

Wooden Temporary Housing Group

Architecture from 3.11



【English book data】

Wooden Temporary Housing Group
Architecture from 3.11
by HARYU WOOD STUDIO corp.
translated by Akinobu Yoshikawa
First published in Tokyo Japan,
Jun. 1, 2012 [PDF version 1.1]
by Pot Pub. Co., Ltd.
#303 2-33-18 Jingumae Shibuya-ku
Tokyo, 150-0001 JAPAN
<http://www.pot.co.jp>
E-Mail: books@pot.co.jp
Postal transfer: 00110-7-21168
ISBN978-4-7808-5078-9 C0052
©HARYU WOOD STUDIO corp.

【Japanese book data】

Wooden Temporary Housing Group
Architecture from 3.11
by HARYU WOOD STUDIO corp.
Photographer: FUJITSUKA Mitsumasa
Writer: ABE Naoto, ANDO Kunihiro, IGARASHI Taro, URABE Tomoyoshi, SANPEI Katsutoshi, NAMEDA Takashi,
NANBA Kazuhiro, HAGANUMA Sei, FUJITSUKA Mitsumasa, HENMI Mitsuo
Editor: UCHIDA Mie (silent-office)
Art Director: AKITA Kan
Designer: HASHIMOTO Yuji, IWAMATSU Ryota (Akita Design Kan Inc.)
First published in Tokyo Japan,
Dec.28, 2011
by Pot Pub. Co., Ltd.
#303 2-33-18 Jingumae Shibuya-ku
Tokyo, 150-0001 JAPAN
<http://www.pot.co.jp>
E-Mail: books@pot.co.jp
Postal transfer: 00110-7-21168
ISBN978-4-7808-0174-3 C0052
©HARYU WOOD STUDIO corp.

Wooden Temporary Housing Group

Architecture from 3.11

Katsuhiko Hibino laboratory of Tokyo University of the Arts added a pop signage. Various efforts are made towards recovery.



Mr. Kazuhiko Nanba at KAMAISHI Box during exhibition by a local photographer.



Mr. Naoyoshi Hikosaka explaining the murals on the temporary assembly hall. It is a mural with his sentiment for the resurrection of Fukushima placed on the log canvas.



3.11 Manyoshu (Collection of Ten-Thousand Leaves). tower of resurrection publication event, "Praying for the Recovery of Minamisoma Concert". Assembly hall, tower, and bustling people creates a scene.



A small garden at the temporary housing complex proposed by Urabe Laboratory of Nihon University with hope of becoming a place for community interaction. Broccolini and green onion planted by the residents have grown, giving colors to the temporary housing complex scenery. Their growth is an enjoyment for the temporary life here.



Napping at the warm terrace. A daily scenery from the temporary housing complex. Terrace is a place for gardening, drying clothes, and communication.



Forward

Takashi Nameda (Haryu Wood Studio)

In the late afternoon of March 11th, we began to confirm the safety of our colleagues and our clients, in the areas where major damage from the disaster was assumed.

Our office, located in the Aizu region of Fukushima Prefecture, was also affected by the huge tremor. With phones difficult to get through, we kept calling our clients within the prefecture to confirm their safety. In its process, though fragmented, we were beginning to picture the whole situation. On the same day, we were unable to get in contact to confirm the safety of Sei Haganuma and our staff. They were heading for the Futaba county office in Okuma town to discuss the road construction. The phone finally got through that evening. We were informed then the newly built house designed by our office in the town of Tomioka had been swept away by the tsunami.

On the next day with a tank full of drinking water in our cars, we headed toward Koriyama city. The road on the way had several large cracks and bumps. We had then realized all roads inland, an area that was not on the media, hidden in the shadows of the huge tsunami, was properly drivable.

With the confusion of the nuclear power plant, it was apparent, solving this disaster recovery simply based on past experience would be difficult. And whatever resolution plan we would come up with will always take tremendous time and energy. Thus, as an initial step toward disaster recovery, we called several specialists in architecture for help through the connections established before the disaster in order to create a plan for the “Wooden Temporary Housing Group”. “Wooden Temporary Housing Group” is a group formed of temporary constructed homes made from wood, established for the first time with the Great Eastern Japan Earthquake. Each wooden temporary housing community contains their own philosophy. They lead the way for the evacuating victims to their temporary homes to restart their lives with immediate effect as soon as possible. This is not simply an architectural problem. By evaluating the lifestyles, working conditions, and family forms of the evacuees, we can say that the behavioral expression of each resident in the “Wooden Temporary Housing Group” may turn to form a potential core of future recovery process. Taking in the advice of experts in each area, we have decided to publish this book as a starting point for programming a new recovery process toward an anticipated long revitalization of Fukushima in an attempt to break the standardized conception of disaster recovery.

Thinking of architecture in three.

1.Think 2.Build 3.Use

First, at the time of this disaster, I sensed a traditional position of architects as “thinkers” had a distance when responding to the disaster at front.

Even though architects brought forward with various proposals, we found ourselves frustrated not seeing them come to fruition. Reviewing architectural operation from various angles and seeking whether it can serve as an initiator for future recovery efforts, we have requested each author for their insights.

Second, a typical temporary home used to weigh its efforts especially on cost cutting and ease of construction process. But the “Wooden Temporary Housing Group” with a strong backing of the evaluation by the residents, attempts to drastically change the conception of temporary housing. On the other hand, a 30-day maximum construction time must also be followed. Therefore, for example, one can find an unusual condition where several-hundred construction workers are crammed in a single temporary housing site every day. Simply with an ideal “to build a home filled with hopes and dreams”, no great idea is conceivable without proper understanding of those site conditions. In that regard, the construction method used in the “KAMAISHI Box” is truly a symbolic example. With the guidance of Mr. Kazuhiko Namba, a new form of temporary architecture was attempted.

Third, thinking about the “use” and how users understand it. We would like to focus on how “Wooden Temporary Housing Group” would develop as a starting point for the recovery of the residents and discuss its potential.

This book is a documentary account about “Wooden Temporary Housing Group”, which is mainly based on the photographs by Mr. Mitsuhiro Fujitsuka featuring the above themes. The photographs capture each moment from Day One of the construction to their life after people moved in the home. With writings by several authors in this book, we would like to convey the “live” spaces of the “Wooden Temporary Housing Group”.

And I hope this book will serve as a first step toward disaster recovery for the victims and those involved in the reconstruction process sharing the hardships of the disaster.

Content :

Index

- 4 Forward: Takashi Nameda
- 8 Hope: daily life expressed by wooden temporary homes
- 16 Cedar of Fukushima: building with abundant local wood
- 20 Building with Logs: machine cut log method and its process
- 28 Space of Wood: first proposal submitted for log constructed temporary homes
- 38 Evolved Wooden Space: second proposal submitted for log constructed temporary homes
- 48 Building a Town: planning unit layout and communication
- 62 Wooden Temporary Housing of Miharu: assembling local strengths
- 74 Wooden Temporary Housing of Itakura: homes built with 4sun timber and plank
- 82 LOHAS Assembly Hall and Group Home of Emukai park: making most of natural energy
- 90 Assembly Hall of Minamisoma: murals and tower to engrave memory
- 104 KAMAISHI Box: proposing new construction method responding to the “temporal”
- 118 Bi-regional Living and Housing Reconstruction Project: for the future
- 122 Distribution Map of Wooden Temporary Housing Group
- 123 Project Time Table
- 124 Photography Notes: Mitsumasa Fujitsuka
- 126 Afterword: Sei Haganuma

-
- p.8 Hope: daily life expressed by wooden temporary homes
A town is born.
-
- p.9 2011.10.2 Motomiya, Fukushima
-
- p.10 2011.11.3 Motomiya, Fukushima
2011.10.2 Miharu, Fukushima
-
- p.11 2011.9.26 Motomiya, Fukushima
2011.9.26 Motomiya, Fukushima
-
- p.12 Miharu is a nice place.
2011.10.2 Miharu, Fukushima

We brought the baby to our parents' home.
2011.10.2 Minamisoma, Fukushima
-
- p.13 2011.9.26 Motomiya, Fukushima
2011.9.26 Motomiya, Fukushima
-
- p.14 Hiroshima okonomiyaki came.
2011.11.3 Motomiya, Fukushima

Granma' cooking is delicious.
2011.9.26 Motomiya, Fukushima
-
- p.15 2011.11.3 Motomiya, Fukushima
2011.10.2 Miharu, Fukushima
-
- p.16 Cedar of Fukushima: building with abundant local wood
-
- p.17 The cedar used is 4m long.
2011.10.19 Iwaki, Fukushima
-
- p.18 32cm in diameter.
2011.10.19 Iwaki, Fukushima

2011.10.19 Iwaki, Fukushima
-
- p.19 2011.10.19 Iwaki, Fukushima

Cedars speak of Fukushima's potential strength.
2011.10.19 Iwaki, Fukushima
-
- p.20 Building with Logs: machine cut log method and its process

2011.10.19 Iwaki, Fukushima
2011.7.19 Minamisoma, Fukushima
-
- p.21 2011.7.19 Minamisoma, Fukushima
2011.7.8 Date, Fukushima

p.22 Log is a super material of structure, insulation, and finish all in one.
2011.7.19 Minamisoma, Fukushima

p.23 2011.7.19 Fukushima, Fukushima

p.24 Diameter of log is 113mm×175mm.
2011.7.8 Date, Fukushima

2011.7.19 Fukushima, Fukushima

p.25 Waterproof tape seals the gap.
2011.7.19 Fukushima, Fukushima

2011.7.19 Fukushima, Fukushima

p.26 2011.7.8 Motomiya, Fukushima
2011.7.19 Minamisoma, Fukushima

p.27 **Building with log construction method using Fukushima's cedar**

How a temporary home with log construction came into existence

Initial impressions led us to believe that building temporary homes with log construction within the budget was not possible. But soon later, we began to think the primitive log house with its member imbedding structure, insulation, interior and exterior finish all together is more suited to this purpose.

