai lore is told with a placeness.

Figure 1
Tengu(天狗)

Figure 2
Kappa(河童)

Figure 3
Akaname(垢嘗め)

Role of Yokai for Disaster Risk Reduction

Yokai lore often tell us the importance of preparing for a disaster. Yokai lore of *yaroka-mizu* is the content that people heard a strange voice from the upstream of the river before the flood occurs. And, yokai of *konaki-jiji* cry in the mountain before the earthquake occurs. Work of yokai relating natural disaster can be classified in occurrence factor, omen, situation description, prevention scheme, and disaster history transduction.

"Yokai Safety Workshop(妖怪安全ワークショップ)"

I conducted "Yokai Safety Workshop" as a social experiment, based on a role of yokai lore as a social device to transmit disaster risks. In this workshop, first of all, the children search for the dangerous places of their region (Fig.4, 5). Next, they consider the original yokai that appears in the dangerous places (Fig.6). At that time, the children propose how to avoid the damage caused by the yokai. Finally, in order to make "Yokai safety map", the original yokai is plotted on the map (Fig.7).

Through the work to create new yokai, the children who participated in the workshops were able to recognize the risks in the region and suggest how to avoid disaster risks.

Figure 4

Figure 5

Figure 6

Figure 7

東山陽次
Yoji Higashiyama

Passing Down the History of the Damages Caused by Mt.Unzen Volcano and the Issues at Hand

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Mt.Unzen Disaster Memorial Hall (Gamadasu Dome)

1. Introduction

- In Nov 17, 1990, the Mt.Unzen Volcano erupted once again ever since its last eruption 198 years ago. On June 3 of 1991, a pyroclastic flow of the biggest scale in the region occurred, taking away lives of 43 victims. This year would be the 28th year after the happening of Mt.Unzen eruption disaster(Fig.1).
- Mt.Unzen Disaster Memorial Hall, the core facility dedicated for the education of volcanic disasters founded in July of 2002, has undergone renovations and reopened in April 2018 in order to improve and make enhancement in its facilities.
- Our mission is to educate the lessons learned from the history of volcanic disasters to the public. However, as the population of the younger generations who has never experienced the disaster increase in the area stricken by disaster in Shimabara, continuing the education of the experience of a disaster becomes a tacky issue at hand. In order to continue our mission of passing down the lessons of volcanic disasters, it is necessary for the younger audiences to visit and know about the disaster area, and we try to hold many more programs to achieve such goal.

Figure1: (A)Pyroclastic flow occurred in Senbongi district in June, 1993. (B)This image shows Shimabara city now after recovery.

2. Background

Figure2: The incorporate projection mapping has newly renovated in this museum.

- Much time has passed since the happening of the disaster in the area, and the restoration of the disaster area is gradually transforming away from the sightseeing spot with attraction from its unique traces from natural disaster like it has been right after the disaster. From the decrease in the number of visitors to Mt.Unzen Disaster Memorial Hall as well as the narration guides (field tours where the guides explain verbally) every year, we predict that there will be a change in the willingness of visitors to visit the disaster areas.
- In order to attract more visitors to Mt.Unzen Disaster Memorial Hall, the museum has renovated to incorporate much more interactive exhibitions such as projection mapping(Fig.2). Other new facilities include the Geo Park Playground for children and Wonder Labo for experiment and workshop.

3. The Current Situations and Issues

- Starting from last year, we began a different approach in presenting to students visiting for field trips by allowing the students to have a comprehensive understanding of the disaster through explanations for the exhibitions, performance of experiences in Wonder Lab, and seminars held by narration guides, provided in a shared effort by the professional staffs and narration guides of various departments.

Figure3: The memorial ceremony for the victims is held in Gamadasu Dome on June 3 every year and people pray for them to rest in peace.

- Also, we founded a praying ceremony that will be held every year on June 3rd, the day of the disaster, in memory of the victims from the disaster, in order to educate the younger generations who has never experienced the disasters(Fig.3 & 4).
- Right now around 20 volunteers have been volunteering at our facility for over 10 years, and of those, 10 of them are working on the education of disasters as narrating guides. The narrating guides regularly holds seminars for permanent exhibitions, in disaster areas, and in elementary schools.
- However, as these narrating guides age, it becomes harder for them to visit places afar or attend activities requiring longer time spam, and the number of guide decreases every year. The other side of this problem is that the narrating events rely too much on certain guides.
- Amongst the staff, many are from the generation that has never truly experienced the disaster, and it is necessary for them to deepen their understanding for the disaster in order to educate other people about it. Although we do hold volunteer recruitment, but we lack a proper system for recruiting and training the volunteers.

Figure4: The narrating guides regularly hold the seminars in some elementary schools.

4. The New Efforts

Figure5: (A)This image shows the class of volcano junior master school. (B)These students asked guides about volcanic disaster happened in this place.

- We have started a project called "volcano junior master school" that will begin this year, targeting elementary upperclassmen to middle school students(Fig.5). These students will be educated to become the person responsible for disaster prevention in each area. Our aim is that these young students may become capable of making the right judgement and take actions during the actual happening of a disaster. We are hearing feedbacks from the lecturer saying that they are learning to coexist with volcano well.
- Starting last year, we launched new seminars regarding the prevention of volcanic and natural disasters, learning from experts who has been on the grounds of disasters of 2016 Kumamoto Earthquake, 2014 Mt. Ontake eruption, and heavy rainfall in Northern Kyushu District in July 2012.

5. Summary

- As time passed and memories of the disasters faded, and the narrating events are receiving less and less recognition, our future is interconnected with how the people of every generation, especially the younger generations, understand and learn from the past disasters, and use those knowledge to prevent disasters in the coming future.
- Our efforts taken so far have received some positive feedbacks. It is important that we continue efforts such as Volcano Junior master school or Disaster Prevention seminars that endeavors in the education of disaster prevention with new approaches. It is especially important that we educate young students who will become responsible for disaster prevention in each area, and we will discuss further regarding projects to achieve such goal.
- Also, instead of relying heavily on the guides, we hope that each staff could deepen their understanding regarding volcanic disaster, and for there to be new opportunities to learn for our staffs and volunteers so that all staffs and volunteers could be on the same line when working towards the goal of continuing the education on the prevention of disasters.