

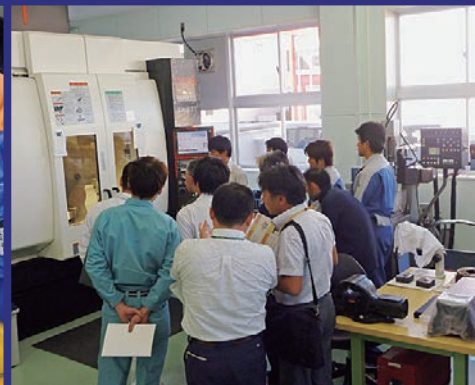


UN World Conference on
Disaster Risk Reduction
2015 Sendai Japan



Iwate University supports the Third UN World Conference on Disaster Risk Reduction.

The 3rd UN World Conference on Disaster Risk Reduction Iwate University Public Forum



"Resilience of Local Community and Capacity Building by Iwate University"

Date & Time : 18 March 2015 (Wed) 9:20-11:40 (Open 9am)

Venue : 601 Room, Tokyo Electron Hall Miyagi, Sendai City

Organizer : Iwate University

Co-sponsors : • Iwate Prefecture • Morioka City

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**The 3rd UN World Conference on Disaster Risk Reduction
Iwate University Public Forum**

**"Resilience of Local Community and Capacity Building
by Iwate University"**

Date & Time : 18 March 2015 (Wed) 9:20-11:40 (Open 9am)
Venue : 601 Room, Tokyo Electron Hall Miyagi, Sendai City

Preface

Approximately four years have passed since the Great East Japan Earthquake. Iwate University established the “Organization of Revitalization for Sanriku-region” based on the slogan "Dedicating all of Iwate University's power to the recovery and reconstruction of Iwate prefecture". We carried out earthquake disaster reconstruction activities with residents playing major roles while we maintained a deep connection with the Sanriku region.

For example, we have engaged in the development of many programs including emergency response just after the earthquake, grass-roots community development, disaster preparedness and education for children, industry reconstruction of the fisheries, and leadership development for disaster and crisis management.

Today's forum is split into two parts. In part 1, we will show examples of the reconstruction support activities that Iwate University has engaged in thus far. We will introduce the steps taken in these collaborative efforts between the university and the disaster affected areas toward reconstruction after the Great East Japan Earthquake.

In part 2, we will meet Mr. Tetsuo Kondo (Director, UNDP Representation Office in Tokyo), Prof. Akihiko Hokugo (Director, Research Center for Urban Safety and Security, Kobe University), Prof. Makoto Okumura (Deputy Director, International Research Institute of Disaster Science, Tohoku University) and discuss the importance of making a resilient local community.

In this forum, we would like to share case examples of practical activities in the reconstruction from this unprecedented disaster. In addition, we will examine the role of the university in the disaster affected areas in the post 2015 framework.

March 18, 2015

Akira Iwabuchi

President of Iwate University

Forum Program

〈MC〉 Assoc. Prof. **Natsumi Onaka** (International Liaison Center)

9:20 Opening Remarks

President of Iwate University
Akira Iwabuchi

9:30 Presentation on Roles of University

1) Introduction

Prof. **Masaaki Minami** (Director of RCRDM*)

2) Local Community Development

Prof. **Junichi Hirota**

Assoc. Prof. **Masako Okuno** and Assoc. Prof. **Makoto Sasaki**

3) Disaster Preparedness and Education

Assoc. Prof. **Akihiro Tsuchiya**

4) Industry Reconstruction

Prof. **Syuiti Abe** (Deputy Director of Sanriku Fisheries Research Center)

5) Leadership Development for Disaster and Crisis Management

Assoc. Prof. **Shin Koshiya** (Deputy Director of RCRDM*)

10:30 Break

10:40 Panel Discussion

〈Moderator〉 Prof. **Katsumi Matsuoka**

Prof. **Masaaki Minami** (Director of RCRDM*)

Mr. **Tetsuo Kondo** (United Nations Development Programme)

Prof. **Akihiko Hokugo** (Kobe University)

Prof. **Makoto Okumura** (Tohoku University)

11:40 Closing

* Research Center for Regional Disaster Management

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* Research Center for Regional Disaster Management

Introduction

Masaaki Minami (Iwate University)

E-mail : minami@iwate-u.ac.jp

Key words : Regional Disaster Management, Earthquake Disaster Reconstruction, Natural Disaster Analysis, Community Development and Disaster Management, Disaster Culture

1. Towards the Recovery from the Great East Japan Earthquake (Outline of the RCRDM)

From April 2012, a year after the Great East Japan Earthquake and Tsunami, the Research Center for Regional Disaster Management became a university-wide institution from an affiliated entity of the Faculty of Engineering. Full-time and part-time faculty members, research assistants, and visiting professors from inside and outside the university are all advancing research and education that contribute to regional disaster management as well as to the recovery and reconstruction after the disaster.

One of the main features of the Center is its focus on regional disaster management, as its name also suggests. Tsunami, volcanic eruption, flooding and other forms of natural disasters tend to be region specific in terms of their occurrence as well as regarding the process of recovery and reconstruction that follows. Thus, the Center is engaged in disaster management research and education that is built on regional characteristics specific to Iwate and the Tohoku area. Many of our faculty members value a long-term engagement with familiar fields, identifying challenges that regional disaster management faces, and seeking solutions to improve the situation.

The Center consists of three divisions including Natural Disaster Analysis Division, Community Development and Disaster Management Division, and Disaster Culture Division. Since the occurrence of the Great East Japan Earthquake and Tsunami, our faculty members in the three divisions have been working together with local residents in the form of field studies assessing the degree of devastation in affected areas, and also through analyzing earthquakes and tsunami, supporting community development and reconstruction, giving educational support and support for keeping oral and written records. Hence, our mission is to become the research hub for Iwate's regional disaster management as well as the platform for reconstruction in the Sanriku coastal area and other affected areas in Iwate.

Our goals in the immediate future include advancing research and education together with local communities in order to accelerate post-disaster reconstruction works. We also consider it important to strengthen partnerships with other universities inside and outside Japan, such as those which went through the Great Hanshin and Awaji, Niigata Chuetsu or other earthquakes and reconstruction processes, and also with regional

universities that are concerned with possible Nankai Trough and other earthquakes. We seek to develop these partnerships to create a common learning ground that is coherent through the past, present and future.

2. Activities of Each Division (Recovery support to the stricken areas)

(1) Natural Disaster Analysis Division

The division focuses on the earthquake and tsunami of the Great East Japan Earthquake, and analyzes the distribution of seismic intensity and tsunami propagation on each coast to draft disaster response measures. It also promotes research on possible disasters in Iwate including flooding, landslides, and volcanic eruptions as well as research work to improve disaster management by local communities.

(2) Community Development and Disaster Management Division

The division seeks research work to create disaster resilient cities based on the lessons learned from the 2011 disaster, and pursues community development and reconstruction from tangible and intangible aspects in the following three fields: Regional Planning Field, Civil Engineering Field, and Disaster Information System Field.

(3) Disaster Culture Division

The Disaster Culture Division looks to enhance and reinforce disaster management education in schools and society based on the lessons learned after the 2011 disaster in order to develop human resources who will lead regional disaster management. And the division performs the activities for creating and passing down disaster culture.

Third UN World Conference on Disaster Risk Reduction
Iwate University Public Forum
“Resilience of Local Community and Capacity Building by Iwate University”

Introduction

Masaaki Minami

Research Center for Regional Disaster Management, Iwate University

Tokyo Electron Hall Miyagi, 18 March 2015



1

Since in the devastating disaster due to the 2011 Tohoku-off-shore earthquake, Iwate University, located in the capital city of the seriously damaged coastal areas of Iwate, launched the Research Center for Regional Disaster Management (RCRDM) and has risen to the challenges of reconstruction and restoring these areas.

The center is comprised of three divisions, which carry out research on natural disaster analysis, in community development and disaster management, and in disaster culture, respectively, to construct grass-roots disaster management systems and to develop infrastructures and social and educational systems to reduce the impact of disasters. Through this creation, educational programs on disaster management in local communities have been implemented such as leadership training courses.

1

Purpose

1. Safe and secure regional development in the Sanriku area
2. Creation, practice, and succession of disaster culture
3. Information on disaster prevention practice in the Sanriku area

3

Affair

1. The aim is to expand practical disaster management activities of local communities which have been implemented by the faculty members of Iwate University. These activities concern support for the construction of disaster management systems, the education of disaster prevention and mitigation, and contribution to the development of facilities, communities and human resources for recovery and reconstruction in the devastated areas struck by the Great East Japan Earthquake and Tsunami in 2011.
2. Constructing community-based and bottom-up disaster management system for residents living in areas frequently struck by tsunami, based on their traditional disaster culture.
3. Transmitting information on disaster prevention practices accumulated in the Sanriku area to communities which will be possibly struck by huge earthquakes in the near future.
4. Functioning as “the International Center for Disaster Prevention Research” planned by the Iwate Prefectural Government.
5. And creating fruitful results by collaborating with other universities and research groups.

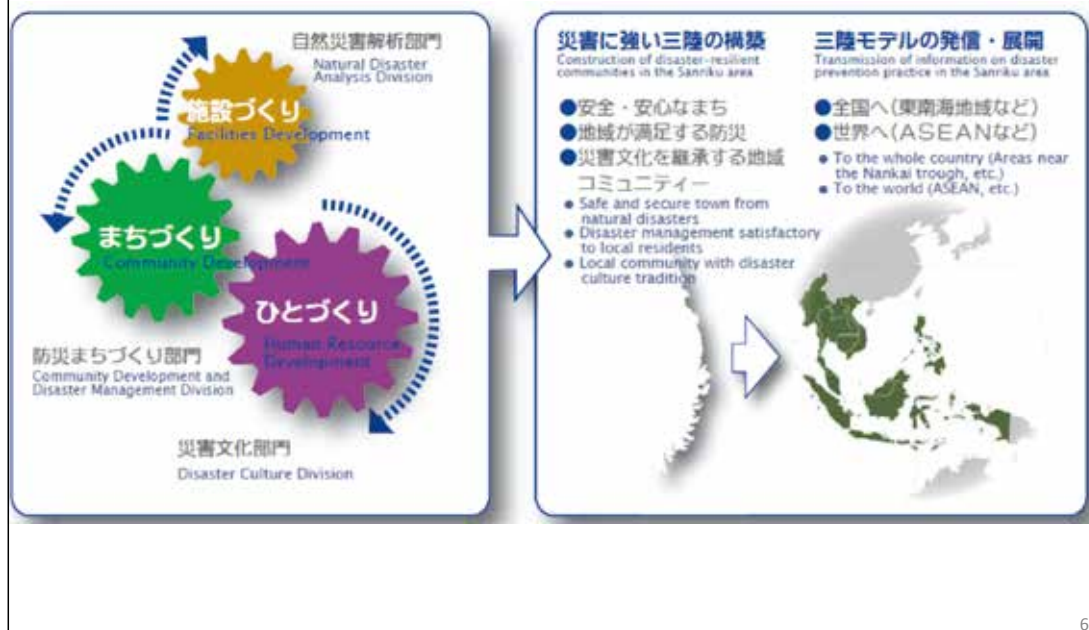
4

Organization



5

Efficient collaboration of the three divisions



6

Natural Disaster Analysis Division

The division focuses on the earthquake and tsunami of the Great East Japan Earthquake, and analyzes the distribution of seismic intensity and tsunami propagation on each coast to draft disaster response measures. It also promotes research on possible disasters in Iwate including flooding, landslides, and volcanic eruptions as well as research work to improve disaster management by local communities.

