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### The Role of Universities in Post-Disaster Community-Based Recovery Planning after Great East Japan Earthquake

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# The role of universities in post-disaster community-based recovery planning after Great East Japan Earthquake

COMMUNITY-BASED RECOVERY PLANNING
THE ROLE OF UNIVERSITY





#### **Tamiyo KONDO**

Associate Professor, Ph.D Dept. of Architecture, Kobe University







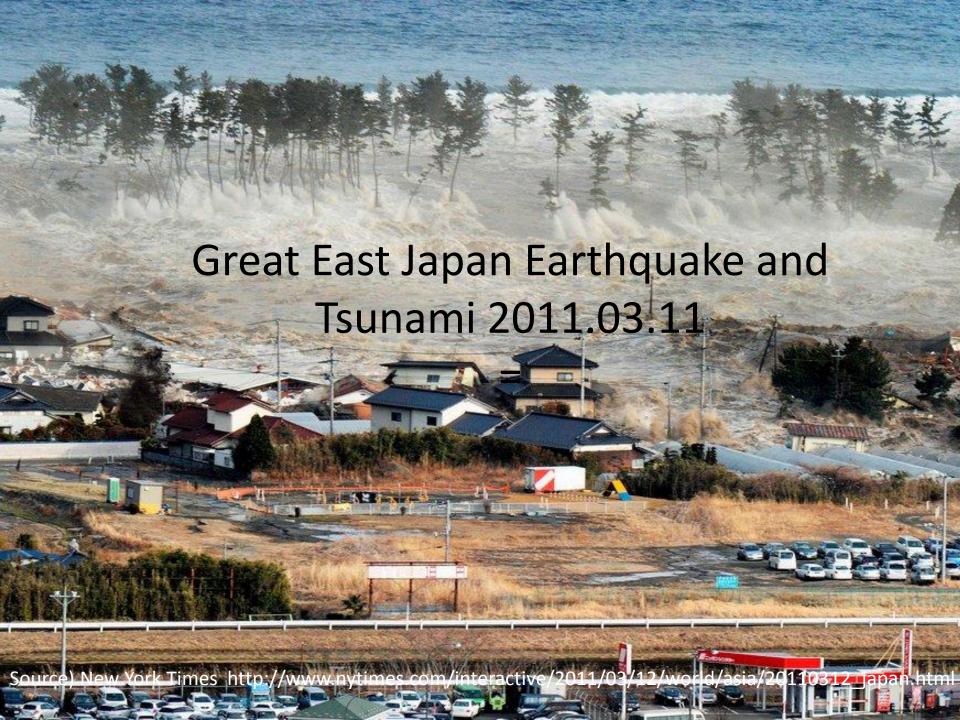


### My Presentation Today

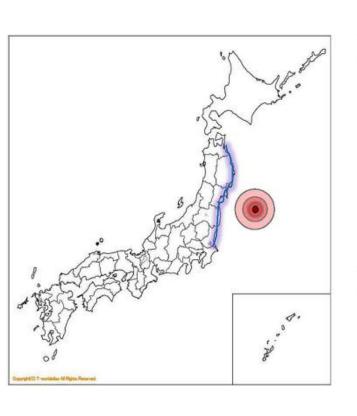
 Why universities role needed after Great East Japan Earthquake and Tsunami?

 What kind of assistance by architectural and planning universities?

 Why universities role important after devastated disaster?