Providing comfort to the evacuation life

We decided to use a log house known for its comfort and pleasant appeal for the home of the evacuee whose future return to their homeland is uncertain. One may think meeting the minimum requirements given is enough for a temporary home, but here we focused on how we could provide a comfortable environment.

Simple constructability

Due to the characteristic of the log with its structure, insulation, and finish being one, the number of parts for its construction is kept small, and an on-site construction was made easy by using the machine cut prefabricated log members used in a typical log home. Since finishing process for a log house construction is kept to a minimum, it allows for a fast supply of the temporary homes. With proper on-site supervision, those unfamiliar with this building construction process can easily participate, which leads to the creation of more jobs.

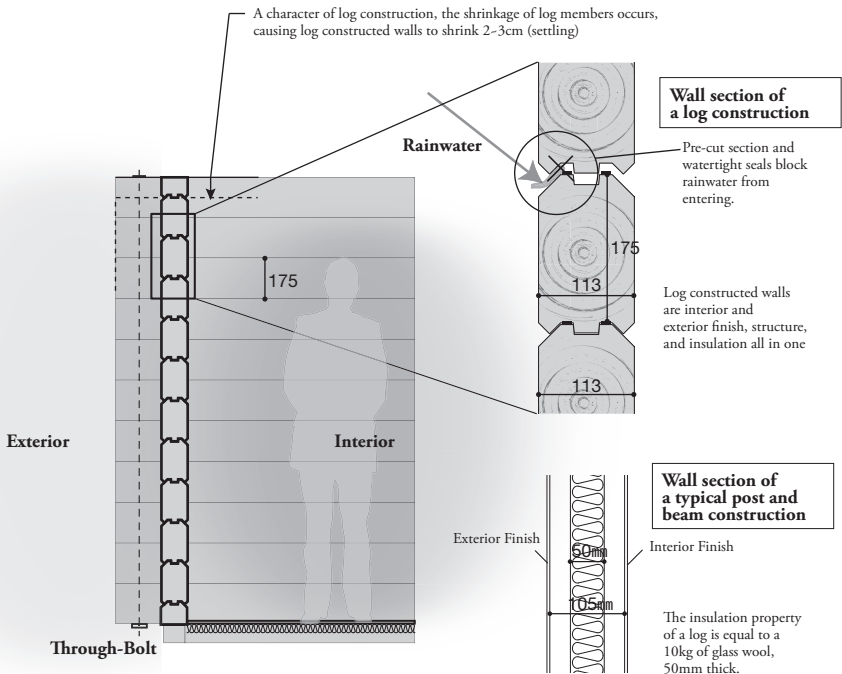
Building with Fukushima's cedar

The amount of lumber used is 2 to 3 times more compared to a typical post and beam construction method. By using the local lumber for the walls where most members are used, this contributes to the support for the local forestry industry. The amount of lumber used for roughly 500 homes came over 3000m³ just for the log members. Most of them came from Fukushima. This was possible due to the area being the leading provider of lumber in Japan. By sending the message that many of the temporary homes are using them, another intention was to eradicate the damage caused by the rumors of radiation on the local lumbers from the nuclear power plant accident.

Reuse after demolition

Almost all of the log members used on the walls can be relocated once the evacuation life has reached its end. By adding new log members, relocating the homes with a new layout is also possible.

Being a log building, it opens up to a variety of possible uses. For example, a kleingarten (allotment garden), and laube (simple sleeping facility), a villa for those residents in bi-regional living, or cottages for campgrounds.



p.28 Space of Wood: first proposal submitted for log constructed temporary homes

Floor and wall is wood. They are warm and cozy.
2011.9.26 Motomiya, Fukushima

p.29 2011.9.26 Motomiya, Fukushima

p.30 2011.9.26 Motomiya, Fukushima

A shelf is placed since the home is well built with wood.
2011.9.26 Motomiya, Fukushima

p.31 I installed the tatami mat on my own, and it feels nice as expected.
2011.9.26 Motomiya, Fukushima

2011.9.26 Motomiya, Fukushima

p.32 2011.9.26 Motomiya, Fukushima

Of course, dogs and cats evacuated together with us, too.
2011.9.26 Motomiya, Fukushima

p.33 Next-door is grandpa's home.
2011.9.26 Motomiya, Fukushima

2011.10.2 Motomiya, Fukushima

p.35 2011.11.3 Motomiya, Fukushima

p.36 **Log Constructed Emergency Temporary Housing**

(First Call for Proposal)

In its first attempt to use the log system as a temporary home in the first submitted proposal, the Tohoku chapter of Japan Log House Association proposed for a home using the plans of the Prefabricated Suppliers and Manufacturers Association by simply replacing the materials from lightweight steel to logs. It was a proposal filled with sentiment to provide a log home for the evacuees.

After the acceptance of the proposal, within a month time, a design for the finalized construction plan was carefully made under the guidance of the Japan Log Home Association. Major issues that were reviewed included the settling process, due to the natural shrinkage of the members unique to the log system, and seepage of rainwater from the space between the stacked members is also unique to log homes. Until the first day of construction scheduled at the end of May, design issues were discussed, reviewed and thought hard, every night and day. Even after the construction was initiated, various adjustments including reviewing the site were made along the way. As a result, the first proposed log styled temporary homes were completed. For the unit plan, changes were made in the initial proposed plan layout, which included many personalized rooms. By subdividing the spaces with accordion curtains, it allows for a more open relationship between rooms and also provides a south-north path for the air to flow through.

With regards to the combination of these units, instead of having continuous rows of the same room layouts, rooms for various family types in 20㎡, 30㎡, and 40㎡ sizes are mixed, hoping for more active interactions to occur between the families. As a result, seven patterns of housing units were created. Units with an entrance hall on the south side were also created. Combining those units with entrance halls on the north, the layout for the entrance halls facing the street was planned.

Several problems arose in attempting these improvements. The plans became too complex, more time-consuming than expected to resolve the settling problem, and the unique simplicity of the spaces of log homes was diminished. These problems were later resolved in the second proposal.

Data

Fukushima Prefecture Emergency Temporary Housing (First Call for Proposal)

Developer: Japan Log House Association, Tohoku Chapter

Constructed Units: 7 Districts, 500 Total Units

Location: The Following in Fukushima Prefecture / ① Emukai Park, Motomiya / ② Sugita Agricultural Park, Nihonmatsu / ③ Ohira Agricultural Park, Nihonmatsu / ④ East Ground,

Date / ⑤ Ushikawauchi Private Property 2, Minamisoma / ⑥ Ushikawauchi Private Property 3,

Minamisoma / ⑦ Iizaka Fukushima Transportation, Fukushima /
Owner: Fukushima Prefecture
Construction: Japan Log House Association, Tohoku Chapter
Design: Japan Log House Association + Haryu Wood Studio + Nihon University Department
of Engineering School of Architecture, Tomoyoshi Urabe Laboratory
Mechanical Engineering: M Setsubi-sekkei / Tohyama Setsubi-sekkei
Wood Supply • Pre-cut Work / Akai Workshop, Iwaki and other Japan Log House Association
Members

Specifications

Structure: Log Construction, Machine-cut Logs
Floor Area: 20㎡ / 30㎡ / 40㎡
Foundation: Wood Posts
Roof: Galvanized Metal Roofing
Exterior Wall: Exposed Log Shell (113mm×175mm) / Partial Paneling Material Used
Interior Wall: Exposed Log Shell (113mm×175mm) / Plaster Board Finish / Paneling
Ceiling: Plaster Board Finish
Floor: Natural Wood Flooring 30mm
Exterior Fittings: Aluminum Window (Single Pane Glass), Additional Window Installed Inside
Later

p.38 Evolved Wooden Space: second proposal submitted for log constructed temporary homes

p.39 Clean exterior look with engawa and airlock room is contained inside.
2011.11.10 Iwaki, Fukushima

p.40 Inside without partitioning walls, is roomy and spacious.

p.41 2011.11.10 Iwaki, Fukushima

p.42 A user-friendly shelf also serves as a partition.
2011.11.10 Iwaki, Fukushima
2011.11.10 Iwaki, Fukushima
2011.11.10 Iwaki, Fukushima
2011.11.10 Iwaki, Fukushima
2011.11.10 Iwaki, Fukushima

p.43 An engawa with an overhang is useful. It also raises the insulation level.
2011.11.10 Iwaki, Fukushima

p.43 2011.11.3 Aizuwakamatsu, Fukushima
2011.11.3 Aizuwakamatsu, Fukushima

p.44 2011.11.10 Iwaki, Fukushima
2011.10.12 Aizuwakamatsu, Fukushima
2011.10.2 Aizuwakamatsu, Fukushima

p.46 **Log Constructed Emergency Temporary Housing** (Second Call for Proposals)

For the second proposals, we had Mr. Kazuhiko Namba visit the construction site of the first

project proposal made by the Log House Association to receive his feedback. Specific points he noted were to contain the airlock space inside the log walls, to simplify the construction, and to secure a single spacious room.

Partition was kept to a minimum, with few units having a furniture partition able to dismantle, and spacious single room enabled by opening the accordion curtains. Engawa was also built between the airlock spaces of each unit.