1. Appropriate location of important public and social infrastructure facilities
2. Appropriate locations of coastal protection facilities (including the seawall)
3. (3) Improvement of disaster management in local communities including evacuation



Community Development and Disaster Management Division

The division seeks research work to create disaster resilient cities based on the lessons learned from the 2011 disaster, and pursues community development and reconstruction from tangible and intangible aspects in the following three fields:

1. Regional planning field
2. Civil engineering field
3. Disaster information system field



Disaster Culture Division

The Disaster Culture Division looks to enhance and reinforce disaster management education in schools and society based on the lessons learned after the 2011 disaster in order to develop human resources who will lead regional disaster management. The division performs the following activities for creating and passing down disaster culture:

1. Human development by enhancing and reinforcing disaster management education at schools and in society
2. Creating and passing down disaster culture



Regional Disaster Management Forum

1. Special Lecture in Commemoration of the Establishment of the RCRDM
2. The Great East Japan Earthquake As Seen from Abroad
 - Comparison with the 2004 Indian Ocean Earthquake and Tsunami
3. Open Seminar on Disaster Recovery at Iwate University 2012
 - Rikuzentakata International Disaster Recovery Forum 2012
4. Crisis Management and Community Development for Disaster Management
5. RCRDM Activity Report of 2012
6. Let's construct the Future
 - Learning Together with Children from the Tsunami-Affected Areas:
 - Creation, Succession, and Expansion of Disaster Culture
7. Nature and Human Symbiosis
 - Various Concepts of Nature and Disaster Culture
8. RCRDM Activity Report of 2013, and Lecture Presentation
9. Community Development and Reconstruction for the Future
 - Joint Forum of Iwate University and Kobe University
10. Research Report on the Great East Japan Earthquake and Tsunami
 - Iwate from the Time of Devastation to Present



A forum was conducted to report on the annual results of the RCRDM activities. Furthermore, other RCRDM research forums were conducted by experts to report on the research findings and to exchange the insights of the participants regarding the results.

11

Disaster Management Education Material

These teaching materials, prepared in cooperation with the Iwate prefectural government, comprise documents regarding several types of disasters, namely earthquakes, tsunamis, volcanic eruptions and landslides, to teach the residents disaster management in order to make them more aware of possible risks.



12

International Exchanges Program

Faculty members and students of Iwate University and its partner institution, Earlham College and other universities visit each other for international exchange.



13

Publication of the RCRDM



RCRDM Brochure



RCRDM Annual Report



Lecture Text of the RCRDM Forum



Tsunami Experience Essay "INOCHI"

14

Reconstruction Support of the Regional Community

Junichi Hirota (Iwate University)

E-mail : hirotaj@iwate-u.ac.jp

1. Introduction

The Regional Community Reconstruction Support Group of the Community Life Support Division of the Organization of Revitalization for Sanriku-region carried out a multifaceted reconstruction aid for the revitalization of the local community. This included support of local community activities, framing support of the reconstruction plan, fact-finding survey of the community, the building of an extended community aiming at a sustained interchange with the outside world, and policy proposals to take root in the region. The concepts of the support are as follows: 1) providing required support for each area, 2) support aimed toward local independence, 3) Growth of the recipients and providers. This report introduces the concrete activities of the revitalization support for those local communities.

2. Support activities

For each area, the local communities carried out the resurgence of events that took place before the earthquake disaster and activities to support new action after the earthquake disaster, such areas include Miyako city, Yamada town, Kamaishi city, Ofunato city, Rikuzentakata city. As an example, in one case we gave assistance for the resurgence of the event called the "JINYA ASOBI" which was held on Children's Day May 5 in Ozaki and Higashimae districts, in Kamaishi city. We encouraged residents to take part and to support this, which included preparations of the necessary items. Also, a group of us helped hold the "Star Festival Event to Move" twice, after the earthquake disaster in Morinomae district, Rikuzentakata city. Today, various kinds of current support include community building between residents, and community building with residents and neighboring local inhabitants in their shift from temporary housing to disaster public housing in such following areas, Ofunato city, Rikuzentakata city, Kamaishi city, Miyako city.

3. Support planning

We planned and managed the workshop for the framing of a reconstruction plan and the reconstruction contract plan of each district in areas such as Ofunato city, Noda village, and Yamada town. We acted as a coordinator in the making of the voluntary disaster prevention plan and the earthquake disaster prayer park plan with the resident's participation in the following areas, Otsuchi town, Kamaishi city, and

Rikuzentakata city.

4. Survey

This group investigates the current situation of temporary housing and the tsunami refuge action. It assists the life support and the rearranging of lessons learned by the earthquake disaster, and implementing to voluntary disaster prevention plan in the following areas, Otsuti town, Kamaishi city.

5. Building extended communities

In the stricken areas, the population continues to decline after the earthquake disaster and will decrease further in the future. Constant interaction is important with the homeowners or the local community supporters. We call communities made with those people, extended communities and they provide support by dispatching information to the outlying stricken areas, and assist in community formation in the concrete district in such following areas, Kamaishi city, Ofunato city, Rikuzentakata city, and Kamaishi city.

6. Propose policies

The members of this group are concerned with the planning of the recovery design and reconstruction plan of the country, prefectures, cities, towns and villages (government, Iwate prefecture, Tanohata village, Noda village, Miyako city, Yamada town, Yamamoto town). In addition, we send policy proposals in line with the present conditions from the stricken areas to the university upon request.

World Congress of Disaster Protection by United Nations

SUPPORT FOR RECONSTRUCTION OF LOCAL COMMUNITIES

18th March, 2015

Sendai Electron Hall

Junichi HIROTA

Iwate University, JAPAN

Concept of supporting reconstruction
of local communities

- be with people
- support independence
- growing up together

1. SUPPORT ACTIVITIES

Revival of Festival and Traditional Events



“Jin-ya Asobi” (Children’s event raising fisherman’s flags in Osaki community in Kamaishi



Moving Tanabata Festival in Rikuzen-Takata

Community Flower Garden in Morinomae community

- Make beautiful landscape in Tsunami affected areas.
- Enhance communication in local community and with outside people and students.



Flower Garden of Iwate University ♪

Project of Kesen-maru for children

- Kesen-maru, a traditional sailing ship for transporting rice and food in Edo period, reconstructed about 20 years ago.



Children interview and record process to realizing sailing in the sea.



Market day in Yamada

Enhancing communication within local people, and with outside people.



COMMUNITY BUILDING IN disaster PUBLIC HOUSING

- When moving from temporary house to disaster public house, most people are not familiar to each other.
- Efforts should be done to build a new community.



A get-together in a disaster public housing in Rikuzen-Takata city on 9th November, 2014..

Support children by students



Study, cooking, sports, etc



Support people in temporary housing by students



Foot bath with
communication



Tea party



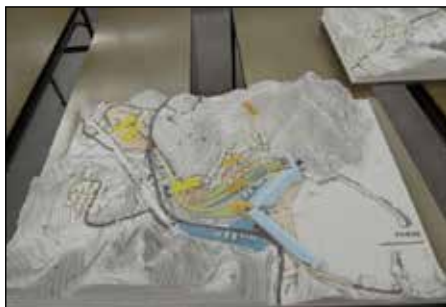
Handicrafts

2. SUPPORT PLANNING

Support making reconstruction plan

Planning for

- development of residential land
- Land use of tsunami affected areas
- Memorial Park



Disaster prevention planning by people themselves

Kiri-Kiri community in
Otsuchi town



Iwate Nippo / local newspaper
On 24th July, 2014

3. SURVEY

Visit for hearing in temporary housing

岩手大研究室、仮設巡回… 体調や暮らしぶり聞き取り

ツイート 2

おすすめ 1

チェック



画像の拡大
仮設住宅で阿部山さん大妻から暮らしぶりや体調を聞き取りする調査員阿部(左)と阿部山さん大妻(右)。(20日、大槌町の吉里吉里第4仮設団地)

今後の生活に不安を感じている東日本大震災の被災者を支えようと、岩手大学教育学部社会学研究室は2月から、岩手県大槌町の仮設住宅への巡回を始めた。

教員や学生らが毎月数回、体調や暮らしぶりを聞き取り、記録する。研究室は、3年前から仮設住民の意識調査を続けており、「調査を被災地の人たちのために役立てよう」と、巡回を思い立った。

「なみやかに顔を出せないけれど、いつもお母さんのことを考えてますよ」

20日午前、大槌町の吉里吉里第4仮設団地を訪れた研究室の奥倉哲教授(58)が、明るく声を掛けた。

Yomiuri Online, 23th June, 2014

Hearing for recording evidence of dead people

河北新報 2014年06月08日

岩手 政治・行政 特集

ツイート 54

おすすめ 241

記事を印刷

「生きた証プロジェクト」全犠牲者記録、再始動 岩手・大槌町

岩手県大槌町は、東日本大震災で犠牲になった町民1284人（関連死も含む）全員の人名などを記録する「生きた証（あかし）プロジェクト」を本年度、再始動させた。「検証が先」「遺族に辛い思いを強いる」と町議会が昨年、仕切り直しを迫ったが、町が説明を重ね一定の理解を得た。町は実行委員会を発足させ、10月にも遺族らへの聞き取りを始める。