## Japan and the ensuing tsunami damaged over **600km** of coastline in the region



Earthquake Magnitude: 9.0

#### Casualties:

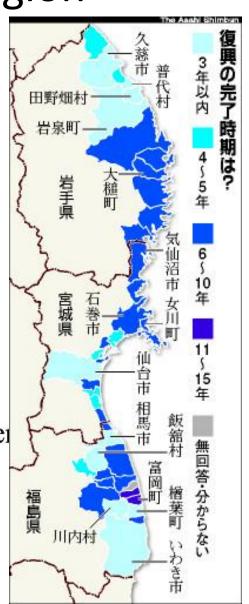
Deceased: over 15,800

Unaccounted for: over 3,200

Injured: over 6,000

#### **Evacuees:**

Over 321,000 as of December



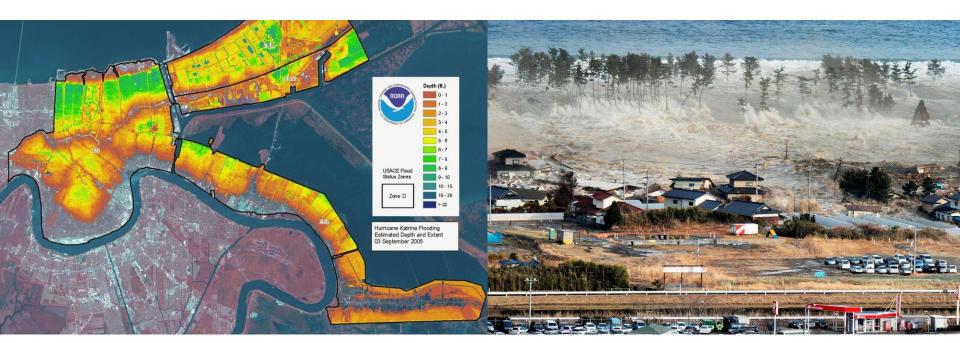
#### The most costliest disasters





## Hurricane Katrina is similar to Great East Japan Earthquake

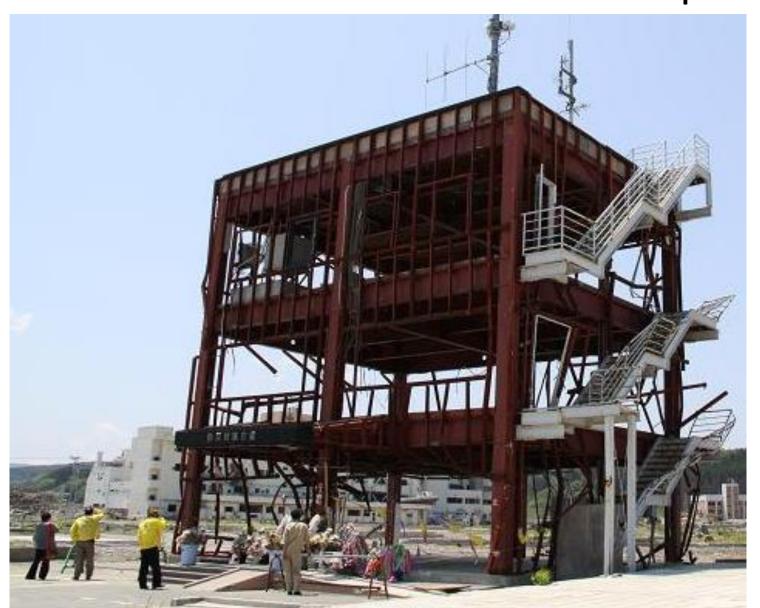
- Percentage of damage for city and community
  - New Orleans 80% submerged, Otsuchi and Minamisanriku 52%
- Local government lost its function
- Long term and long distance evacuation





Local government lost its function

## Whether to restore this government EOC remains sensitive discussion in Japan



### Iwate Prefecture, Otsuchi Town Sep 2011 (A year and Half)







## Why university important? external and passive factor

 The decreased function and capability of local government made strong demand in society

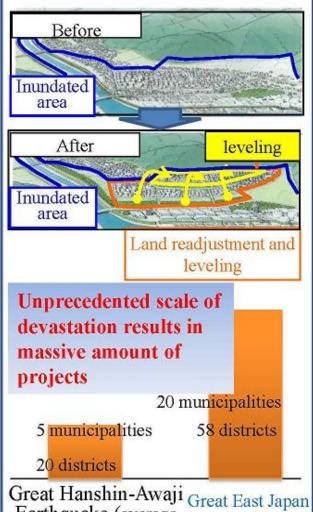
 There are many villages and settlement which have their own characteristics. They need their own plan

 Culture of government and community leaders relation, leadership and power in rural area

### Government's recovery efforts underway

### Collective household relocation Collective New town relocation Disaster area 24 municipalities 245 districts 3 municipalities 3 districts Chuetsu Earthquake Great East Japan Earthquake (project term: 2 years)