Its structure, especially the design of the roof truss was based on the weight of the snow in the Aizu region. For the mechanical systems in a standard temporary home for emergency, all the piping and wiring were exposed all over. Here, they were compacted together.

Careful consideration was put into the drawings to minimize the sheets for the carpenters so they could comprehend up to its detail with single drawing sheet.

Unit combination was simplified using the 20m², 30m², and 40m², coming up with 3 patterns to be used.

With the above-mentioned efforts, the project timeframe in the second proposal was shortened by 7 to 8 days.

The beauty of a log house comes from its simplicity and strength in its structure when constructed. We were able to provide a temporary home, making good use of the structural simplicity and its spatial character.

Data

Fukushima Prefecture Emergency Temporary Housing (Second Call for Proposal)

Developer: Fukushima Log House Group

Constructed Units: 2 Districts, 98 Total Units

Location: The Following in Fukushima Prefecture / ① 40 Units, Matsunaga Danchi, Aizuwakamatsu / ② 58 Units, Watanabemachi, Iwaki

Owner: Fukushima Prefecture

Construction: Fukushima Log House Group

Design: Haryu Wood Studio + Nihon University Department of Engineering School of Architecture, Tomoyoshi Urabe Laboratory

Advising Director: Kazuhiko Namba • Kai Workshop

Mechanical Engineering: M Setsubi-sekkei / Tohyama Setsubi-sekkei

Wood Supply • Pre-cut Work / Akai Workshop, Iwaki and other Japan Log House Association Members

Specifications

Structure: Log Construction, Machine-cut Logs

Floor Area: 20m² / 30m² / 40m²

Foundation: Wood Posts

Roof: Galvanized Metal Roofing

Exterior Wall: Exposed Log Shell (113mm×175mm) / Partial Paneling Material Used

Interior Wall: Exposed Log Shell (113mm×175mm) / Plaster Board Finish / Paneling

Ceiling: Plaster Board Finish

Floor: Natural Wood Flooring 30mm

Exterior Fitting: Aluminum Window (Paired Glass)

p.48 Building a Town: planning unit layout and communication

p.49 2011.10.2 Aizuwakamatsu, Fukushima

p.50 A slight shift in the layout, an assembly hall placed in the center. A natural passage was created.

p.51 2011.10.2 Motomiya, Fukushima

p.52 2011.11.3 Aizuwakamatsu, Fukushima
2011.9.26 Motomiya, Fukushima

p.53 2011.10.2 Minamisoma, Fukushima
2011.9.26 Motomiya, Fukushima

p.54 2011.9.26 Nihonmatsu, Fukushima
2011.9.26 Motomiya, Fukushima

p.55 We built a garden. It cultivates joy, healing and bond.
2011.9.26 Motomiya, Fukushima

p.56

Building a Town

All Fukushima Prefecture (p.56-p.58)

(plan1) Emukai Park · Motomiya

Developer: Japan Log House Association, Tohoku Chapter

Name of Housing Complex: Motomiya City Emukai Park Emergency Temporary Housing Complex

Address: Emukaime, Motomiya, Fukushima

Unit Distribution: 128 units (20㎡ -4 units / 30㎡ -11 units / 40㎡ -4 units) / Group Home 9 units / LOHAS Assembly Hall 1 unit / Communal Room 1 unit

Construction: Japan Log House Association

Community Planning: Nihon University Department of Engineering, School of Architecture, Tomoyoshi Urabe Laboratory + Haryu Wood Studio

Evacuating Community: Namiemachi

Characteristics: A community layout utilizing the existing circulating pathway of the park.

Many alleyway were created by shifting of the buildings. LOHAS assembly hall and group home facility was located where all housing units can sense some involvement and relationship to them. Also utilizing the existing trees, a kleingarten like environment was created for this temporary housing community.

(plan2) Matsunaga Housing Complex · Aizuwakamatsu

Developer: Fukushima Log House Group

Name of Housing Complex: Matsunaga Emergency Temporary Housing Complex, Aizuwakamatsu

Address: Ikki-cho, Daiji, Matsunaga, Jishimonagahara, Aizuwakamatsu, Fukushima

Unit Distribution: 200 units (20㎡ -40 units / 30㎡ -120 units / 40㎡ -40 units) / Assembly Hall 2 unit

Construction: Fukusan · Bandai Toyo JV Aizu Kenchiku Kyodo

Union: Fukushima Log House Union Fukushima Oraga Machi Furusato wo Tsukuru group

Community Planning: Nihon University Department of Engineering, School of Architecture, Tomoyoshi Urabe Laboratory + Haryu Wood Studio

Evacuating Community: Okumacho

Characteristics: This is a site where wood temporary housing by 4 different companies were

built. Community layout was carried to take advantage of the differences in each type of housing where in the L shaped site, the alleyways are connected by the main large passageway.

The layout also allows easier access to the units from their parking, and measure were taken into account for easy removal of snow.

(plan3)Sugita Agricultural Park · Nihonmatsu
Developer: Japan Log House Association, Tohoku Chapter

Name of Housing Complex: Sugita Agricultural Ground Emergency Temporary Housing Complex, Nihonmatsu
 Address: Nanatsudan Nihonmatsu, Fukushima
 Unit Distribution: 64 units (20㎡ -12 units / 30㎡ -40 units / 40㎡ -12 units) / Assembly Hall 1 unit
 Construction: Fukushima Construction Association
 Community Planning: Nihon University Department of Engineering, School of Architecture, Tomoyoshi Urabe Laboratory + Haryu Wood Studio
 Evacuating Community: Namiemachi
 Characteristics: A temporary housing located in the bushes of a gradually sloping hillside. Centering the assembly hall, community layout was done in a way to feel like a agricultural town by shifting housing units. Providing large communal garden in the south for the residents to actively engage in gardening.

(plan4)Sugime · Shinchimachi
Developer: Fukushima Prefecture Construction Association

Name of Housing Complex: Shinchicho Sugime Emergency Housing
 Address: Sugime Jigangoya, Shinchicho
 Unit Distribution: (6 tsubo type-25 units / 9 tsubo type-76 units / 12 tsubo type-25 units / Assembly Hall 1 unit (99.4 ㎡) / Communal Space 1 unit (39.7 ㎡)
 Construction: Fukushima Construction Association
 Community Planning: JIA Fukushima Region Group (Naoki Tanaka / Atelier DATENA)
 Characteristics: This site was already developed with passageway for Fukushima to grow young trees. Community layout was done utilizing this passageway, but due to the required number of units to inhabit, the result may seem too crowded. By shifting the units, the impression of a linear dull layout have been avoided. Also, unit types were mixed to avoid concentration of a particular resident group (such as elder singles). From the residents, we received such comments as, the space between the units helps the go about the housework without worrying about the noise of footsteps and conversation.

(plan5) Haramachi District, Sakurai · Minamisoma
Developer: Fukushima Prefecture Construction Association

Name of Housing Complex: Haramachi District Sakurai-cho emergency temporary housing complex, Minamisoma
 Address: Sakurai-cho, Haramachi District, Minamisoma
 Unit Distribution: 46 units (20㎡ -16 units / 30㎡ -24 units / 40㎡ -6 units) / Communal Space 1 unit
 Construction: Fukushima Construction Association
 Community Planning: JIA Fukushima Region Group (Sekkei Soshiki, Arc Toyo Sakazume)
 Characteristics: This temporary housing community in Haramachi District of Sakurai was quickly established after the area as evacuation zone was lifted. A sports center serving as temporary mortuary, and trees surrounds the site, and a small community of 46 units settled here. From lighting and disaster prevention concerns, a standardized form of 2 units per building was set. By offsetting the building layout, it drives away from the monotonousness and gives more communal sensibility. For the community layout, unit types were generally mixed with 20㎡ units closer to the approach.

(plan6)Shinagawa Shirorenga company property · Iwaki
Developer: Fukushima Construction Association

Name of Housing Complex: Iwaki City Shinagawa Shirorenga emergency temporary housing complex

Address: Iwaki City, Joban Sekifunemachimukae

Unit Distribution: 78 units (20㎡ -13 units / 30㎡ -52 units / 40㎡ -13 units) / Communal Space 1 unit

Construction: Fukushima Construction Association

Community Planning: JIA Fukushima Region Group (Naoto Abe, Naoto Abe Architecture Laboratory, Inc.)

Characteristics: This temporary housing community is the third one. Before this, talks were in progress with the Prefecture, but was suddenly cancelled. We had to give up on the latter attempt, due to varying difficulties arising preventing from enabling a decent living environment for the temporary housing community. For this site, such difficulties did not exist, or even better, something unique to the Yumoto district, a piping for hot spring was already in place. There, I had proposed for a communal bath, but unfortunately this idea did not come to fruition. This site before was also a pathway for the school children to commute, so a passageway was placed for the children to potentially interact with the community residence.

p.59-61

Compacted time that began with the planning of wooden temporary housing group

Tomoyoshi Urabe

(Associate professor at Nihon University Faculty of Engineering School of Architecture)

Introduction

Due to the location of our university laboratory being in the disaster area of Koriyama city, Fukushima Prefecture, we were simultaneously faced with issues of “evacuation life”, “temporary home”, “energy issue”, “study of architectural planning”, “community development”, “sustainability”, “reconstruction” through our involvement with planning, designing, and building Wooden Temporary Housing Group. These issues may well be associated with each other, but for now, I would like to reorganize my thoughts.

Setting an example for the future

Fukushima has experienced an unprecedented devastation caused by the Great Eastern Japan Earthquake and the following nuclear power plant accident. Due to the latter incident, the radiation issues to begin with, the issues of how one should go through the expected long-term evacuation life, and the use of renewable energy as a solution to the anticipated energy problem calling for the elimination of nuclear power plant, had suddenly become a daily topic as an urgent yet serious problem.