実施計画案によると、記録を通して、犠牲者を供養するとともに震災の記憶の風化を防ぐのが狙い。避難行動などの防災にも役立てる。

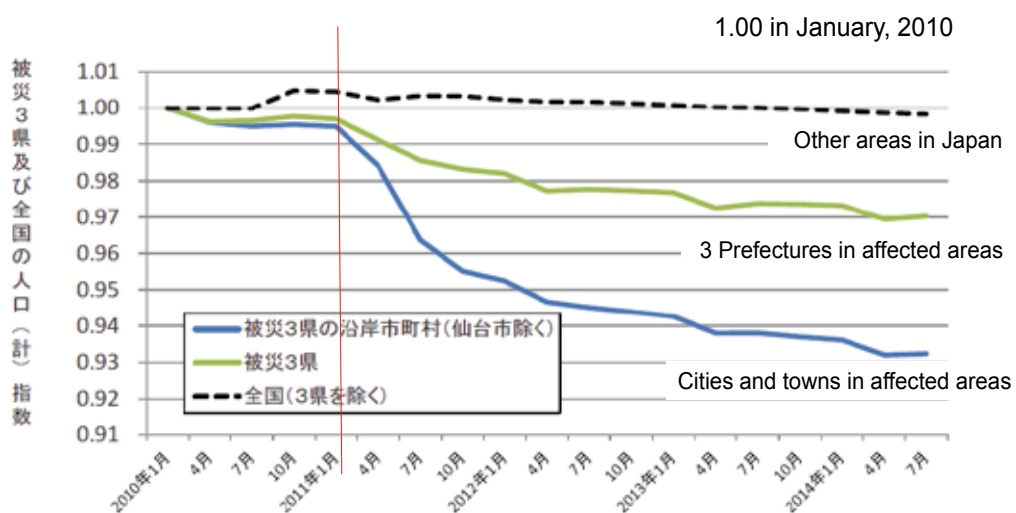
遺族の同意を得た上で犠牲者の経歴、人名、生前のエピソード、故人へのメッセージなど



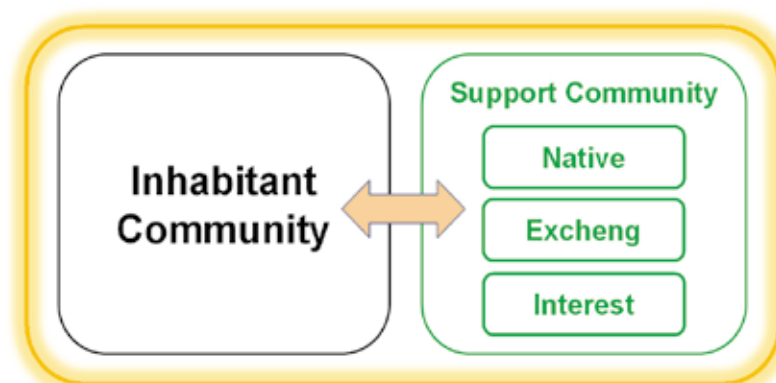
震災犠牲者の人名などを記録するため発足した実行委＝岩手県大槌町役場

4. BUILDING EXTENDED COMMUNITY

Population Decrease in Affected Areas



Expanded Community



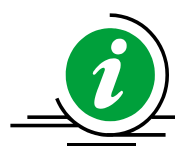
Sustainable and multilateral Support and exchange



Manpower



Money



information

Symposium for Reconstruction of Tohoku

“Connect to Iwate”

Expanded Community in Tokyo



Programm 13:30~16:30

Introduction of the activities of Iwate University

Lecture: What the Expanded Community is.

Relay Talking

- A supporting party to Kamaishi -ARAMAGI Heart-
- Youth for Ofunato
- Hold out IWATE Project
- Summery – What we can do!

7th December, 2013
In Itabashi-ward, Tokyo



(above: Symposium, below: Exchange meeting)

Symposium for Reconstruction of Tohoku

“Connect to Iwate” part.2

Expanded Community in Tokyo

4th March, 2015
In Itabashi-ward, Tokyo

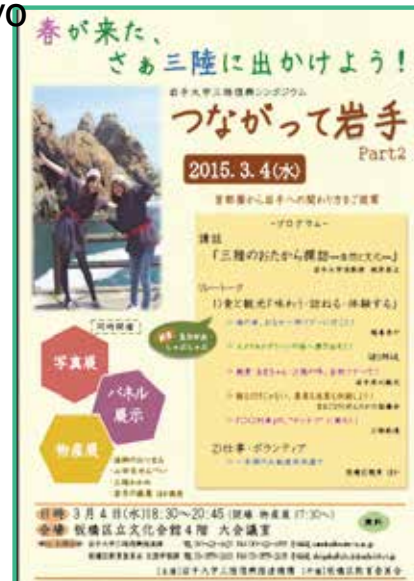
Spring has come.
Let's go to Sanriku !

Programm 18:30~20:45

Lecture: Nature and Culture of Sanriku

Relay Talking on Food and Tourism

- Restaurant bar.”Okirai-Ya”
- Sea kayaking in Yamada
- Sanriku tour by Ken-poku Bus company
- Guided tour in Rikuzen-takata
- Special train by Sanriku Railway Company



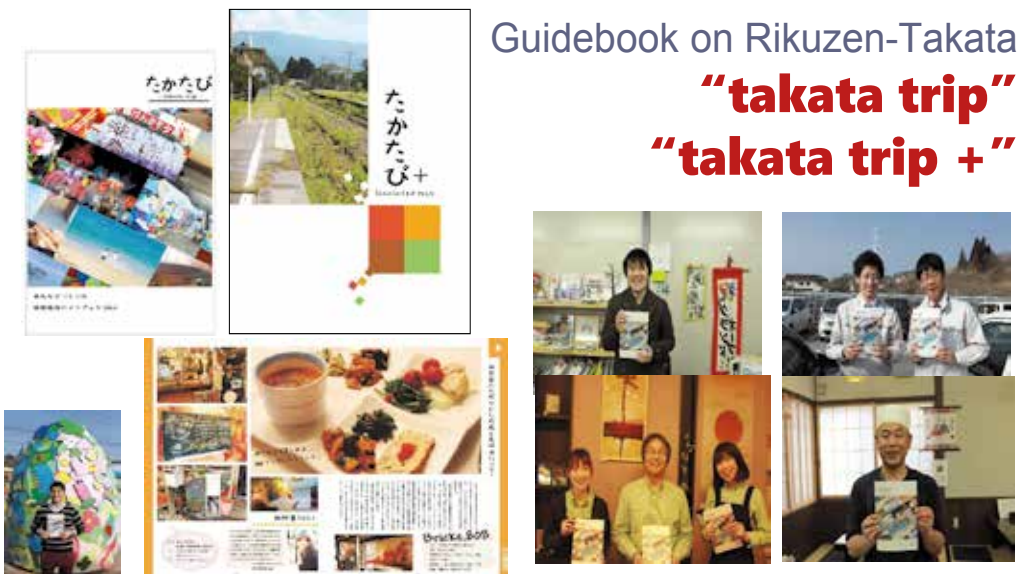
E_code Project

Publication & Delivery of
Map on Attractive TAKATA

- Free magazine supporting to Rikuzen-Takata -



E_code Project



5. PROPOSE POLICIES

Participation in planning

- Working group of the Reconstruction Design Council. (Central Gov.)
- Expert Committee on the strategy of reconstruction from great Tsunami damage in Iwate prefecture
- Committee on the reconstruction plan of earthquakes in Tanohata village, Miyako city, Yamada town, Yamamoto town, etc.



河北新報 (2011年6月25日)

Proposal for measures to population decrease

To municipalities suffered from Tsunami disaster.



2014年7月3日 岩手日報

CONCLUSION

Community support of Iwate University in future

1. **Be with people**
 - Face to face support
 - Support independence
2. **Support with students**
 - high - spirited, cheerful, working hard
3. **Promote to expanded community**
 - Send Information to the metropolitan area etc.
 - Coordinate with affected communities and other communities
4. **Issues oriented approach**
 - Build new communities in housing complex by group moving, and disaster public housing
 - Recovery of the past prosperity of towns
 - Records and succession of experience of Tsunami disaster

Local Community Development

A Report about Psychological Care by the team

○ Masako Okuno, Makoto Sasaki (Iwate University)

E-mail : mokuno10@iwate-u.ac.jp, E-mail : sasakima@iwate-u.ac.jp

The purpose of this presentation is to report the psychological care delivered by the team. Institution for reconstruction of Sanriku by Iwate University consists six branches, one of that is in charge of livelihood support. In order to support their livelihood, psychological care is required. Therefore the team members, who are clinical psychologists, professors, researchers, devote their professional attention to support people in the affected areas, Sanriku region.

The activities for psychological care have eight viewpoints.

First, we make plans for psychological care with collecting information by attending various conferences and move from the plans to action adjusting the support for the people in Sanriku.

Second, we operate the counseling room at Kamaishi and do counseling with the people who were visited by the earthquake for free. The specialists are also available for consultation with supporters. Program of mental healthcare toward supporters

Third, we help the supporters to support the people in Sanriku. Various types of trainings and programs about are provided with the supporters. We monitor their stress and give them feedback.

Fourth, we also contribute psychological education programs toward the residents regularly at Kamaishi, Miyako, Ofunato and Rikuzentakada. The lecturers, clinical psychologists are available for them.

Fifth, we visit at the residents of temporary housing and give relaxation exercises. Graduate students enrolled in clinical psychology course at Iwate University graduate course assist us as volunteers.

Sixth, we send school psychologists to High School in Sanriku to do counseling with students and teachers collaborating with the board of education in Iwate Prefecture.

Seventh, interventions for traumatic experience are being introduced. We have tapping touch programs and consider EMDR participating in the training programs to help people with PTSD.