#### Land readjustment



Earthquake

Earthquake (average

project term: 8 years)

### Public housing development

[ Soma City, Fukushima Prefecture ] Construction: Feb. 2012 to Aug. 2012 Structure: Wooden flat compound for 12 houses





Great Hanshin-Awaji Earthquake (project term: 6 years)

Great East Japan Earthquake 8

## What kind of problems does local government and communities faces?

- Local government level
  - There are many assistant government officer from all over Japan to affected area, but still not enough
  - They lack knowledge for disaster-recovery projects
  - This leads to delay of all recovery projects
- Community and resident level
  - The price of land not submerged by tsunami increased
  - If people can buy lot, they have to wait more than 6 months to start their housing reconstruction lack of human resource, private reconstruction company

## What kind of assistance by architectural and planning universities?

### 1. Community-based Post Disaster Recovery Planning Assistance Project

- Neighborhood –Level Recovery Planning
- Commemoration of Lost Towns by 1:500 Scale Model

#### 2. Design and Construct Community Center

- Temporary Housing Living Condition imprvement
- Building for Fisherman
- Community Café and Community Center
- 3. Empower survivors and local students to become main player for community-based recovery

### We have to apply lesson learnt from Kobe

Temporary Housing after disaster based on Disaster Relief Law

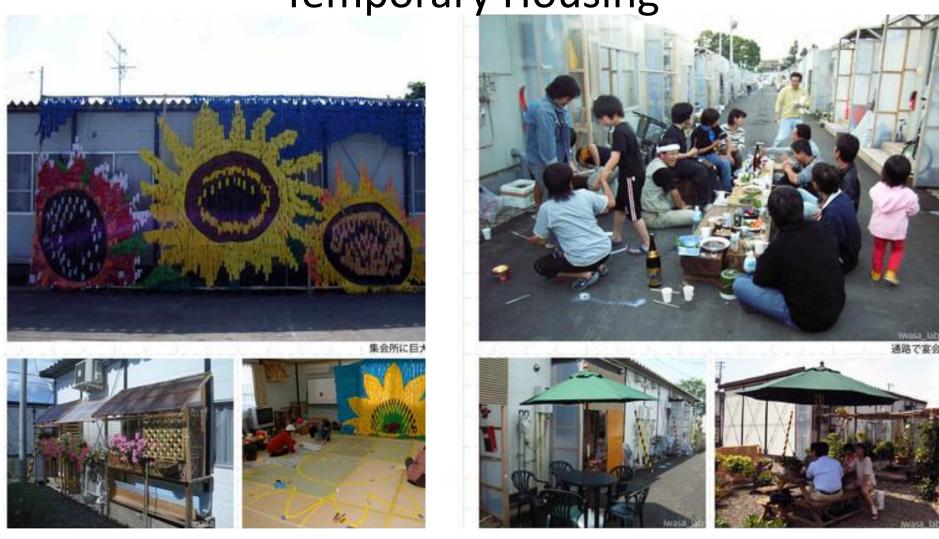
- Government provide temporary housing where people who lost their housing lives within 2 years
- The problems there it its living condition and community destruction with relocation



## Lesson learnt from Great Hanshin-Awaji Earthquake(1995)

- Lesson learnt from Kobe (1995)
  - Relocation and New Residence to "Temporary Housing" cannot stop secondary death and suicide
  - Disaster and recovery project destruct old communities and their ties
  - Community-based Planning Process is important
- Second generation
  - Recent university professors assisting Tohoku region, 30s-40s, has worked with their professor as graduate students, in assisting post-disaster recovery planning after Great Hanshin-Awaji EQ(1995)

1. Living Condition Improvement in Temporary Housing



Not only for living environment improvement but the process is important to restore their lives and community