On the other hand, I had intended to tackle the local problems. And as a member of the Nihon University faculty of engineering, I had already been beginning to get involved in architectural projects that dealt with a local community development in the depopulated mountain areas, and the “LOHAS house” project which research homes that maximizes renewable energy. Some of these are related deeply with social systems, and as there are many elements that would not easily move forward, I was thinking of slowly tackling them investing plenty of time as part of my research and social activity.

But with the aftermath of the earthquake and the above-mentioned issues that followed, the social needs for the long-lasting problems as we understood them, such as population flow and the establishment of living environment through the use of renewable energy suddenly arose.

With our preparation work cut short, the lab and project members suddenly were thrown into the main battleground and all.

For example, with regards to the issue of population flow, those in a village that was expected to slowly meet its population limit had no choice but had to evacuate immediately due to the radiation. And for those with young children, they were forced to start a bi-regional habitation (proposed by Takeshi Nameda, see p.118). In addition, if the evacuees are to flow into central cities of Iwaki and Koriyama, it is highly probable that they will stay there permanently. One can say this trend will ultimately result in a concentration of habitation areas, a Compact City. Relating to the issue of renewable energy, with special attention to the rising problem of limited resources, we had already started to tackle this energy problem before the disaster and were about to begin planning, designing, and building a non-energy dependant house (LOHAS House3) for an experiment with passive design strategies, including an active use of geothermal energy and reclaimed water. As the elimination of nuclear power plant becomes more and more realistic, this perhaps is no longer a fantasy or a long-term strategy (especially with regards to the use of geothermal energy today - its percentage of use is astonishingly low relative to the Western countries - its demand may rise in the hereafter). As such, we have decided to plan and implement passive design elements using geothermal energy for the assembly hall in Motomiya Emukai park (see p.82). The concept of "LOHAS house" for this wooden housing group was intended also for people to understand its effectiveness and potentiality.

As for the future move from a temporary housing community to a housing reconstruction project, and the establishment of a living environment (compacting or depopulation) with the improvement of infrastructure (energy effectiveness or independent model) or all included, it is possible to say the time to incorporate this concept has come a step earlier.

Learning from the past

Since we were given an opportunity to plan, design, and build a temporary housing group focusing on the community development, I have been imagining that this was once a topic in the study of architectural planning, where a research and study for the development of its prototype was conducted simultaneously on mass produced architecture.

Although we found it very meaningful to serve as a foundation and basic knowledge in the study of planning, this type of prototype for our generations was, in reality, only needed for those involved in the projects of the developing nations, and as such was the case; we had somewhat a mental unrest in the back of our mind.

For this wooden temporary housing, variations of the plan were limited. Even though it may not be unique in itself individually in terms of the unit plan, unit layout and its relationship, we thought it was possible to provide a certain quality of life to each unit by applying the basic knowledge from the study of planning not just to the efficiency and the numerical but also to the existing conditions.

The details of our proposal include the following: 1) Warmth and calmness from the wood unique to log house. 2) A possible scenario for the future recovery process, taking advantage of the log house and its material flexible for reuse and modification. 3) A flexible temporary housing community, considering the plans up front for the expected long evacuation life ? especially those in Fukushima affected by the nuclear power plant accident ? which is capable of transforming into a dual habitation, second home, or a cottage (which for those local municipalities, accepting the evacuees may resolve their depopulation problem).

On the other hand, based on the received information about the evacuees, we assumed that many of the probable future residents in these wooden temporary homes to be elderly and have long been farmers (including all involved in the primary industries independently, or on a full or part-time basis). Thus, we decided to push for a proposal, inclusive of a kleingarten (allotted garden) ? with its history with log homes ? so that we could elevate the value of the home, while imagining a village life in the temporary housing community (it is an important element related to the above-mentioned bi-regional living, second home or cottage concepts. Also, log constructed temporary homes contain the potential to be used as a laube).

Focusing on the lifestyle within, we attempted to evoke communication among the evacuees through gardening in the space strategically placed in each or several units or core areas of the community. In order to work in the garden, they will leave their homes and move their bodies, thereby maintaining their daily rhythm. By growing plants, they will re-experience the pleasure of creation. We hope these will provoke a purpose of their life and help them initiate their communication as a result. Also, the conditions of the plants serve as a signal of the degree of isolation within the community, and we do not need to look into their homes. Gardening is not simply a dichotomous choice of participation. Even if the garden is left untouched, it is all right for the evacuees to just look at it from their home or enjoy the atmosphere on a daily basis. We felt there was a potential in it of bringing about a sense of unconstrained mentality and flexible participation.

With a bit of extended expectation, the produce grown in the garden could be sold or traded and it will ultimately become a tool to help establish a relationship with the outside (local communities that accept the evacuees).

We included other attempts, such as placing parking lots near the homes, and unit layouts with a purpose of actively using its public spaces outside, instead of simply laying them in an efficient order. We therefore carefully proposed to plan and design a new community proving the best possible quality for those evacuating in Fukushima. We hope the evacuees will take it not as a temporary community but as a turning point in their life for their growth and change, lending a hand toward their recovery.

When an actual construction began, there were several cases where the construction at the planned site was cancelled or changed to a different location. Also at times, we were asked to build with another entity splitting the same site. In its process, we planned for more than ten different sites, including ones we actually built, and all without changing the core concept in the original proposal.

Many of the sites provided were public grounds and parks, sites without a particular character. Within those settings, we stayed away from a typical layout of homes aiming for efficiency, and instead, carefully planned to establish an affluent community with public spaces (surrounded by the wood from the walls of log homes) and kleingarten, making use of the existing site materials (park benches, trees, paths, and at times even parking spaces).

In building, we planned for an organic community with potential for the residents to have a diversity of relationship preventing a common establishment of uniformed relationship between the adjacent units. Keeping in mind the long-term plan of having the log homes transformed into a second home or a cottage, even perhaps as their future permanent home, we placed an assembly hall at the core of the community. At the job site where several organizations were involved in its construction, needless to say, the ease of construction was important, and specific restrictions were also needed in its planning. Focus was attended to provoke communication even in the layouts of the units by placing decks and bay windows in a northern entry, keeping away from uniformity. Even in the places where uniformity of the unit layouts were unavoidable, we planned for the unit entrance to face each other creating a streetscape, something similar to those in a village.

To the students of the laboratory who helped in this project, they may have wanted to put their basic knowledge attained into practice, but perhaps they were overwhelmed by these events. But their basic knowledge and struggles experienced here, I believe, shall have equal meaning (with regards to the architectural and urban planning) for their future involvement with temporary structures and public facilities. Already aside from the planning of the temporary housing community, its know-how is reflected on the project “Kamaishi Box” (see p.104) presented in the section of Mr. Kazuhiko Namba.

In progress study

As the title “for the recovery of” became a default for “community establishment” project, this project without its crowned title had perhaps already been in process. Related to this, before the disaster, I had once placed my thoughts about this when asked to write an article in the research

conference on “The potential of new public spaces in the age of Creative City”. When thinking of it private or public, trying to comprehend it in the scale of cities is too big to begin with. So, instead, I started to think from some smaller units such as individual daily senses and a human relationship between the individuals (I believe creation and cities are what founds this), and then slowly expanded its perimeter into facilities and public spaces.

I would not say it's a Creative City, but as a rule of thumb for the success of regional revitalization, there are three types of person that are often mentioned: 1) the “outsider” with a third person perspective who is able to see beyond the traditional means. 2) The “young” with fresh ideas and dynamic actions. 3) A “fool” who keeps going the path he believes in even though he may be ridiculed at. In addition to the above, I personally believe that another persona; a clown-ish “actor” (It could simultaneously be played by the “fool”) is needed. In other words, an actor whose rich expression and his existence play a role in connecting the individuals with the success of community revitalization. Actually this scheme already exists in the relationship during childhood, all the way to that of the adulthood and is thus a fundamental element for an enriched society. For example, these characters frequently appear in operas and Shakespeare plays to enrich their stories. At times as a vanguard, or a bond, and occasionally becoming the main character of the story, being an indispensable role in making the story interesting (being an excellent facilitator to lead a workshop or community development). Simultaneously, we were given an opportunity to participate in a public competition that called for “Potentials of Province”, held by the Urban Design Center of Koriyama (UDCKo). The entry requirements asked for varying types of proposals, small and large. We carefully surveyed a typical provincial city of Koriyama, a typical suburban city that was difficult to enrapture, and attempted to express the potentials of public space. Assigning “health” as a connector of existing schools, hospitals, and companies and exemplifying the open public space for daily unconscious viewing, the core idea of the proposal was to promote a “contemporary festival” of all sizes (keeping in mind an easily accessible and sustainable yearly event), and to open up the dormant events of each company to the public spaces with a degree of freedom, having them crossover. Other ideas added to this include an “alternative” use of neglected spaces, a potential for a “new public”, a cooperation of non-profit organizations, and the development of standardized parks. For its proposal, after conducting careful interviews and questionnaires to several entities - albeit being in its conceptual stage - we received a positive response. Although under the assumption, the possible reason for this may perhaps be due to the following reasons. The activities by each entity were kept to the reasonable number of members; the burden on each individual was also low, keeping their profile relatively understated, and its provincial location (a relatively closed area). These feed enough stimulation and sense of ease and comfort to those participating in the events, with which they become more open to activities. By the way, the results of the competition were honorary mentioned. If we had won the competition, we would have needed a strong player to oversee the project. It was nevertheless a fruitful experience to have a feel for the reality of building a new creative public space for a suburban provincial city of Koriyama, which lacks a strong character.