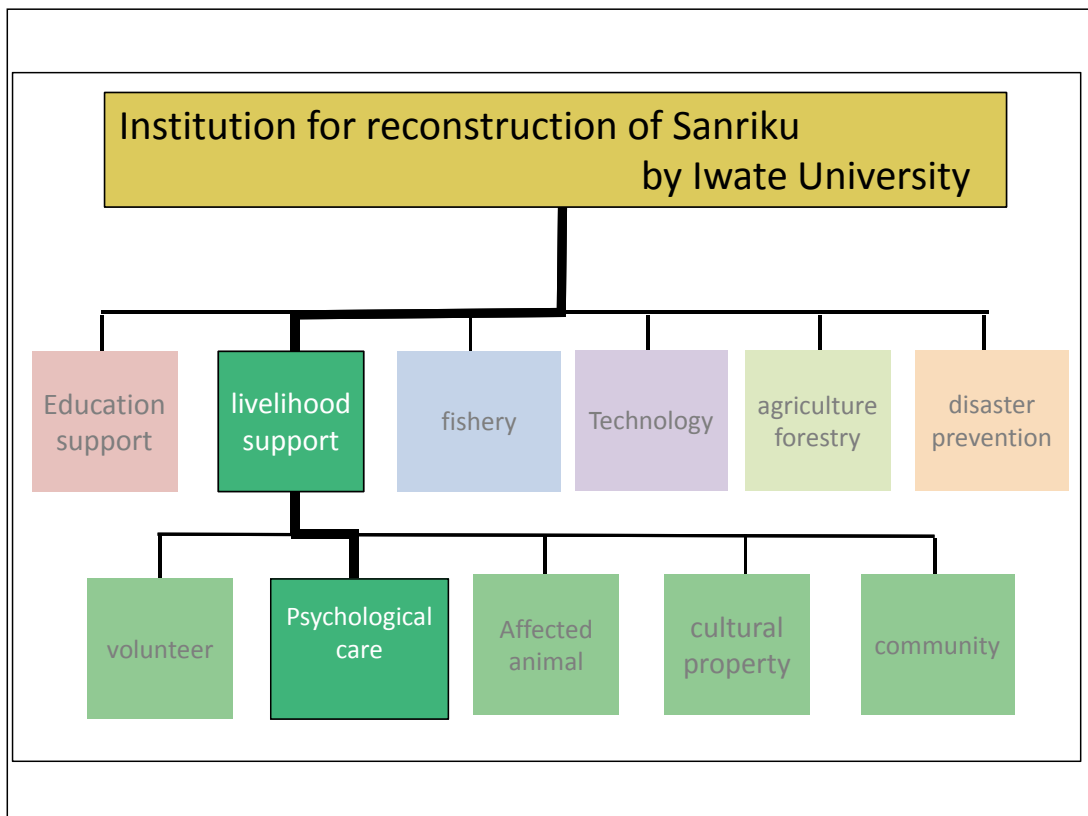
Eighth, we develop basic psychological researches for more effective care. Recently we examine physiological markers by receiving relaxation exercises.

As we described above, our psychological care is conducted by using utilizing multifaceted approaches and collaborating with other specialists.

A Report about Psychological Care by the team

— Local Community Development —

○ Masako Okuno (Iwate University)
Makoto Sasaki (Iwate University)



The team for Psychological care

1. Plan for Psychological care
2. Operation of counseling at Kamaishi
3. Program of mental healthcare toward supporters
4. Education Programs
5. Visit at residents of temporary housing
6. Counseling at High school in Sanriku
7. Intervention for traumatic experience
8. Basic researches for Psychological care

Start for Psychological care

【need recognition】



- collecting information by attending conferences
- adjusting the support for the people in Sunriku

【Operation of counseling at Kmaishi】



- Counseling with the people who were visited by the earthquake
- Consultation for supporters

Visit at the residents of temporary housing



- Giving relaxation exercises
- Assistance by graduate students enrolled clinical psychology course

【Support for supporters】



Training for attentive listening

Programs for mental health



- various types of trainings and programs for supporters
- Monitoring their stress and giving them feedback

【Education programs for the residents】



About Humor and laughing

Tapping・Touch



- Education programs were held regularly, at Kamaishi, Miyako, Ofunato, Rikuzentakada.
- Lecturers, clinical psychologists, are available.

【Kamaishi as hub institution for support】



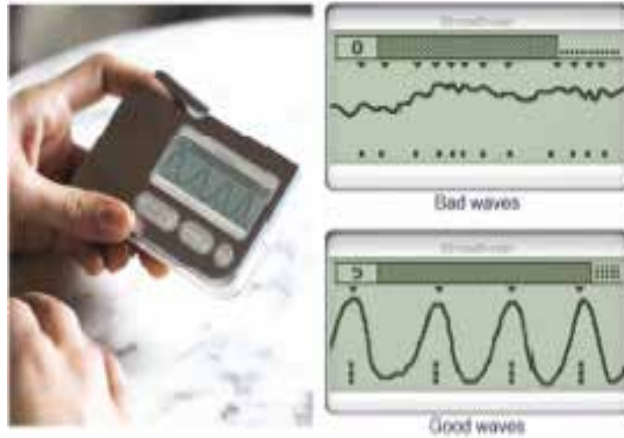
- “Ambiguous loss” was discussed through Skype.
- Salon for orphans of earthquake.

【support for the field of education】



Collaboration with support for students by the board of education and High Schools

【Basic researches for Psychological care】



Researches using biofeedback device

Disaster Preparedness and Education

Teacher Training Program for Disaster Risk Reduction and Reconstruction - Outcome and Challenges of “Iwate Reconstruction Education” Program

Akihiro Tsuchiya (Iwate University)

E-mail : aktsuchi@iwate-u.ac.jp

Key Words : Reconstruction Education, Teacher Training, Community,
Safety Management, Disaster Risk Deduction Education

Great East-Japan Disaster that caused tremendous casualties and changed lives of many has posed a question on safety management system and education itself in schools. Since children spend time together and develop themselves mentally and physically in schools, teachers are expected to have a high level of awareness to be able to “protection of children’s lives” and to equip students with knowledge and skills to “protect oneself.”

Great East-Japan Disaster also caused devastating damage to local community. Tsunami following earthquakes not only took lives and buildings but also traditions and ties that people had fostered, which put continuation of local communities at risk. That is why school that is one of the symbolic institutions of local community has been expected to play a key role in rebuilding and revitalization of local community, in another word, “reconstruction.”

Faculty of Education, Iwate University has started an intensive course “Iwate Reconstruction Education” in 2013 following the development of the program, by the Iwate Prefectural Board of Education, which aims to inherit memories of the disaster and to contribute to create future-oriented society. The course intends to train students who hope to be teachers to be future leaders of education on reconstruction and disaster risk reduction. This report aims to share concrete contents, outcomes and challenges of the course.

Education and Research on Disaster Risk Reduction

Teacher Training Program for Disaster Risk Reduction and Reconstruction

- Outcome and Challenges of
“Iwate Reconstruction Education” Program -

TSUCHIYA Akihiro
Faculty of Education, Iwate University

at the 3rd UN World Conference on Disaster Risk Reduction
601 Room, Tokyo Electron Hall Miyagi, Sendai City
18 March 2015

1

1. Post-Disaster Educational Challenges

(1) School-related Damages in Iwate

① Loss of and Damages to Human Lives

	kindergartens		elementary schools		junior high schools		high schools		schools for special needs education		total	
	pupils	teachers staff	pupils	teachers staff	students	teachers staff	students	teachers staff	pupils students	teachers staff	pupils students	teachers staff
deaths	12	5	17	1	15	0	43	1	3	0	90	7
missing persons	2	1	4	2	0	0	9	1	0	0	15	4
total	14	6	21	3	15	0	52	2	3	0	105	11

31 March 2012

② Physical Damages

prefectural schools : 73
municipal schools : 374

reference : Iwate Prefectural Board of Education

2

1. Post-Disaster Educational Challenges

(2) Expectation towards Schools and Teachers

① Protecting Children's "Lives"

- ： Raise awareness of and train teachers on DRR
- ： Raise awareness of children on safety

② Contributing to Community Support

- ： Revitalize local community from schools
- ： Interest children into local community

3

1. Post-Disaster Educational Challenges

(3) What Iwate Prefectural Board of Education Has Been Doing "Iwate Reconstruction Education"

Program

Objective: Educate future generation
who would lead local
community's reconstruction
and development

Valued educational element

- ① about life and mind
- ② about humans and local community
- ③ about DRR and safety



4

2. Intensive Course “Iwate’s Reconstruction Education”

(1) Course Objectives

- ① To be able to educate students on DRR and reconstruction as a teacher
- ② To be able to raise one’s awareness on DRR education and willingness to contribute to reconstruction of disaster-affected community

(2) Course Contents

- ① Lectures DRR education
 Structure of Iwate Prefectural Board of Education
 Natural disaster mechanism
 Psychological care etc.
- ② On-site Visiting disaster-affected community
 Visiting educational Facilities (include schools)

5

2. Intensive Course “Iwate’s Reconstruction Education”

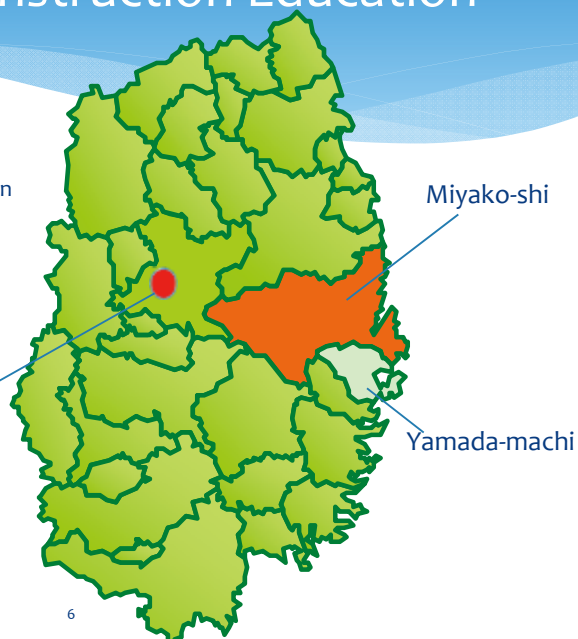
On-site in 2014

2014

Miyako-shi
Tide wall (tour of Taro)
School for special needs education
Junior high school

Yamada-machi
Temporary shopping district
Elementary school
Social educational facility

Morioka-shi
Iwate Univ.



6

3. Outcomes and Challenges

(1) Participants

19 students (capacity: approx. 20) in 2013

23 students (capacity: approx. 40) in 2014

(2) Outcomes

① Understanding DRR and Reconstruction education

Significance of DRR education

Understanding DRR education

7

3. Outcomes and Challenges

② Understanding Natural Disaster Mechanism

Significance of teachers' understanding

Importance of having children understand

③ Understanding the Situation of Disaster-affected Area and Role of Schools

Role of schools in local community

Practices

8

3. Outcomes and Challenges

(3) Challenges

① Time

Pros and cons of extensive course

② Students' interest

Need to widely attract students' interest

Post-Catastrophe Rehabilitation of Fisheries in Iwate

Syuiti Abe (Iwate University)

E-mail : sabe47@iwate-u.ac.jp

Key Words : Tsunami Disaster, Fisheries Promoter, Salmon Research and Education

A massive earthquake and devastating tsunami destroyed many fishing villages and towns on March 11, 2011. Soon after the catastrophe, Iwate University instituted the university-wide *Organization for Revitalization of the Sanriku-Region* and decided to establish a new Graduate School of Fisheries Science in spring 2017 to promote rehabilitation of the fisheries industry in Sanriku. In April 2013 Iwate University established the Sanriku Fisheries Research Center (SFRC) in Kamaishi, one of five cities on the coast, as a center of fishery education and research in the Sanriku region. The Center (1,900 m²) is two-story building with wet laboratories for fish rearing and processing on the first floor and dry laboratories for molecular biosciences and food sciences on the second floor. The SFRC will become a center for education and research of fisheries science in our new graduate school and undergraduate course. As chum salmon is the main fishery species of the Iwate coast, all the coastal fishery cooperatives rely on salmon catches, which is more than half of the annual revenue in each cooperative. Therefore, it is clear that rehabilitation of the fisheries industry in Iwate depends heavily on recovery of the chum salmon fishery. The SFRC aims to help sustain the chum salmon fishery by conducting genetic identification of major stocks, if any, which chiefly contribute to salmon returns. If such stocks are found, then we can propose an effective resource management plan for those stocks, which will help improve current hatchery operation and optimize the salmon enhancement strategy in Iwate and other prefectures in Sanriku. Besides these investigations, we plan to nurture students to work in fisheries industries and related sectors as a “fisheries promoter”, who is capable of overlooking the whole system of aquatic food supply with an expertise of one or more fields, such as fishing, aquaculture, processing, economics, or marketing. A fisheries promoter is expected to help stimulate fisheries innovation, such as direct marketing by fishermen themselves. With help of a promoter, for example, salmon and its processed products will have more commercial value than before, and hence this will accelerate rehabilitation of salmon fisheries and local societies hit by the tsunami. Thus, we will set salmon as one of the major targets of research and education in the new graduate school and undergraduate course at Iwate University.