## Started and Initiated by residents who want to make community living



#### Wooden structure by using regional wood



## Local community, private sector and university partnership



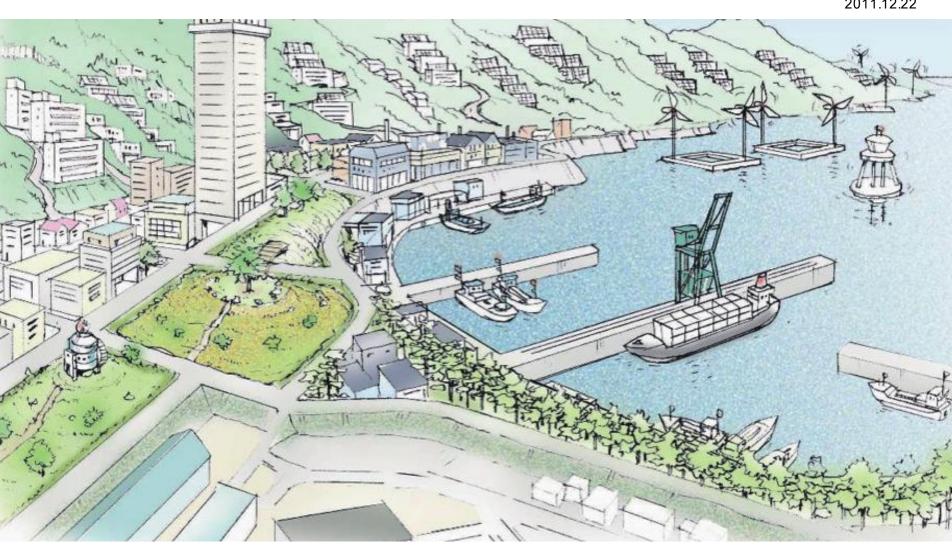
Temporary to Contemporary Building Structure