Also, through creative developmental processes, keywords such as “an everyday life which raises a role player”, “activity as a group (for them to open up their activities with peace of mind) and open to its subject (boundaries or sphere?)”, “sustainable festival as a contemporary theme” have come up in expanding the potentials of public space. The key to a successful community development and revitalization is in these keywords, and with regards to the recovery efforts (albeit needing the help from the outside), such actions and consciousness in the local issues are required for an ever-faster recovery.

Closing

With future ideals and accumulation of the past experience, both installed in the awareness of current progress, we will move toward revitalization. Imagining the future realistically, learning many of the know-how from the past, and moving inches forward by compacting the repetitive process by digesting the present, all this is perhaps within the territory of the practical aspect

in the study of architectural planning. As a result of this, it may show us a new way. I hope the wooden temporary housing group is its first step.

- p.62 Wooden Temporary Housing of Miharu: assembling local strengths
- p.63 Five construction companies from the town of Miharu built it with the cedars from Fukushima.
2011.10.2 Miharu, Fukushima
- p.64 2011.10.2 Miharu, Fukushima
- Together with a fire engine.
2011.10.2 Miharu, Fukushima
- p.65 Leaving space between units for sound isolation and ventilation.
2011.10.2 Miharu, Fukushima
- 2011.10.2 Miharu, Fukushima
- p.66 2011.10.2 Miharu, Fukushima
- A mobile convenient store is here.
2011.10.2 Miharu, Fukushima
- p.67 2011.10.2 Miharu, Fukushima
- There is a gate ball field in the neighborhood.
2011.10.2 Miharu, Fukushima
- p.69 2011.10.2 Miharu, Fukushima
- p.70 2011.10.2 Miharu, Fukushima
2011.10.2 Miharu, Fukushima

p.71 **Wooden Temporary Housing at Miharu**

Housing Complex Name: Miharu Kyunakazatokoseki Emergency Temporary Housing Complex

Address: Shibaharaji Shibaraharachinai Miharu, Tamura County, Fukushima

Unit Distribution: 19 units (20-4 units / 30-11 units / 40-4 units) / Communal Room 1 unit

Construction: Rebuilding Regenerative House for Miharu Group (JV by 5 local contractors)

Community Layout: JIA Fukushima Region Group (Miharu Architect House)

Evacuating Community: Katsurao Village

Characteristics: The housing complex sites on the Ohtakine riverside park, created during the development of the Miharu dam. The site is surrounded by fantastic environment, especially the mountains to the south rich with greenery including the natural monument, "Miharu Weeping Cherry Tree". Plenty of community space is provided using the existing trees and benches in the park.

Data

Fukushima Prefecture Emergency Temporary Housing (First Call for Proposals)

Developer: Japan Log House Association, Tohoku Chapter

Location: The Following in Fukushima Prefecture / ① 19 Units, Shibaharaji Shibaharachinai, Miharu / ② 50 Units, Shibahara Ogikubochinai, Miharu / ③ 16 Units, Bajoden Saito, Miharu / ④ 15 Units Teranomae Kasokuji, Miharu

Owner: Fukushima Prefecture

Construction: Rebuilding Regenerative House for Miharu Group (JV by 5 local contractors)

Design: JIA Fukushima Region Group (Miharu Architect House)

Wood Supply • Pre-cut Work: Friends of Rebuilding Regenerative House for Miharu Group

Specifications

Structure: Post and beam construction

Floor Area: 1K 20㎡ (20 units) / 2DK 30㎡ (60 units) / 2LDK 40㎡ (20 units)

Foundation: Concrete slab foundation

Roof: Galvanized Corrugated Metal Roofing $t=0.6\text{mm}$ / Top corrugation 88mm / Anti-condensation material (slope 3/100)

Exterior Wall: Cedar boarding ($t=15\text{mm}$) / 3 types of Styrofoam, 30mm (exterior insulation)

Interior Wall: Thick cedar boarding 30mm / Plaster finish board

Ceiling: Thick cedar boarding 12mm

Floor: Thick cedar flooring 30mm

Exterior Fittings: Aluminum Window (Paired Glass)

p.72

Seize the Opportunity to Change Temporary Housing from Fukushima

Mitsuo Henmi

(Chairman of JIA Fukushima Chapter, Design Office of Mitsuo Henmi)

The JIA Fukushima Chapter has overseen and supported the efforts of the emergency wooden temporary housing projects in Fukushima Prefecture. It is an initiative that was not requested upon but was forced upon us. Its driving force was the principles, “better living environment for the evacuees” and “changing the conception of temporary housing from Fukushima”. It required a non-stop process of responding to the sudden site changes. I at times received emails of agony from the members involved, who had left their primary work aside. These sincere actions slowly resulted in trust we won from the municipal governments and construction companies, with which to deepen our relationship. From such relationship, small increments of improvements were made in the layout planning and others as it developed. It was the several months of architects taking their expertise, diving straight into the face of the devastation without ever looking back. The wooden temporary housing communities may not serve a big role for the victims to reclaim their lives, but Fukushima has initiated a huge change in the conception of a temporary housing community.

Eight months have passed after the great earthquake, and it seems that the supply of temporary homes is overall in place. In the cities, people are in a December bustle, but Fukushima seems evermore in disorder as time goes by. “How long will this situation where we want but are unable to return home continue?” “What is the time limit of the temporary home?” These difficult questions clearly indicate that a difficult and long revitalization journey lies ahead. While organizing these revitalization support activities, we would like to seek the potential in the wooden temporary housing that it will take on a mediating role of the driving force for revitalization.

Necessity and Meaning of Architects Involvement in Community Planning

Naoto Abe

(former president of JIA Fukushima chapter, Naoto Abe Laboratory of Architecture Inc.)

It is a big mission of the temporary housing “to provide many units as quickly as possible for the evacuees”. But if we pack many people in any one location, the housing would likely be similar to a military barrack with units all laid out in compacted rows of equal distance. While adjusting to the total unit number, we have put the following considerations.

a. Keeping the number of units in each building relatively low, diversifying the distance between the buildings, we tried to create free space for flowers and vegetables to grow at the ends, where the residents can carry on a spontaneous conversation.

b. Planning the entrance halls to face each other across the street, we could create public-private town-like streets with gardens. Even if they did not entirely face each other, by placing overhand windows and terraces, we attempted to provide an opportunity for the evacuees to hold a relational gathering, thereby preventing the people from dying alone. It was a big issue with the past disasters. It is without saying that we took such elements into account when planning a home layout since they are closely related to where to locate the living room and the dining room.

c. A living environment varies greatly with the specificity of land provided by the local government. For example, a question arises as to which to prioritize, the north-south axis relationship of the units or the scenery. In some cases, public parks were allocated as housing sites. We used the curving pathways of the park and connected them directly with the residential units, and moreover, we did not cut down the trees that are already there, which resulted in the successful creation of a pleasing living environment.

Fukushima local government was also in full speed responding to various requests. Later, they called for a proposal of support center for the elderly, which included a day care service, at the temporary housing site. Several group homes were built, convenient stores were opened, and they even talked about a bathhouse for the site where hot spring would be pulled from Iwaki Yumoto (although it did not come to fruition). Even if it is temporary, the evacuees are thinking of living at least for a few years. Therefore, they will not be able to live properly unless we plan for them a community like no other. This is where the expertise of an architect is needed.

p.73

Building Fukushima Emergency Temporary Housing at Miharu

Katsutoshi Sanpei

(Member of JIA Fukushima Chapter, Miharu Architect House)

In the aftermath of The Great East Japan Earthquake and Fukushima Daiichi Nuclear Power Plant disaster, many emergency temporary housing complexes were built for the evacuees. Among several of which JIA Fukushima chapter was involved with, one was built in Harumi with 100 units (in four separate complex). This temporary housing was built almost entirely with the technical support of JIA Fukushima. The details of the actual activities and accomplishments are as follows:

First accomplishment was the collaboration of five local media with small size contractors. Historically, many of the emergency temporary housing projects were taken on by the major contractors and provided by them. This time, with our efforts to call for local contractors, we were able to establish an “Association to Build Disaster Recovery Housing for Miharu”, and submitted contractual proposals for the projects. This led to building 100 wooden temporary housing units. The reasons behind this accomplishment goes back to 1983, when the “Miharu Housing Research Institute” was established together with the HOPE project, having done several activities together. Also, another reason was the professional pride to build all to perfection with honest and thoughtful maintenance service.

Second accomplishment was that we could build housing units with lumbers from local cedars

(100% from Fukushima). When such a large disaster occurs, affected regions and residence tend to become more receptive. However, in the long term, it is also important to reactivate their energy and sense of joy by creating local job opportunities and a fluid transaction of produce. Third accomplishment. Although they may be temporary, with solid foundation, use of natural wood, outer wall insulation and low-e glass windows, the living condition of the disaster relief housing is designed to almost equal that of a typical sustainable home. The thought behind this is a sincere wish for the quick healing of the disaster victims and for them to take a step forward to their future.