Industry Reconstruction: Post-Catastrophe Rehabilitation of Fisheries in Iwate

Syuiti Abe

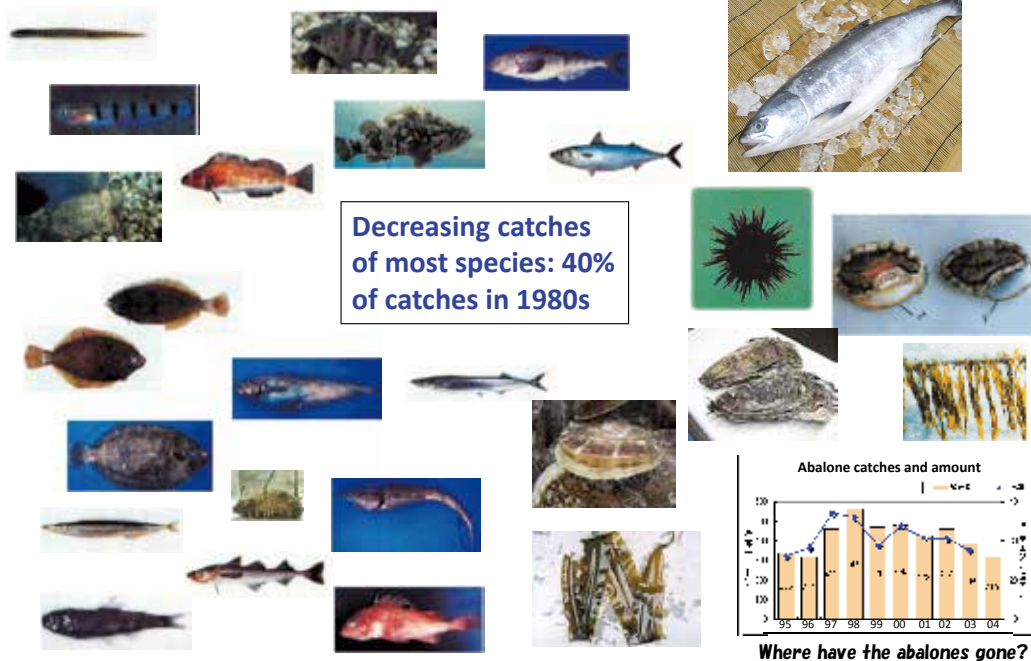
Sanriku Fisheries Research Center
Iwate University

at the 3rd UN World Conference on Disaster Risk Reduction
601 Room, Tokyo Electron Hall Miyagi, Sendai
March 18, 2015

Sanriku-Iwate region

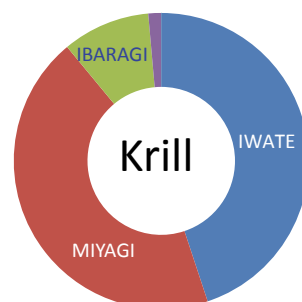
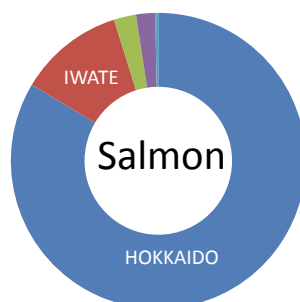


Fisheries resources in Iwate: many species but low abundance

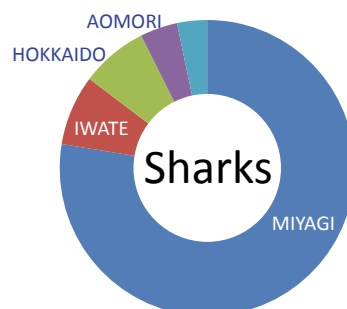
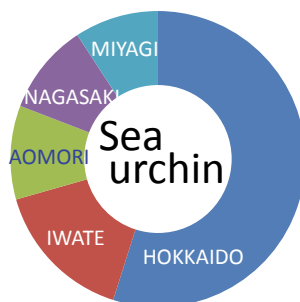
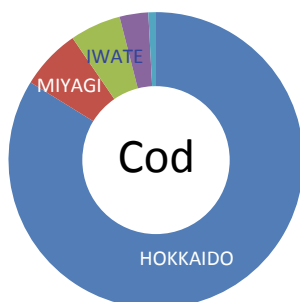


Production ranking of major fisheries resources in Japan

(2010 statistics report, Ministry of Agriculture, Forestry and Fisheries)



Iwate is one of Japan's leading fisheries Prefectures



Fisheries damages after the 3.11 tsunami



Total amount of damage: 1,263.7 billion ¥ (7 Prefectures; 1,254.4 billion ¥)

Damage	All over Japan		7 Prefectures	
	Number	Amount (billion ¥)	Number	Amount (billion ¥)
Port facilities	319	823	319	823
Fishing boats	28,612	182.2	28,479	181.2
Mariculture (facilities) (fishes)		133.5 (73.8) (59.7)		125.4 (71.9) (53.4)
Common facilities	1,725	124.9	1,714	124.7
Total		1,263.7		1,254.4

Prefecture	No. of damaged ports	Amount (million ¥)	No. of ports
Hokkaido	12	1,259	282
Aomori	18	4,617	92
Iwate	108	285,963	111
Miyagi	142	424,286	142
Fukushima	10	61,593	10
Ibaragi	16	43,118	24
Chiba	13	2,204	69
Total	319	823,040	730

(Fishery Agency)

Mariculture damage in Japan after the 3.11 tsunami (Fishery Agency)

Pref.	Damaged mariculture items	Dam. facil. (million ¥)	Dam. items (million ¥)
Hokkaido	scallop, oyster, sea urchin, konbu, wakame.....	9,356	5,771
Aomori	konbu, scallop....	43	19
Iwate	scallop, oyster, konbu, wakame.....	13,087	13,174
Miyagi	coho salmon, scallop, oyster, squirt, konbu, wakame, nori....	48,700	33,189
Fukushima	nori.....	297	536
Ibaragi	carp, pearl.....	27	—
Chiba	nori.....	428	737
Kanagawa	wakame.....	33	32
Niigata	nishiki (ornamental) carp.....	4	—
Mie	red sea bream, bluefin, oyster, nori, pearl....	1,274	2,355
Aichi	nori.....	2	—
Wakayama	red sea bream, bluefin....	141	834
Tokushima	Yellowtail, hamachi, yellow jack, wakame....	65	508
Kochi	Yellowtail, red sea bream, nori....	228	2,377
Oita	Yellowtail, hamachi, yellow jack, hirame....	85	175
Miyazaki	hamachi, horse mackerel, croaker....	0.28	6
Okinawa	mozuku, sugi....	6	32
Total		73,776	59,745

Damaged fish processing facilities in 7 Prefectures

Pref.	Damage	Amount (million ¥)	No. facilities
Hokkaido	Half collapsed 4, flooded 27	100	570
Aomori	Coll. 4, half coll. 14, flooded 39	3,564	119
Iwate	Collapsed 128, half collapsed 16	39,195	178
Miyagi	Coll. 323, half coll. 17, flooded 38	108,137	439
Fukushima	Coll. 77, half coll. 16, flooded 12	6,819	135
Ibaragi	Coll. 32, half coll. 33, flooded 12	3,109	247
Chiba	Coll. 6, half coll. 13, flooded 12	2,931	420
Total	Coll. 570, half coll. 113, flooded 140	163,855	2,108

Smashed fish processing facility complex



Collapsed fish disposing facility



Flooded fish auction market



Decrease in production
Raising market prices
Increase of imported fishes
..... price down of domestic fishes

(Fishery Agency)



Rehabilitation of fisheries in Iwate

Table 1. Rehabilitation of fisheries in Iwate (by March 2014; Fishery Agency)

Classification	Outline of rehabilitation	Remarks
Fishing Catches Amounts	97.6 x10 ³ tons (70% of 2010) 164.5 billion¥ (85% of 2010)	Kuji, Miyako, Kamaishi, Ofunato
Ports	67 among 108 ports damaged (62%)	Port function totally recovered
Fishing boats	8,475 among 13,271 boats lost (64%)	with and without engine-boats
Aquaculture	Wakame 16,062 tons (85% of 2010) Konbu 6,341 tons (49% of 2010)	Oyster culture production remains low
Market and processing facilities	13 fish auction markets (100%) 166 among 178 facilities damaged (93%)	Facility rebuilding banned partly due to ground subsidence

Table 2. No. of set nets operated in Iwate (by February 2014; Iwate Pref.)