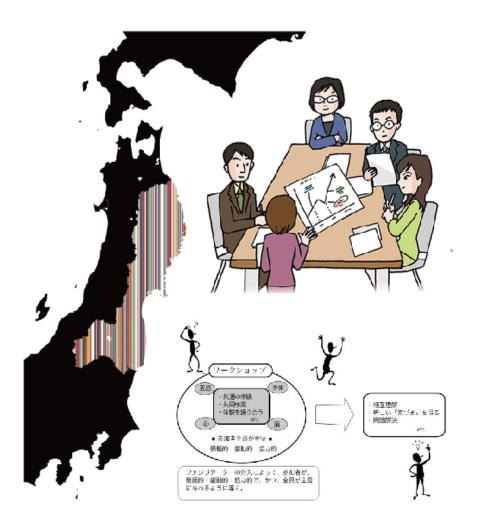


#### Master plan for Kamaishi City Port

2011.12.22



### Coordinate Community Meeting discussion



 WE have to decide where to live and construct new residential area

 Tall sea wall will destroy our urban view

 We want sea view more than sea wall

**住環境再生特論 2012.6.26** 





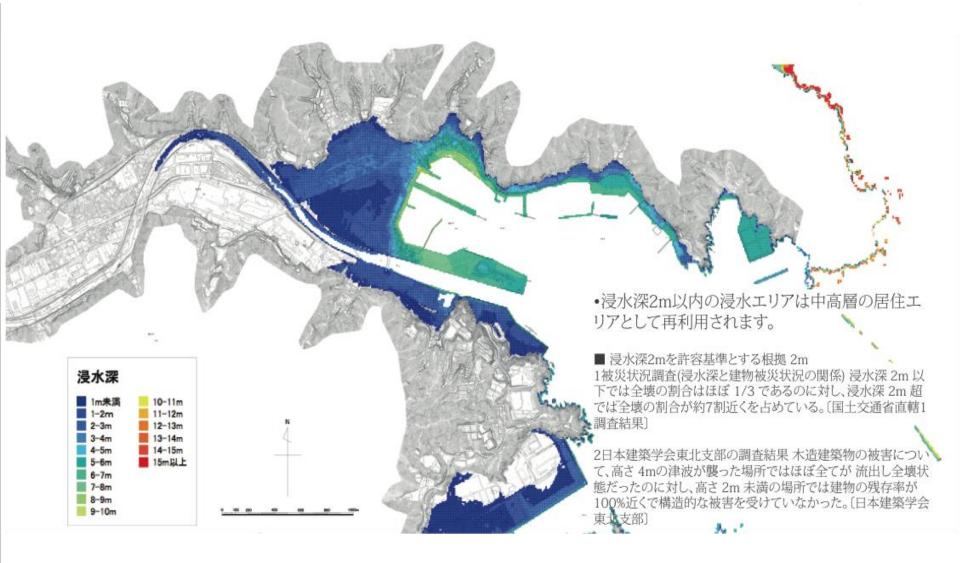




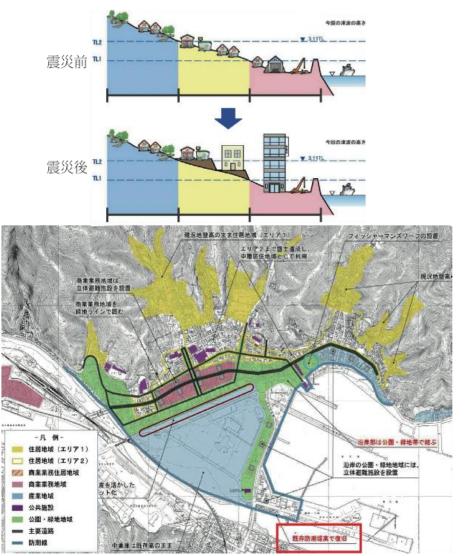


ワークショップの様子

### Planning Based on Scientific Tsunami Simulation



### Decided not to rely too much on Sea Wall =Multi Layer Disaster Reduction with land use planning



#### 住民合意のもと防潮堤を既存復旧へ

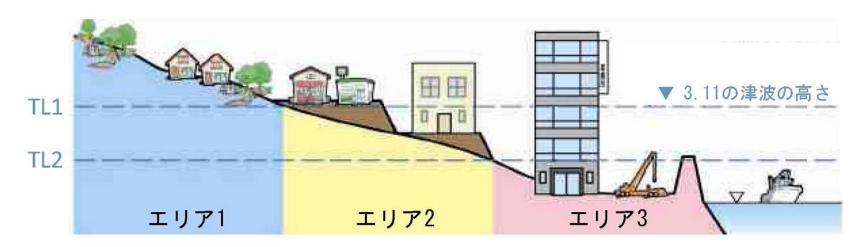
自然の大きな力に対し畏敬の念を持ちながら、東日本大 震災からの復旧・復興の過程においても、自然と共に歩 みを続け、釜石の素晴らしい自然環境を次世代に継承す ることを目指します。



エリア1:今回の津波の高さより高い場所

エリア2: 現状の防潮堤より高い場所

エリア3: 現状の防潮堤より低い場所

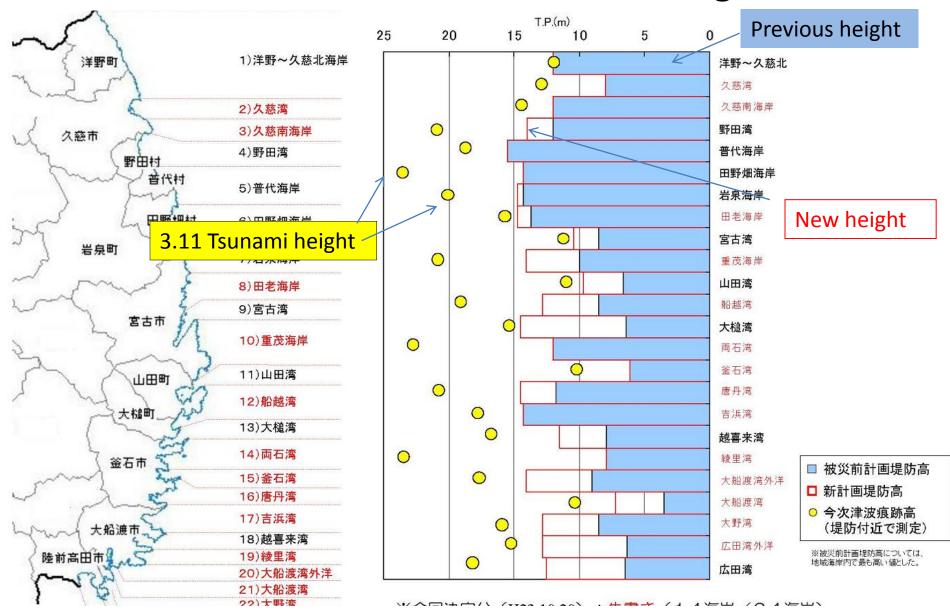


TL : 津波の高さのこと(Tsunami Levelの簡略表記)