Fourth accomplishment. The assignment of residence for each housing community was made based on the community units through close coordination among the local governments from both sides, representing the victims and their accepting regions. With the compact unit layout, and the entrance halls facing each other, it creates an open community plan for easy communication between the residents, such as backstairs gossip and all.

p.74 Wooden Temporary Housing of Itakura: homes built with 4sun timber and plank
2011.10.2 Aizuwakamatsu, Fukushima

p.75 2011.10.2 Aizuwakamatsu, Fukushima

p.76 2011.10.2 Aizuwakamatsu, Fukushima

p.77 Half atrium and half loft.
Airy open space to place things.
2011.10.2 Aizuwakamatsu, Fukushima

p.78 2011.10.2 Aizuwakamatsu, Fukushima
2011.10.2 Aizuwakamatsu, Fukushima

I built this deck with my neighbor.
2011.10.2 Aizuwakamatsu, Fukushima

p.79 Temporary Housing at Itakura

Data

Fukushima Prefecture Emergency Temporary Housing (First Call for Proposals)

Developer: Fukushima Construction Association (Wood construction C)

Constructed Units: 2 Districts, 198 Total Units

Location: The Following in Fukushima Prefecture / ① 162 Units, Hirashita Yamaguchi, Iwaki /
② 36 Units, Johoku, Iwaki

Owner: Fukushima Prefecture

Construction: Sakuma construction

Construction Support: Okuaizu IORI Club

Design: Kunihiro Ando + Satoyama Archi Labo Inc.

Wood Supply • Pre-cut Work / Nakagawa Cedar Sales Association (Tokushima Prefecture)

Specifications

Structure: Itakura Method Wood Construction

Floor Area: 1DK (26.4m² + Loft 11.59m²) 36 units / 2DK (38.74m² + Loft 16.56m²) 114 units /
2LDK (39.74m² + Loft 19.04m²) 48 units

Foundation: Wood Posts

Roof • Ceiling: Galvanized Metal Roofing / Rough finished cedar board t=30mm / Thatch

t=60mm / Finished cedar board t=30mm

Exterior Wall: Exposed Log Shell (113mm×175mm) / Partial Paneling Material Used

Interior • Exterior Wall: Slotted board panels, 2800×810×30mm Cedar / 35 panels per unit / Wood handrail 150×24mm / Finish, Cedar board t=12mm / Double layered cedar finished hardwood board

Floor: Natural Cedar Flooring t=30mm / Husks t=70mm

Exterior Fittings: Aluminum Window (Paired Glass)

p.80-81

Plan for Revitalization Through the Use of Forest Resource and Regional Strength. A Case for Temporary Refuge Housing at Itakura.

Kunihiro Ando (Architect, Professor of University of Tsukuba Institute of Art and Design)

picture caption: Itakura method; 1 sun wood planks are dropped between 4 sun columns. In this case, wood planks were lightly pre-attached to make a panel beforehand to shorten assembly time. Every wood used is cedar.

Building wooden temporary housing as refuge house
“Let’s revitalize Tohoku with wood”. That is what instinctively came to my mind immediately after The Great East Japan Earthquake. Drawing the plans with the Itakura method that I had been involved in its development and promotion until then, I called for a joint project working with those lumber yards and contractors already involved with the Itakura method as well as the local government to build a disaster refuge housing using cedars.

The emergency disaster relief temporary homes have been historically maintained with an agreement between the municipal government and Prefabrication and Construction Suppliers and Manufacturers Association so as to quickly provide the homes in case of a disaster. In that regard, this time was no different. Under such condition, it was difficult to have the temporary homes built of wood accepted. But this particular disaster, which devastated extremely large areas of the coastal agricultural and fishing towns of Tohoku region, was beyond the capacities of the Association, and it was unable to provide enough prefab temporary housing. The reasons being those businesses related to building prefab homes only had experience in building the homes in the urban areas and did not have enough experience to construct in the devastated agricultural and fishing areas. Also, for the victims who are used to living in the wood constructed homes, to live in a prefabricated box is too big of a change in their living condition. From the experience of past disasters, it is easy to predict the problems of stress and the solitude associated with the expected long-term yet temporary evacuation life. For the long evacuating life that waits ahead this time, I wanted to provide the victims of Tohoku with refuge homes built out of wood. Also with the Tohoku regions’ long history of carpentry, their strength would encourage the region for their revitalization. This feeling became stronger each day and ultimately constructed my conviction.

The traditional Itakura method of sliding the thick boards to the connecting members was developed with the intent of having a building stock for a wooden house using Japanese cedars available today. The Itakura method is aimed at making use of the forest resource cycle by building houses out of cedars of roughly fifty years of age, which are capable of withstanding one hundred years. These temporary homes built with the Itakura method will become the regions’ stock once they end their roles as a refuge home and subsequently transform into permanent disaster recovery homes. While keeping the foundation and mechanicals simple and temporary, the house after use will be dismantled and then

relocated for reuse as part of a disaster recovery house. From the traditional point of view in regard to structure, the Itakura method provides us with an easy dismantling, building and reusing the structure. Irrespective of small space, the victims can live their evacuation life in the house with standard quality. This will resolve the problem of mass waste, which is likely to be produced after the houses finish their role as a temporary home. This temporary home and its wooden stock shall serve as the foundation for the recovery of the region.

Temporary Homes Built from Cedars by Carpenters

Major lumber used in the Itakura method is a 4sun (1“sun”=3.03cm) lumber and 1sun thick board. A 4sun lumber is a standard dimension and can easily be attained. 400 of seasoned cedar and processed boards (walls 30×235×4000mm, floors and sheathing boards 30×180×4000mm) is used for the temporary house of 10tsubo (1“tsubo”=3.3㎡) For the 200 temporary refuge home units built with Itakura method uses 80,000 sheets of these boards. Only Cooperative Cedar Sales Association of Nakagawa in Tokushima Prefecture, also the core provider of wood planks for Itakura method, has enough stock of seasoned wood boards. By procuring the structural members and pre-cut members there together, aimed for a cost reduction and shortened construction time. Since Fukushima did not have the history or the know-how of the Itakura method, it was difficult to gather the required members for the core of the house, but the unseasoned cedar members from Fukushima was used for the base and exterior finish. With these efforts, using cedars for the structure and both interior and exterior finishes, we were able to accomplish a house made purely from cedar, and simultaneously achieve cost cuts. The amount of wood used per tsubo was 2 cubic meters, which is nearly 4 times that of an ordinary wooden home. But, it did not use any new building materials. For insulation, thatch was used for roof and wood chaff for floors. These decisions were based on the lack of available glass wool insulation and its rising cost, but also to prevent leaving toxic waste when dismantled. This decision was the result of the required volume of the refuge homes and the limitations in cost and time. This also tells us that in Japan, cedars are the most abundant, cheap and yet safe material.

This wooden refuge housing project began with Fukushima Prefecture calling for proposals. The temporary homes by the Itakura method were built by Sakuma Building Industrial Company, which is based in Fukushima. With their experience with the Itakura method, they became the core of the group, and many carpenters gathered in the Aizu region where the regional office of the company is located. Their number was 80, and at the busiest time with reinforcements from other prefectures, added to a total of 100. Aside from roofing and mechanical work, the rest of the work was done in all wood, meaning the carpenters did everything from installing windows and placing insulations. By distributing the work into groups of few, the work progressed smoothly and in two months, 200 refuge homes were completed. This achievement was a result of pre-cut fabrication and immense effort from the carpenters. The carpenters' blood, sweat and tears went into this Itakura method temporary housing, everyday from 7am to 7pm. The sound from the construction site was resounding as if to invigorate the victims hope.

Roof and engawa created village scenery

Most of the disaster sites are agricultural and fishing villages, and their lifestyle was maintained with neighborhood bond and relationship. It is also a region faced with aging and depopulation problems. It is of utmost importance to sustain a temporary refuge community similar to those homes and community they used to live in, the victims feel true comfort and hope. For Fukushima, extra care must be taken as a longer evacuation period is expected due to the nuclear power plant accident. The limit of the prefab homes to achieve this is obvious. Even for a temporary refuge home, a proper roof with deep overhang with engawa to the south, and an airlock space and porch was provided to the north. Eaves serves to prevent rainwater and wind from entering inside, as well as providing areas to gather with next door neighbors. South side was opened with overhang windows installed. To maximize the limited space, the attic was used as a loft, and spaces for storage and secondary space was secured. With the airy atrium and

open engawa, the space inside does not seem like it has only got 10tsubo. Due to unobstructed air passage, hardly any air conditioning was needed in the summer.

For the site in Iwaki new town, two units in one building were laid at the new residential development site, leaving plenty of room between the buildings. Along the arching road, natural light was provided to enter with a standardized south facing room layout. Next-door neighbors are connected with engawa. With homes across the street, each is connected facing engawa and the entrance porch. By having the engawa on the south side of the unit, a unit layout with entrance halls facing each other will be unnecessary, as more active neighborhood communication is already expected. For families renting two units in one building as a duplex house, there are cases where the engawa is connected between the units, the family members move between them. One of the advantages of the Itakura method is its ability to remove the partition walls when needed.

The ends of the building also have deep roofs, creating a sufficient space under the eaves to be used for bikes or for some easy outside work. As the units become smaller, the importance of such space becomes larger, thus one can say the temporary house begins with the roof. This is in effect the origin of a Japanese home.

A continuous landscape of single storey homes with large roofs reminds us of a small town or a village on the outskirts of a city. Further beyond the landscape, one can also find the revitalized Tohoku.

Eyeing on the future for revitalization

The time limit for a temporary home is set for 2 years. But for this particular disaster, a longer period of refuge life is expected. For the Itakura method temporary homes, simply rebuilding the foundation will meet the standard of a permanent home. It can also simply unite two units into one. As revitalization progresses, these homes can be dismantled and relocated to another site for reuse as a public housing facility. By reusing the structural members and sliding plank members, it can transform into a larger two-storey complex.