Set net type	Kuji	Kamaishi	Ofunato	Total	Operated in 2013	Licensed	Remarks
Large	18	26	13	74	73	82	8 unoperated
Small	16	10	3	35	32	46	8 unoperated
Licensed	3	4	—	7	7	8	1 unoperated
Total	34	36	16	109	105	135	16 unoperated

Constitutional Problems of Fisheries in Iwate

1. Decrease and aging of fishery workers
(>60 of age: 60%)
2. Small fishery business
(privately run : 90%)
3. Decrease and low price of coastal fishes
(catch decrease: 40% of 1980s)
4. Safety of fishery products
(marine pollution, nuclear plant accident)
5. Fewer types of higher processed items
6. Weak sales and naïve marketing strategy
7. Fewer leaders in fishery business

(Iwate Prefecture)

... Catastrophe further accelerated these trends

An action plan of

Organization of Revitalization for Sanriku-Region

(An university-wide organization instituted in April 2012)



to support the smooth recovery and reconstruction of Iwate Prefecture

- (1) Education support
- (2) Community life support,
- (3) Promotion of fisheries industry reconstruction
- (4) Promotion of manufacturing industry reconstruction
- (5) Promotion of agriculture, forestry and livestock industries reconstruction
- (6) Education and research on regional disaster prevention



A new graduate school of fisheries sciences at Iwate University beginning in spring 2017

Also, undergraduate fisheries education course in Faculty of Agriculture

for promotion of sustainable fishery and reconstruction of fisheries industries on the Sanriku coast



Fisheries Promoter

capable of overlooking the whole system of aquatic food supply with an expertise of one or more fields

Sustainable fishery = effective resource management

TAC : from Olympic game system to IQ or IVQ system

Reconstruction of fisheries industries = new products, new sales strategy, direct marketing by fishermen

Sanriku Fisheries Research Center, Iwate University

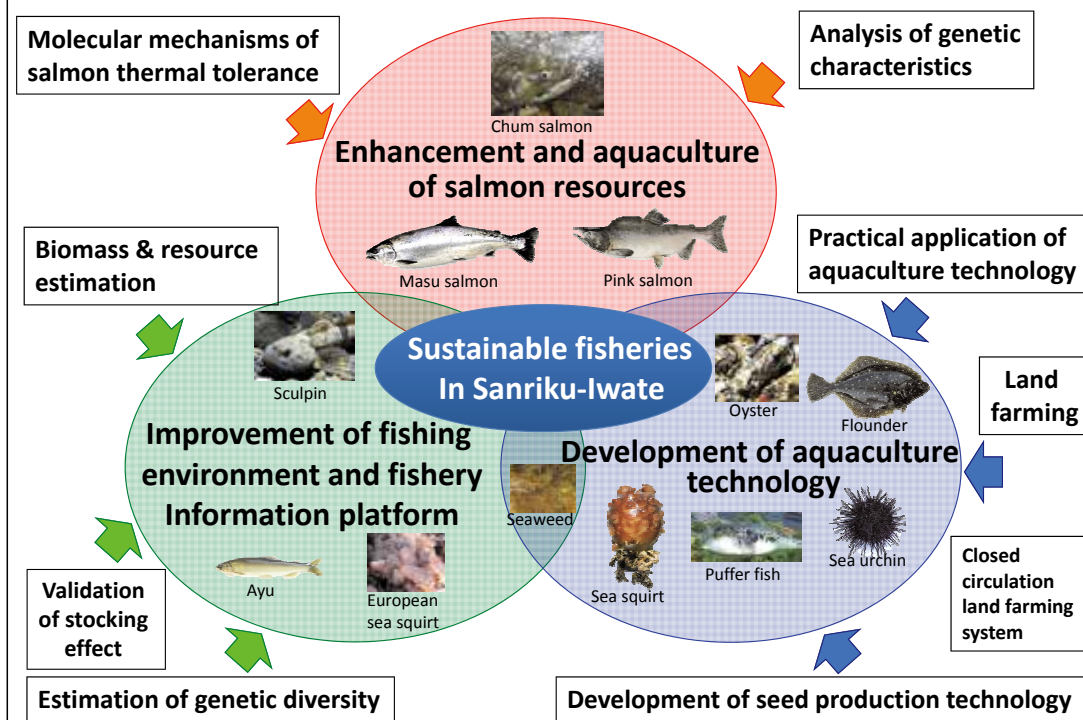
A center for education and research of fisheries science

Place to nurture a Fisheries Promoter

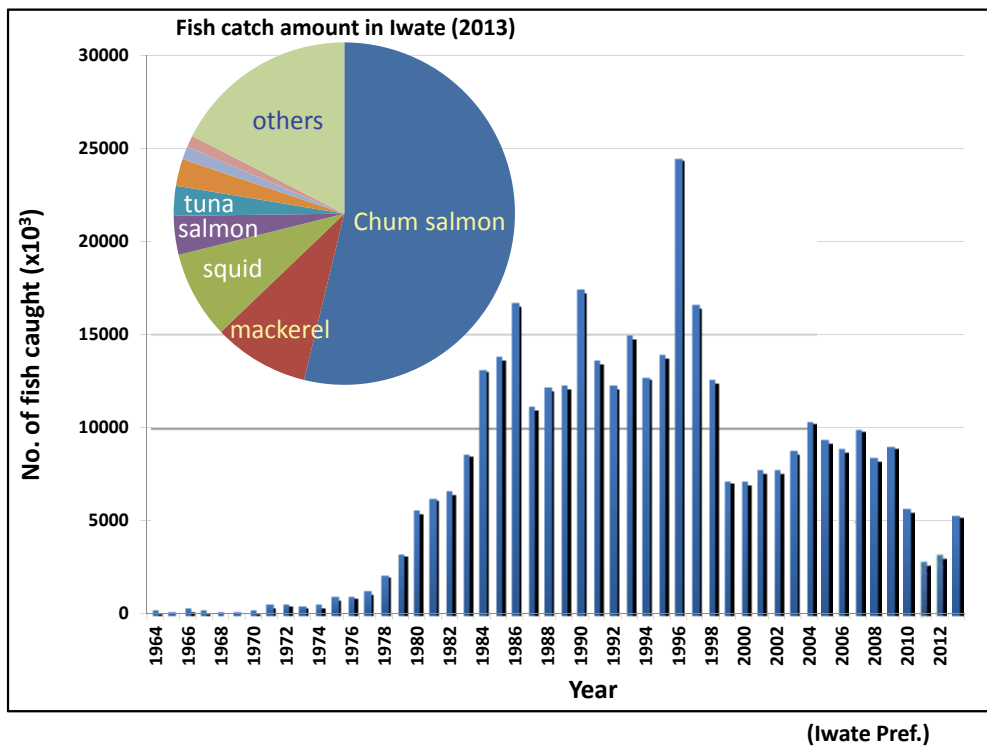


Heita, Kamaishi, Iwate Pref., established April, 2013.
Main facilities including aquaculture equipments, fish processing machineries, and biological research equipment. 1,900m², wet and dry labs on each floor

Research outline at SFRC, Iwate University



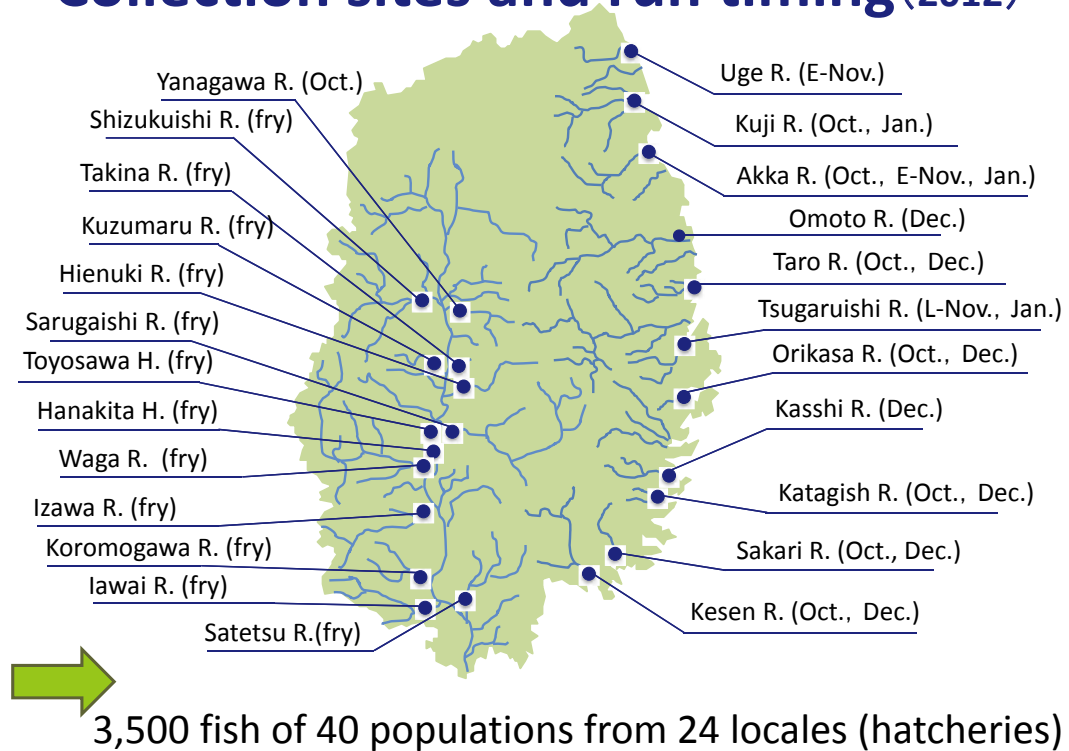
Change in the number of chum salmon caught in Iwate (river+coast)



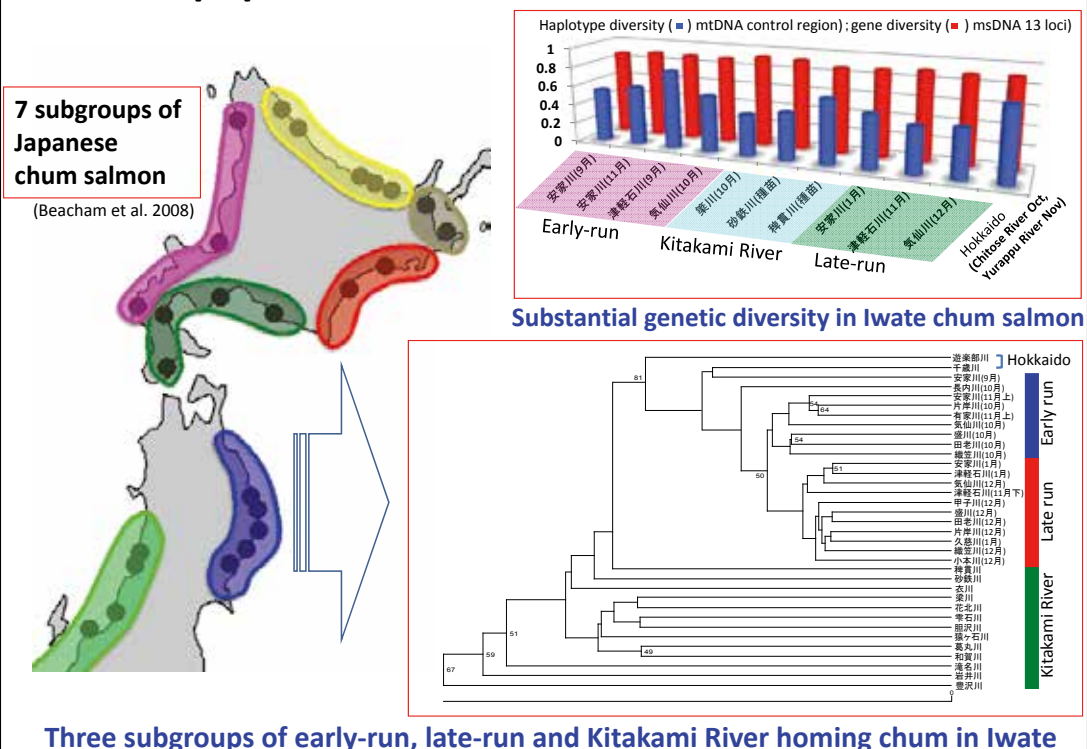
Salmon genetic (DNA) analysis at SFRC



Collection sites and run timing (2012)