TL1:既存の防潮堤高(既往最大の明治三陸沖地震による津波高を想定)

TL2:東北地方太平洋沖地震による津波高

#### Previous and New Sea Wall height



Kamaishi City decided not to raise the height

# 4. Fisherman Building Project community architecture



The clients were fisherman, students' parents



## Fisherman Building with fishing equipment







# Scale Model Project for Restoring Lost Homes

- Many towns and villages were lost in an instant.
- To construct new relationship between towns and the nature for next generations.
- To recognize and grasp what was lost by the tsunami.
- The project aims at restoring lost towns and villages by 1:500 scale models in order to inherit and preserve memories accumulated in local scenery, environment and life.
- Volunteer architecture students and university laboratories made the models.



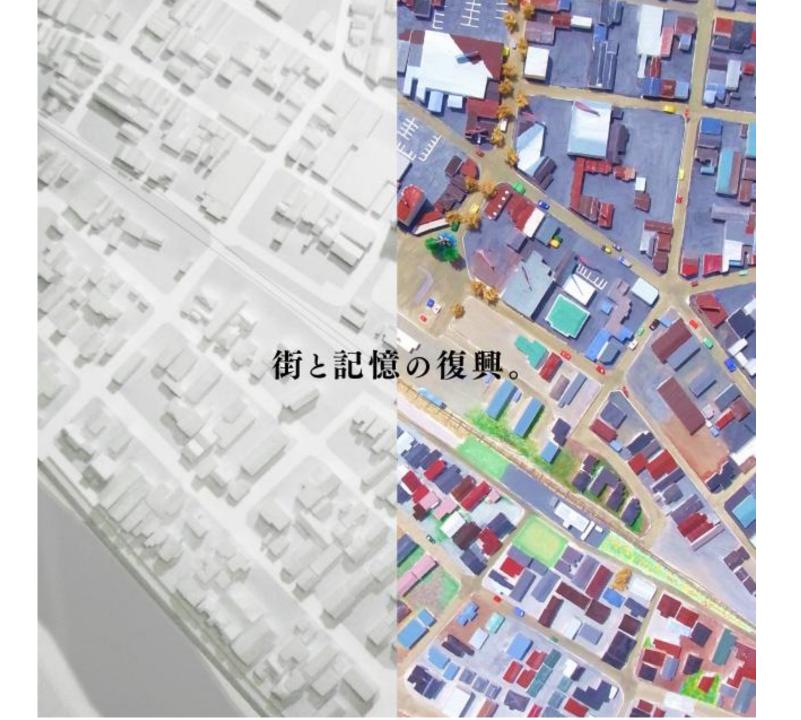
en to their memories of their life and neighborhood through usir lel







The model developed by neighbors







南気仙沼駅周辺[宮城県気仙沼市]復元模型

# Empower residents and young generation to be major player for recovery

- Disaster-recovery is a PROCESS, and its player is survivors.
- =This is our team's belief & lesson learnt from past disasters

- If we reconstruct high sea wall and relocating to mountain to avoid tsunami risk without peoples' input, does it make sense to depopulating society?
- The one of the important key for successful recovery is how community autonomously involved and lead the process of recovery. Where people control its process, community are proud of their community and vigorous



# 2011.3.10 $\Rightarrow$ 2011. 3.11





## Otsuchi Town, Iwate Prefecture

- Population 15,277
- Human Loss 1300(11%)







Paint a beautiful future for our town!