Through this project, we were able to show that contemporary wooden homes can stand against the prefabricated ones in terms of cost, volume, construction period, production and resources as an emergency refuge housing. We need to seek revitalization through the strength of the regional forestry resources. This wooden temporary housing is only its first step towards the recovery of Tohoku.

P.82 LOHAS Assembly Hall and Group Home of Emukai park: making most of natural energy

P.83 An assembly hall using geothermal and solar energy.
2011.9.26 Motomiya, Fukushima

P.84 Revitalization through sustainable architecture.

P.85 2011.9.26 Motomiya, Fukushima

P.86 A group home next to the assembly hall.
Everyone can gather freely.
2011.9.26 Motomiya, Fukushima

P.87 2011.10.2 Motomiya, Fukushima

P.88

LOHAS Designed Temporary Assembly Hall Using Renewable Energy.

Nihon University Department of Engineering School of Architecture, Tomoyasu Urabe

Laboratory

drawing caption: Section Drawing of Passive Design

This is an assembly hall for the evacuating victims of The Great East Japan Earthquake inside Emukai park in Motomiya city of Fukushima prefecture. We were involved in planning and designing of temporary housing communities using log members. We took advantage of the slopes, paths and trees of the existing public park, and added gardens, plus over-hanged windows, and a deck layout designed to instigate communication to achieve an organic and rich public space. Especially with the assembly hall, we located it in the center of the community passageway. It is a group home not only serving the role of an administrative office, but also with the intent of strengthening the bond within residents in the community.

For the design of the assembly hall, we challenged for a passive architecture using renewable energy such as geothermal energy while meeting the minimum requirements set by the Fukushima local government. This is something that came suddenly under the social spotlight, following the nuclear power plant accident.

Focus was on the building's southern facade. Transformable eaves were designed to obtain direct solar gain. An elongated deck running along the path was also designed to hold occasional event space and daily sun basking, with rooms for other functional uses.

Special attention was weighed on the contrasting relationship between the exterior finish of the log armature painted with protective agent and the galvanized finish above it, with the natural wood of the interior.

We have been actively involved with the "LOHAS house" project as a member of the Nihon University Department of Engineering before the disaster. In that respect, this project is a special addition. By materializing the technicalities of reusable energy and passive architecture, our aim is to have as many people as possible to experience this first hand. And together with the planning of a sustainable community with its reuse of log-style architecture in mind, we hope this project will serve as an ignition for the revitalization of Fukushima.

p.89

Passive Design Contents

A: Reusing Geothermal Energy

With underground soil temperature consistently between 15-18 throughout the year, expectations are high for this system as setting up the energy source for the future living environment being one of the important theme. Throughout the year, shallow geothermal energy tend to be cool in the summer, and warm in winter, thus being a comparatively efficient way to source energy. We evaluated how to easily take in geothermal energy and ultimately incorporated it into this project.

Summer: Cool air underground is inducted through the heat pump and distributed with a fan, cooling the space inside.

Winter: Warm air underground is inducted through the heat pump and distributed with a fan, warming the space inside.

B: Using Solar Heat (Thermal Storage Floor Heating)

By making the floor out of concrete in the solarium, heat is gained from the winter sun. Together with the floor, the air inside the solarium is also heated by the sun, helping warm the winter air

C: Air Circulation

Summer: The air from the south circulates inside, under the floor, and over the ceiling, and extracted from the opening on the northern roof, avoiding heat containment inside.

D: Photovoltaic Power Generation (Installment Planned)

Generated power will be used to partially help power the mechanical equipments used to sustain the environment inside the assembly hall.

E: Movable Awning

To be used mostly in the summer time to adjust the level of sun coming in. It can become a green awning with vegetation or hang bead curtains.

Data

Fukushima Prefecture Emergency Temporary Housing, Emukai Park LOHAS Assembly Hall

Developer: Japan Log House Association, Tohoku Chapter

Location: Emukai Park, Motomiya Fukushima

Construction: Japan Log House Association, Tohoku Chapter

Wood Supply • Pre-cut Work: Japan Log House Association Member (Satou Forestry)

Design: Nihon University Department of Engineering School of Architecture, Tomoyoshi

Urabe Laboratory + Haryu Wood Studio

Community Layout: Nihon University Department of Engineering School of Architecture,

Tomoyoshi Urabe Laboratory

Site Area: 27,110 m²

Building Area: 139.34 m²

Floor Area: 106 m²

Specifications

Floors: Single Floor

Structure: Log Construction

Project Period: 7.1.2011 ~ 8.9.2011

Roof: Galvanized Metal Roofing $t=0.6\text{mm}$ / $H=88\text{mm}$ (thermal insulation installed underside)

Exterior Wall: Exposed Log Shell (113mm×175mm)

Opening: Aluminum window frame, translucent glass $t=3\text{mm}$

Ceiling: Plaster Board $t=9\text{mm}$

Floor: Natural wood flooring $t=28\text{mm}$

Mechanical: Geothermal heat pump<Sunpod> / Air circulation system (circulation fan unit <Mitsubishi> / Vent / Double roofing / Thermal storage floor / Movable awning

Data

Fukushima Prefecture Emergency Temporary Housing, Emukai Park Group Home

Developer: Japan Log House Association, Tohoku Chapter

Location: Emukai Park, Motomiya Fukushima

Construction: Japan Log House Association, Tohoku Chapter

Wood Supply • Pre-cut Work: Japan Log House Association Member

Design: Nihon University Department of Engineering School of Architecture, Tomoyoshi

Urabe Laboratory + Haryu Wood Studio + JIA Fukushima Regional Group (Katsutoshi Sanpei)

Community Layout: Nihon University Department of Engineering School of Architecture,

Tomoyoshi Urabe Laboratory

Site Area: 27,110 m²

Building Area: 265.83 m²

Floor Area: 248.43 m²

Specifications

Floors: Single Floor

Structure: Post and beam construction

Project Period: 7.1.2011 ~ Mid August, 2011

Roof: Galvanized Metal Roofing $t=0.6\text{mm}$ / $H=88\text{mm}$ (thermal insulation installed underside)

Exterior Wall: Galvanized Steel Panel

Opening: Aluminum window frame, translucent glass $t=3\text{mm}$
Ceiling: Plaster Board $t=9\text{mm}$
Floor: Composite flooring

p.90 Assembly Hall of Minamisoma: murals and tower to engrave memory

p.91 2011.10.2 Minamisoma, Fukushima

p.93 2011.10.2 Minamisoma, Fukushima

p.94 Invigorating mural sends message of support.

p.95 2011.10.2 Minamisoma, Fukushima
2011.10.2 Minamisoma, Fukushima

p.96 A place for heart and soul.
As a monument to remember.
2011.10.2 Minamisoma, Fukushima

p.97 2011.10.2 Minamisoma, Fukushima

p.99 2011.10.2 Minamisoma, Fukushima

p.100

Minamisoma, Assembly Hall with Murals and Cypress Tower.

Tohoku University School of Engineering, Taro Igarashi Laboratory

This project is an assembly hall for the log-cabin-styled temporary housing community. Surrounding the site is a “Temporary Housing Village” with six different entities, building their own version of temporary housing community. For the residents, including those beyond our assigned community, to leave with a memory of their time residing here, we designed a vertical tower against the horizontality of the village landscape, and an assembly hall with a mural intended “to leave a scenic memory” in this grey living environment. Our attempt was to break away from the homogeneous scenery of the temporary housing community tackling from a different angle of the usual living comfort and the other community planning logic. The design of the assembly hall was constructed with logs in a simple $10\times 10\text{m}$ form for the murals. Naoyoshi Hikosaka, known for his series of wood paintings, created huge murals based on the words “fukkatsu” (resurrection), “Minamisoma”, “Fukushima” and “Rebirth”. After four days of painting, a large “architectural mural” with four walls, each with approximately $10\times 4\text{m}$ in size was completed.

For the tower, we used the donated cypress from a Wakayama lumber company. Triangular formed pieces are stacked up to 8.1m high, each piece rotating slightly over the other. The tower was colored by Mr. Hikosaka into a $5:7:5:7:7$ units following the unit structure of a tanka (Japanese short poem).

The tower is a vertical element in a singular flat layer of the temporary refuge community of ever expanding horizontal landscape. Also separate from the tower construction and the mural painting, a workshop was held to create six easily transportable benches with ends cut at an angle enabling it to form varying compositions, and another bench with scores from the “Song for the Citizen of Minamisoma” on its seating surface. These benches aim to initiate an exchange between residents on the streets and paths along the river. The project started in May and the construction of the assembly hall began on August 1st. By the middle of August, the

assembly hall and mural were completed, and the workshop was held to build the benches in November. There, the benches and the job of coloring the tower pieces were completed. The construction of the tower was finalized in the middle of December. To our efforts creating such “excessive object” in this context, people in the residence are being receptive.