Genetic population structure of chum salmon in Iwate



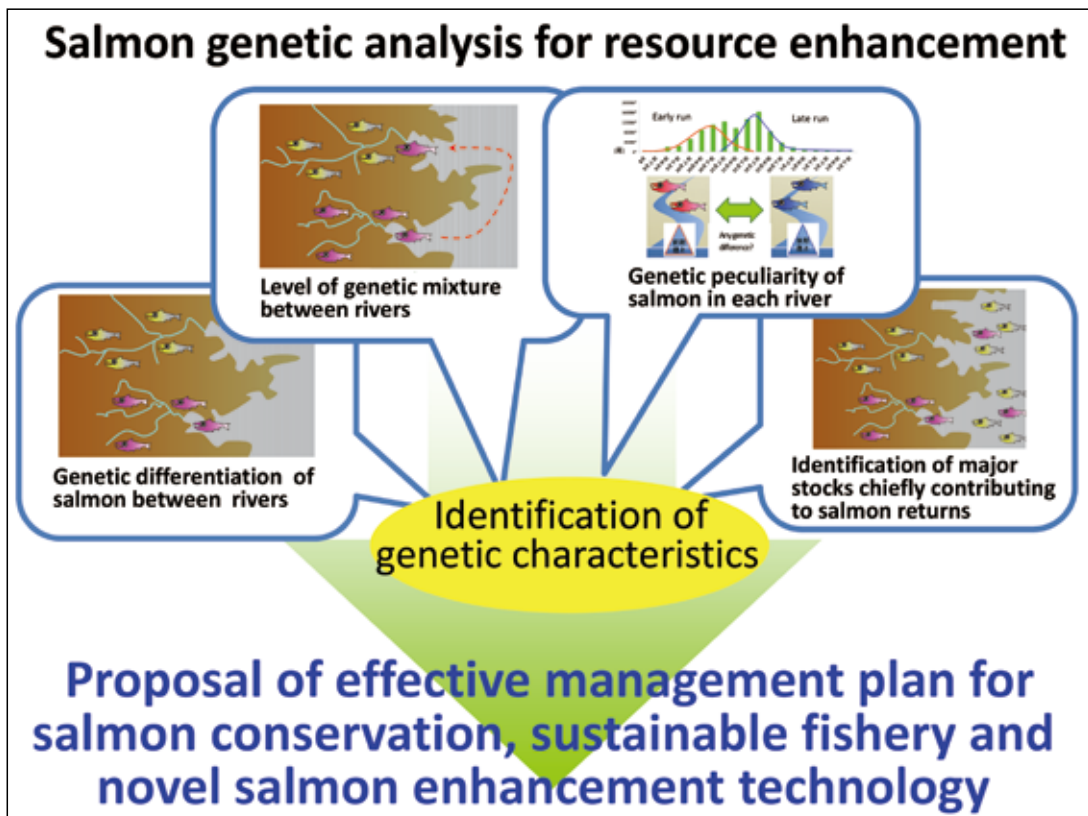
Summary of salmon genetic analysis

Genetic features of chum salmon in Iwate

1. Differentiation from chum salmon in Hokkaido and other regions, with comparable genetic diversity
2. Three subgroups of early-run, late-run and Kitakami River
3. Differentiation among early-run populations but not among late-run populations
4. Differentiation among Kitakami River tributaries

Problems in current hatchery operation of Iwate

1. Hatchery location (within 5km from river mouth)
2. 4 billion fry release every year without scientific data
3. Seed (fertilized egg) exchange between hatcheries
4. Egg collection from coastal catches of unknown origin



Matsuri as a heritage of fishery village culture in Sanriku



*Revitalize regional communities by
Innovation of fisheries industries*



Leadership Development for Disaster and Crisis Management

Shin Koshiya (Iwate University)

E-mail : koshiya@iwate-u.ac.jp

Key Words : enlightenment activity for disaster management, disaster management leader, teaching materials for disaster prevention, disaster crisis management

We have implemented the “Disaster Management Leader” training program to support local communities, the development of teaching materials for disaster prevention to support preliminary and junior high school teachers, and practical and training courses for disaster crisis management to support local governmental staffs. These activities by the Research Center for Regional Disaster Management, Iwate University, will be reported.

1. “Disaster Management Leader” training program

This program has been conducted for ordinary people in local communities on alternate Saturdays, from May to December since 2007. The subjects of lectures in the program include fundamentals of physics and geology to understand natural disasters, mechanism and characteristics of disaster due to earthquake, tsunami, flood, volcanic eruption and slope collapse, disaster-resilient community development, and disaster crisis management. Students are able to study the damage in the devastated area by the Great Tohoku Earthquake and Tsunami in 2011. They have to make presentations about subjects that are chosen for their own disaster management activities, and will be qualified as “Disaster Management Leader” through the presentations.

2. Development of teaching materials for disaster prevention

We have been developed teaching materials about disaster prevention for preliminary and junior high school students and teachers since 2006. The new digital teaching materials, stored in two DVDs, have been accomplished in 2014, which include photographs, animations, hazard maps, computer graphics, tables and figures to study natural disasters, their mechanisms, and countermeasures to them.

Although many teaching materials for disaster prevention have already made by various institutes, most of them have not been used for education. To improve this situation, we have done enlightenment activities such as lectures and training courses on disaster management for teachers with these DVDs.

3. Practical and training courses for experts in disaster and crisis management

Kinds of trainings are necessary for disaster crisis management. Methodology and know-how for doing such trainings, however, have not been sufficiently known in many

organizations such as local governments and companies. We have implemented practical and training courses for experts in disaster and crisis management to support staffs in the organizations.

These courses include lectures about natural disaster and crisis management, and practical training such as disaster image training, disaster imagination game and role-playing training in a disaster countermeasure office.



Leadership Development for Disaster and Crisis Management

Shin Koshiya
Research Center for Regional Disaster Management
Iwate University

Contents

- Program for Leadership Development in Local Communities
- Teaching Materials for Preliminary and Junior High School Students
- Program for Practical Expertise Development

Why is leadership development for disaster management important?

Workshop in a local community for tsunami disaster management
(2005-2006)



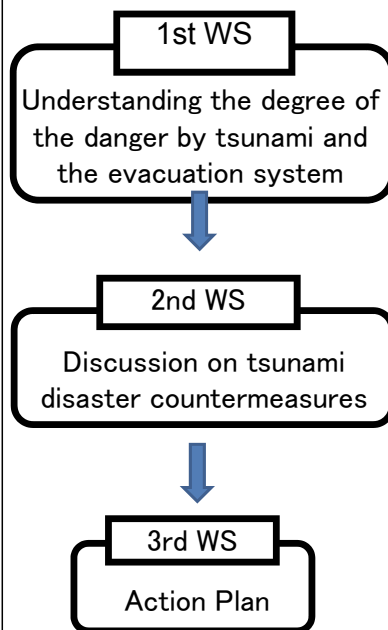
Many residential houses in a narrow area surrounded by sea and steep slopes



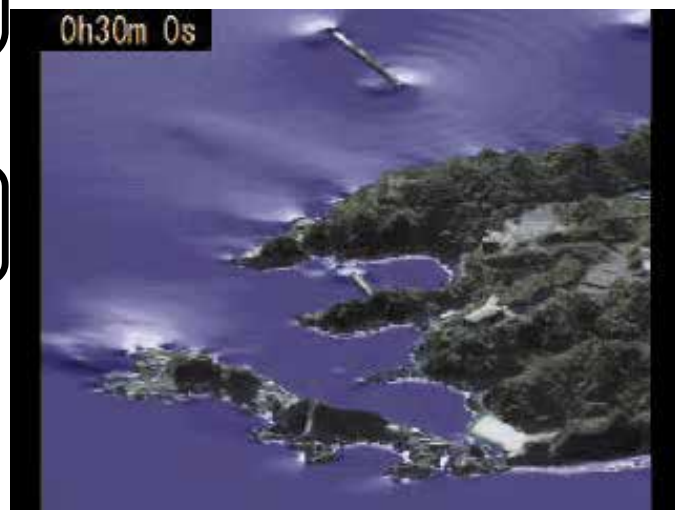
No seawall in the area

One of the most dangerous areas for tsunami

Flow of WS



Computer simulation showing inundation due to 1896 tsunami



After WS

People living in the community have maintained evacuation roads by themselves.



Tsunami Hazard Map
made by themselves

Evacuation Steps
made due to their
earnest demand



“Disaster Management
Leader” Training Program to
Support a Local Community
for the Public
(2007-)



“Disaster Management Leader” Training Program

Curriculum :

Basic Lecture :

Physics and Geology

Thematic Lecture :

Earthquake

Tsunami

Flood

Volcanic Eruption

Slope Disaster

Disaster-resilient Community Development

Disaster Crisis Management

Exercise

Excursion to disaster-affected areas

Collection information

Presentation

Course fee: Free

On alternate Saturdays, from May to December

“Disaster Management Leader” Training Program

Seawall in Taro



Excursion to disaster-affected areas
by the Great Tohoku Tsunami in 2011
2011.10.15

“Disaster Management Leader” Training Program Presentation = Certificate Examination



The Development of Teaching Materials for Disaster Prevention and Mitigation

New Version in 2014



Teaching Materials for Disaster Prevention
published by
Iwate Prefectural Government
RCRDM, Iwate University
with the cooperation of
Iwate Prefecture Board of Education

DISK 1

Part 1: Earthquake

Part 2: Tsunami

DISK 2

Part 3: Volcanic Eruption

Part 4: Landslide

Part 5: Practical Examples

地震編

Part 1: Earthquake

2009.01.01–2009.12.31

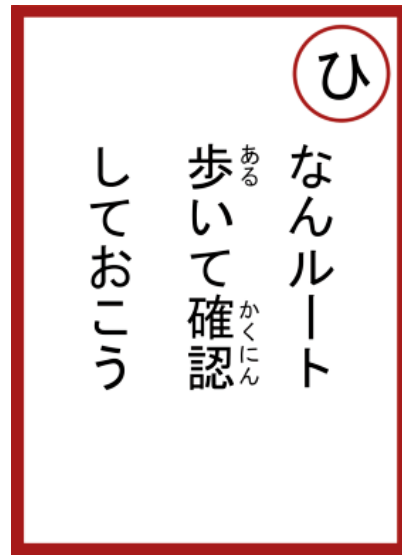
地震災害の歴史	History
地震被害	Seismic Damage
メカニズム	Mechanism
地震動	Seismic Movement
緊急地震速報	Earthquake Early Warning
地震時の対応	What to do during an earthquake
対策	Countermeasure before an Earthquake
情報収集活用	Information Collection
防災カルタ	Card Game for Disaster Prevention
役に立つWEBサイト	List of WEB sites

地震編

Part 1: Earthquake

地震災害の歴史	
地震被害	
メカニズム	
地震動	
緊急地震速報	
地震時の対応	
対策	
情報収集活用	
防災カルタ	Card Game for Disaster Prevention
役に立つWEBサイト	

岩手大学地域防災研究センター



Reader (Right card): “Make sure of your evacuation route by foot.”