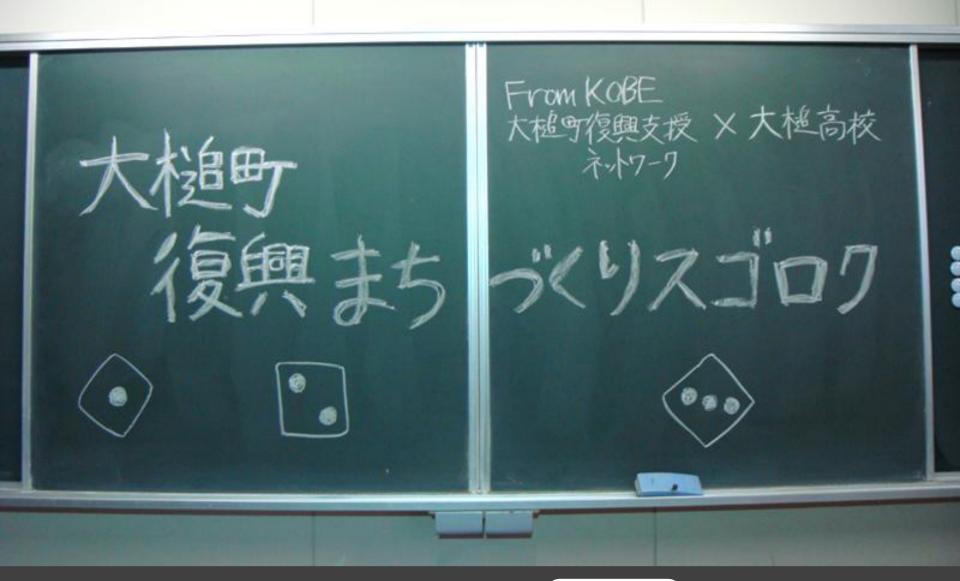


Listen to the history of our town by using pictures



10月

Sep 2012



8月

9月

Oct 2012

今後





Make Board Game to set the goal and process of post-disaster recovery









■連絡先■

From KOBE 大槌町復興支援ネッ 「神戸 - 大槌」 編集室

編集長:澤井浩臣(第7号は臨 〒657-8501神戸市灘区六甲台 神戸大学工学研究科建築学専攻

### 大槌高校生が神戸にやってきた!

1月25~27日、大槌高校生3名と先生1名が、遠路はるばる神戸に来てくださいました!10月のスゴロクで学んだ神戸の復興まちづくりの現場を訪れたり、阪神・淡路大震災の資料を見たり、今の神戸を歩いたり…。神戸で過ごしながら大槌のことを考え、これからのことについても話し合いました。3日間をふりかえり、被災地同士のつながりから見えてきたことを探ります。





左:野田北部でのまちあるき 右:慰霊と復興のモニュメント

まちあるき、展示見学、作戦会議と3日間ハードなスケジュールでしたが、 高校生は疲れた顔も見せず、阪神・淡路大震災から18年後の神戸の姿を目 に焼き付けていました。作戦会議での発言内容や、食事会で神戸の住民の話 を熱心に聞いている彼らの頼もしい姿を見て、これから大槌でどんなアク ションを見せてくれるか楽しみになりました。3日間お疲れさまでした!  Invite high school stude to Kobe

第7号

2012.1

- Visit neighborhood and share experience between neighbors and students after Great Hanshin Earthquake(1995)
- Disaster students excha between Kobe and Toho

#### 住民の力 野田北部と新長田



神戸アーカイブ写真館にて

野田北部地区と新長田地区は「復興まちづくりスゴロク」で登場した阪神・淡路大震災の被災地区です。高校生たちはまちあるきをしながら、当時まちづくりに携わっていた住民・行政関係者からまちづくりの過程を聞きました。また、その後の質問会で、まちあるきの感想や震災の記憶の残し方、高校生ができる活動について質問するなど、震災経験者同士による交流を行いました。(澤井)

#### 神戸の中心地 三宮の街を歩く

駅前から南へ、震災にまつわる場所やモニュメントを巡りながら歩いて行きました。東遊園地に設置されている「1.17 希望の灯」は、大槌町にも分灯されています。震災復興を記念してつくられた「みなとのもり公園」では、大槌町の「鎮魂の森」にも活かせることがあるのではないかと、考えながら見てまわりました。(鵜飼)



みなとのもり公園(神戸震災復興記念公園)

#### 人と防災未来センターを見学

震災のつらい記憶を呼び覚ますような映像・展示が多く、高校生は直視することができませんでした。涙を流す人も多く、上手く消化しきれない様子でした。「必要なことは分かるけど辛かった」と高校生。傷が癒えるにはまだまだ時間が必要です。(正月谷)