Players: To find the suitable card (left card) and get it.

津波編

Part II: Tsunami

地震・津波のメカニズム

Mechanism

津波の特徴

Characteristics

津波災害の歴史

History of Tsunami Disaster

津波の画像

Videos and Photographs

津波のCG

CG

津波と火災

Tsunami and Fire

浸水予測図

Inundation Prediction Map

防災の仕組み

Disaster Management

紙芝居

Picture-story Show

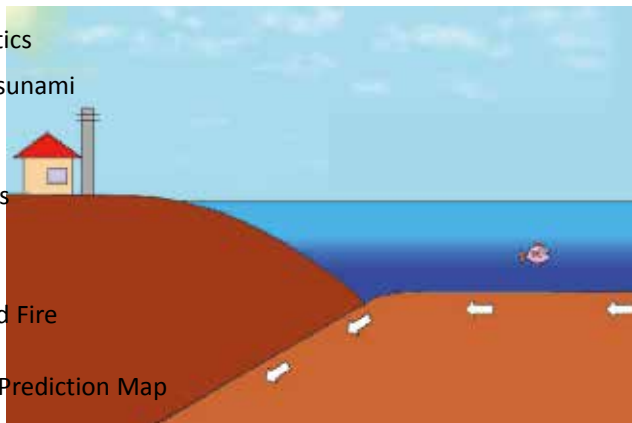
事例

Disaster and Rescue

東日本大震災

Record of the Great Tohoku Earthquake and Tsunami in 2011

津波編	Part II: Tsunami
地震・津波のメカニズム	Mechanism
津波の特徴	Characteristics
津波災害の歴史	History of Tsunami Disaster
津波の画像	Videos and Photographs
津波のCG	CG
津波と火災	Tsunami and Fire
浸水予測図	Inundation Prediction Map
防災の仕組み	Disaster Management
紙芝居	Picture-story Show
事例	Disaster and Rescue
東日本大震災	Record of the Great Tohoku Earthquake and Tsunami in 2011



Many teaching materials have been made by many institutes, but to use them practically in schools is important.

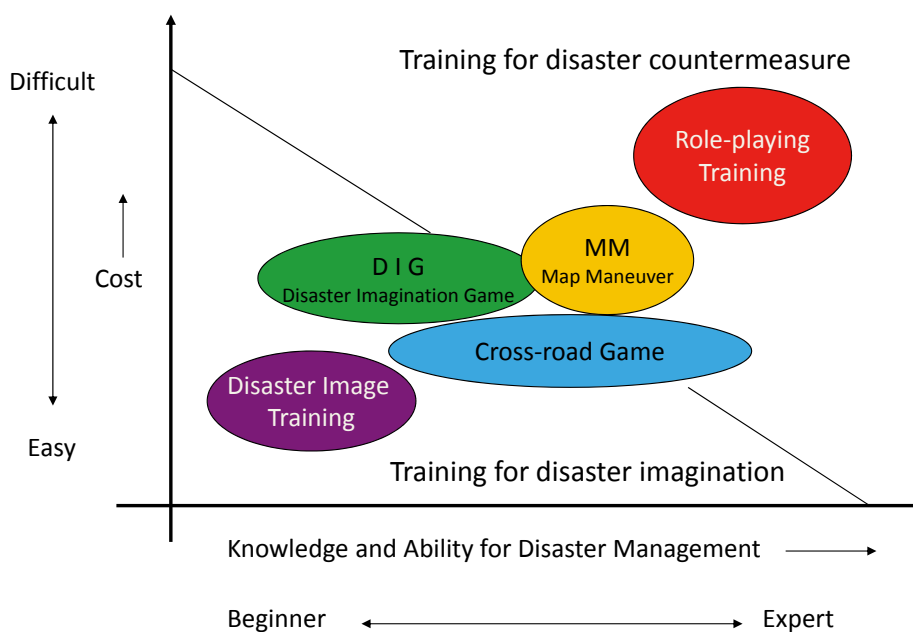
■ Lecture and exercise for preliminary and junior high school teachers



Practical Course and Training Course for Experts in Disaster Crisis Management

To support Local Government Staffs

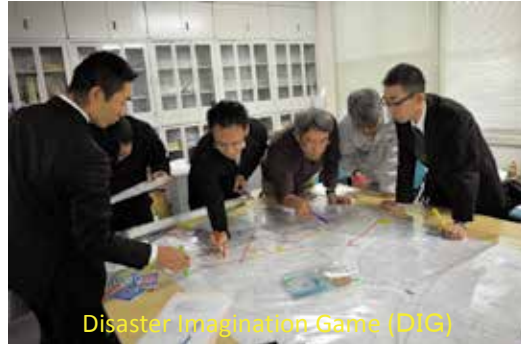
Training methods for Disaster Crisis Management



Exercises



Disaster Image Training



Disaster Imagination Game (DIG)



Cross-road Game



Map Maneuver

Thank you for your attention



Research Center for Regional Disaster Management
Iwate University

The 3rd UN World Conference on Disaster Risk Reduction

Iwate University Public Forum

Biography of Speakers

Natsumi Onaka



Natsumi Onaka is an Associate Professor at Iwate University International Education Center. Her responsibilities include implementing student exchange programs, managing short-term content-based international programs, counseling students for study abroad, and developing study abroad preparatory programs. She has also organized an English Camp Program as educational support for the junior high school students from the disaster affected areas, which is held each year.

Masaaki Minami



Professor Minami is the Director of Research Center for Regional Disaster Management at Iwate University. He holds a B.S., M.S. and Ph.D from Hokkaido University. He held a variety of reconstruction-related advisory positions in local governments at Iwate region, most recently serving as a chair for committee of Tsunami preparedness affairs in Iwate prefecture. He established a small meeting space nearby temporary houses at Taro disaster area in Mar. 11, 2012.

Junichi Hirota



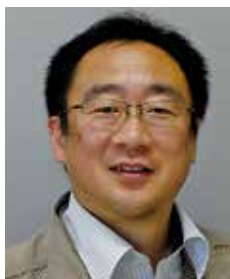
Dr. Hirota is a Professor of Faculty of Agriculture, Iwate University. He completed the Graduate School of Tokyo University (Ph.D). His major is rural planning and natural resource management. In 2005, he established an NPO, Iwate Support Center for Community Development as the chief director. After the Great East Japan Earthquake, he joined the sectional meeting committee of the Great East Japan Earthquake disaster revival design meeting; Committee specialized in a general plan of Iwate prefecture, and etc. His publications include "Rural Planning" (2003), "Conservation of Biodiversity and Environmental Policy" (2005), and "Reconstruction of agriculture, forestry, fishery, and local communities" (edited by Japanese agriculture society, 2013).

Masako Okuno



Masako Okuno Ph.D. is an Associate Professor in the Faculty of Humanities and Social Sciences at Iwate University since April 2013. She received a doctoral degree in Education at Tohoku University Graduate School after working as a pharmacist. She has been devoting professional attention as a clinical psychologist to support people in the field of education and clinical practice. Her specialty is clinical psychology, especially family psychology and communication. Her publications include "A study of clinical psychology about consensual communication by experts".

Makoto Sasaki



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Katsumi Matsuoka



Matsuoka is the Professor of Law (2003-) and the adjunct Professor of Research Center for Regional Disaster Management (2012-), Iwate University. He holds PgD from University of Wales and PhD from Soka University at Tokyo. Prior to the current positions, he was the Professor at Fuji University and a visiting fellow at University of Cambridge. Since GEJE, he has been engaged in various activities for reconstruction and served on advisory committees in afflicted areas.

Tetsuo Kondo



Mr. Tetsuo Kondo assumed his current position as Director, UNDP Representation Office in Tokyo, in January 2014. Prior to this, he was serving as Country Director, UNDP Chad (2010–2013), Deputy Resident Representative UNDP Kosovo (2007–2010). He also served as Senior Advisor, UNDP Regional Centre in Bangkok (2005–2006), UNDP New York (2001–2004). Before joining UNDP, he held various positions with the Ministry of Foreign Affairs of Japan (MoFA). Mr. Kondo holds a Masters-equivalent degree from Jones International University, USA and a B.A. in Economics from Tokyo Metropolitan University, Japan. He currently also serves as an Adjunct Professor (Global Health Policy) at the University of Tokyo (2011–).

Akihiko Hokugo



Professor Hokugo is the Director of Research Center for Urban Safety and Security of Kobe University since April 2014. He holds Ph.D in Environmental Science from Kobe University. He has been conducting research activities on Fire Safety and Disaster Management at Institute for Fire Safety and Disaster Preparedness (1985–1990), Building Research Institute of Ministry of Construction (1990–1997) and Kobe University (1997–). He has been serving on the board of Japan Association for Fire Science and Engineering and Japan Society for Disaster Recovery and Revitalization.

Makoto Okumura



Dr. Okumura is the Deputy Director of International Research Institute of Disaster Science (IRIDeS), Tohoku University. He holds B.E., M.E. and D.E. in Civil and Transportation Engineering from Kyoto University. Prior to Tohoku University, he conducted research and taught in Kyoto University (1987–1995), Hiroshima University (1995–2006). Researcher in Boston University (1992–1993) and International Corporative Coordinator at Brasília University (2001–2002) added international experience to his carrier. His specialty is quantitative analysis of socioeconomic system based on optimization theory and statistics.

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