#### 平成 25 年度に向けての作戦会議



人と防災未来センター内会議室(左:大槌高校生 右:神戸大学生)

来年度に向けた作戦会議では、大槌高校生が町の復興のために自分達で何が出来るのか、またそこに神戸大学の学生がどのように関わることが出来るのかということを話し合いました。

話し合いでは、B級グルメの開発やカフェの案等、高校生から多くの意見が出てきました。その中で、次のアクションとして高校生が実現したいことがあります。

それは高校生と大学生、そして役場の方や町民を交えて 復興に向けての話をしてみたいということです。

未来のまちづくりの中心である高校生は、復興やまちづくりに対して真剣に考えています。それを町の皆様に発信できるようなワークショップを高校生自身が作り上げていくので、私達神戸大学生は精一杯サポートしていきます。(川上)



#### ----3. 11からもうすぐ2年。

「高校生や大学生、役場の方や町民が集まって話をする場をつくる」 このことを目標に、春に向けて準備を進めていきます!

#### ●「神戸-大槌」のバックナンバーは●

http://www.tamiyokondo-lab.jp/student.html 内、「大槌町」の欄に各号の pdf ファイルがアップされています。ぜひご覧下さい!

#### ●編集後記●

大槌高校生が神戸に来たことは、私たち大学生にとっても大切な3日間となりました。半年前からの高校生の成長ぶりに感動すると共に、大学生もまだまだがんばらなければと叱咤激励されたように感じました。高校生の多くの学びと楽しい思い出が、大槌にいるみなさんにも広がることを願っています。 2012.1.31 鵜飼 神戸一大槌 第7号 2013.1

Disaster Assistance through exchange From KOBE (1995-) to Otsuchi Town(2011-)

1. TELL and PASS on our experience and lessons learnt from Kobe

2. Previous disaster-striken area **SUPPORTS** current disaster -striken area

3. EMPOWER and FOSTER next generation who can lead recovery process

## Disaster Student Exchange since 2009

### Towards Disaster Recovery Student Network

- An international network for students supporting recovery After natural disasters
- To preserve and share information about student projects supporting areas and communities stricken by disaster









### DISASTER RECOVERY STUDENT NETWORK

an international network for students supporting recovery after natural disasters

about / from kobe, (kobe u) / disaster area student exchange project / miyagi university community architects supporting tohoku recovery

lost homes project / tohoku recovery-sophia u. documentary project / please join us!

UNIVERSITY CENTERS FOR DISASTER AND RECOVERY RESEARCH

RESOURCES FOR DISASTER INFORMATION ABOUT TOHOKU

- 311 scale
- architectural record feature
   on tohoku reconstruction
- colab radio mig
- disaster reduction and human renovation institute (dri) and kobe earthquake museum
- harvard japan disaster archive
- harvard-japan sendai
   earthquake data portal
- international recovery
   platform

#### DISASTER AREA STUDENT EXCHANGE PROJECT





### UNIVERSITY ACTIVITIES FOR RECOVERY-IN

- fukkou daigaku
- kanagawa university institute for japanese folk culture suppor for oshima
- · keio university responses
- lost houses project, yokohama pref. university, kobe university, tohoku university of art and design
- · meiji university reponse
- miyagi university community architects for tohoku recovery
- miyagi university support for machizukkuri recovery
- senshu university support for recovery in ishinomaki
- shiga pref. university bamboo workshop in motoyoshi, kesennuma
- · shiga pref. university light house project
- · shiga pref. university scallop light project
- sophia university documentation project in rikuzentakata

http://disasterrecoverystudentnetwork.wordpress.com/

# Why university important? Internal and active factor

- We don't need if the scale of disaster is devastating?
- We don't need if local government sustain their function after disaster?
  - NO. Independent institution, community architects, whose client is neighborhood association is needed.
  - Private consultants are important, but their client is local government sector

 Education for younger generation in post-disaster recovery planning for next future disaster

## Conclusion

 Universities' faculty and students play significant role today to pursue resilient and sustainable communities between partnership with local government and community organizations in the varieties of ways

 One of the important aspects of resilient society is that all stakeholders involve and collaborate to achieve resiliency for disaster.