Data

Fukushima Prefecture, Assembly Hall for Minamisoma Emergency Temporary Housing Complex

Developer: Japan Log House Association, Tohoku Chapter

Location: 288 Yogoronai Ushikawauchi, Kashima-ku, Minamisoma, Fukushima

Construction: Building Regenerative Housing for Miharuru Group (JV by 5 local contractors)

Wood Supply • Pre-cut Work: Japan Log House Association Member (Satou Forestry)

Design: Tohoku University Department of Engineering, Taro Igarashi Laboratory + Haryu Wood Studio

Community Layout Design: Nihon University Department of Engineering School of Architecture, Tomoyoshi Urabe Laboratory

Artwork (Mural): Naoyoshi Hikosaka

Project Director: Taro Igarashi

Site Area: 11,310 m²

Building Area: 100.2 m²

Floor Area: 100.2 m²

Specifications

Floors: Single Floor

Structure: Log Construction

Project Period: 7.29.2011 ~ 8.20.2011 (assembly hall) / 11.27.2011 ~ 12.12.2011 (tower)

Foundation: Concrete (tower)

Roof: Galvanized Metal Roofing $t=0.6\text{mm}$ / $H=88\text{mm}$ (thermal insulation installed underside)

Exterior Wall: Exposed Log Shell (113mm×175mm)

Opening: Aluminum window frame, translucent glass $t=3\text{mm}$

Ceiling: Plaster Board $t=9\text{mm}$

Floor: Tatami Mat, vinyl flooring $t=2\text{mm}$

P.102-103

Architecture Beyond Time and Space

Taro Igarashi

(Architecture historian, critic, a doctorate (engineering), Professor at Tohoku University)

How the concept was conceived

In May 2011, Mr. Sei Haganuma of Haryu Wood Studio offered us an assignment to build an assembly hall at a Minamisoma temporary housing site. I presented a basic concept, and the Igarashi Laboratory (members in charge, Akinobu Yoshikawa, Rei Murakoshi) made its schematic design. This project was unique unlike any other temporary housing site. This disaster required large volumes of refuge homes, and so in addition to the metal prefab homes, many wood homes started to appear. The lumber from Fukushima was used for the log-styled homes at this site. Thick lumber pieces stacked there do not require a finish, and not only does it have good insulation property but also expresses a strong presence. Some of the characteristics of this assembly hall are as follows: Initially, now that log members were readily available, we decided to build a tower. Next, we planned to have portable benches imbedded in the assembly hall and proposed they could be used in other community sites as a place to chat. And finally on the walls of the 10m length square building, an artist Naoyoshi Hikosaka drew a large mural to insert hope for the resurrection of Fukushima.

Let us revert to how this concept has come to fruition. In June, I visited the site with some members from the Laboratory. As we investigated the site, we found several other temporary housing communities being prepared aside from ours by the Log House Association. Many of the prefabricated ones were already being completed. It was a sudden presence of an entirely new town in the backyard of a serene farmland. Since cars were essential to acquire any item here, I initially felt the need for shops and convenient stores in this new instant town, but the scale of the given project was not sufficient enough to actualize this. But compared to those initial housing projects around, Haryu Wood Studio and Urabe Laboratory of Nihon University proposed several ideas for this project, including a layout with neighboring entrance halls facing each other, a kleingarten and two homes merging into one, which would ultimately become their permanent home in the future.

Now, what initially caught my eyes at the site was a vast horizontal landscape of repetitive single storey temporary homes. It is difficult to establish an identity of the place like the suburban commuter “new-towns” of the past with endless rows of similar styled homes. Simply put, everywhere has the same monotonous landscape. Thus, instead of attempting to be excessively creative and alter the design of the assembly hall, we decided to build a vertical tower, meeting the required specification. Most likely, this type of symbolic element would not exist in a temporary housing project built with expedient functionalism. After spending some time here, when the residents move to another location for their new life, they shall remember the days when they lived in the temporary housing community.

In the future, they shall reflect those days and remember they lived in a town with a tower. For those victims who have already lost their hometowns, the temporary housing community shall not be mere temporary.

A tower will become a base point in finding your place. Even among those repetitive community houses, the geographical relationship with this existing unique tower will always vary from person to person. Also, the presence of the tower will influence those outside the community, as it is visible from other prefabricated temporary communities. The tower is not a structure just for its place.

We also introduced a bench in our proposal. Being made out of the same wood used in the building, it is built-in furniture as part of the architecture. Carrying the benches out of the assembly hall to the streets as they please, the people can actively use the outside space. So this way on a physical level, we can give an impetus to those areas outside the given site.

The following is the “Temporary Architecture Project Memo”. This was presented by the Igarashi Laboratory at the participatory round-table discussion on “Reviewing the validity of a wooden temporary housing” in the second conference entitled “Thinking the Revitalization Support for Fukushima”, which was held in Fukushima city on the 11th of June.

Temporary Housing Project Memo

This being temporary, it is an architecture that extends beyond time and space. In other words, by imprinting the scenic memory of a town with a tower, it transcends time. It transcends space by providing a scene to be shared with neighboring communities, and with pieces of furniture extracted away from the architecture and moved to another location.

The temporary housing community in the city of Minamisoma is mostly a horizontal expansion, an expansion of flat landscape surrounded by farmhouses and new residential developments. At such a site, a vertical element was desired.

When it comes the time for the evacuees to move out of this temporary housing community, it shall be a scenic memory being engraved to their heart. It is unlikely to become something just for these log house communities, as it is visible from other blocks of nearby temporary housing communities. Perhaps, it is visible even to the monotonous temporary housing communities on the other side of the river, and from a particular angle, it may present itself a different look.

In the past, the presence of the Tower of Sun, visible from afar, had unintentionally become the heart and soul of the residents in the monotonous Senri New Town.

This assembly hall is not a temporary structure specifically designed for this place. Portable benches are architecturally imbedded in this structure. People in the residence can take these benches out with them where they please. On the streets between the homes, or along the riverbed, a space for conversation to occur is created. They can bring the benches to other temporary housing communities as well.

It is not a structure that functions only temporary for its site, but the architecture is united with furniture that serves as a device to intervene in other areas.

And much like the Tower of Sun, by introducing murals by an artist, we attempted to further enhance make the memory of a landscape imbedded in their hearts.

Assembly with Tower and Mural

A tower could be interpreted as a symbol of revival, but it contains no particular function. It is therefore a pure tower. Aside from myself not being a specialist on architectural planning, one of the reasons for not designing the assembly was in large part that I had not been informed of its future residents. The murals were commissioned to Naoyoshi Hikosaka known for his series of wood painting. On the walls of the assembly hall, words like “FUKUSHIMA”, and “fukukatsu (meaning resurrection)” are geometrically composed. With regards to a mural for a temporary housing structure, Wajiro Kon of Barrack Soshoku-sha after the Great Kanto Earthquake, and Tomoyoshi Murayama and others of MAVO may be pioneers. The both artists apply artistic designs to the barracks in the burnt ruins, the former drew a monster for Cafe Kirin (1923), and the latter a relief of a nude maiden carved into the mortared wall for Aoi-kan (1924). As the case may be, this project could be the Barrack-sha for the Great Eastern Japan Earthquake. In fact, Mr. Hikosaka later established Temporary Housing Art Company, and distributed flyers in Minamisoma.

In early August, the assembly hall with curtain walls enabling the flexible use of their space was completed. My laboratory was not originally a type of getting involved in design projects, but this disaster greatly changed my surrounding environment. The murals are painted all over the walls, with each square surface of 10m², and it adds up a work of roughly 40m². This reminds us of the Mexican muralista art movement. But typically, most murals exist only on the frontage but rarely done on all four sides of the building. On the other hand, the construction of the tower was on hold due to the cost exceeding the initial estimate, albeit being able to obtain the building materials by donation.

In October, the residents for the first time entered the assembly hall. To the 20 or so residents who gathered in the large 32 tatami mat assembly hall, we explained about murals and a tower. Although a bit overwhelmed by our presentation, the residents were happy to see people coming from afar in order to see this unique structure, and later asked for a panel explaining the meaning of the murals. Although blushing about the idea of a “3.11 Manyoshu”, a collection of waka poems- a written poetry by the residents about the disaster. It was the idea proposed by Mr. Hikosaka but no objections were heard. Instead, some residents asked what they could do to help build the tower, while others purchased the waka books. Through the project and building something together, an uplifting feeling much like that of a festival was growing. At the end of November, the cypress donated from Wakayama was brought into the open area next to the assembly hall for the construction of the tower and the benches. Here, Igarashi Laboratory held workshops. Since the structure of the tower is composed of stacking triangles, with each shifting a few degrees to form a twist, it first needed a structural post. Then, two types of benches were built based on the idea presented by the students. One was a portable unit type with the ends cut at an angle enabling to form a different composition by combining several of them together. Another had the music score from “Song of Minamisoma” on the seating surface. We cut the cypress members with the help of carpenters, while Mr. Hikosaka and others painted the tower. During the process, many residents came to see the activity and gave us words of encouragement. When spending nights at the assembly hall, I was able to feel a sense of living comfort produced in the large tatami room. According to the record of activities, they used the hall for karaoke contests, radio calisthenics, and nuclear power plant related

talks. On the afternoon of the second day of the workshop, we completed the benches with the participation of the residents. They were kind enough to serve us rice balls and pickles. It was a workshop translating the design concept into a reality through direct communication with the residents. It is expected that the tower will be completed in December (Tower was completed on December 13th, 2011).

p.104 KAMAISHI Box: proposing new construction method responding to the “temporal”

Looking over the city of Kamaishi.
Tsunami rushed right up to the graveyard.

p.105 2011.10.1 Kamaishi, Iwate

p.107 The panels were L: 4000mm, W: 1800 and 1900, T: 114mm
2011.10.1 Kamaishi, Iwate

p.108 2011.10.1 Kamaishi, Iwate
2011.10.1 Kamaishi, Iwate

p.109 Multilevel Prefab market appears to surround the Box
2011.11.4 Kamaishi, Iwate

2011.11.4 Kamaishi, Iwate

p.110 First gathering.

p.111 2011.11.4 Kamaishi, Iwate

p.113 Kamaishi Disaster Relief Project Team.
2011.11.4 Kamaishi, Iwate

p.114-115

KAMAISHI Box

A New Construction Method: panels made from joined vertical logs

Data

Kamaishi Box @ Ohtadakoe Park / Kamaishi Box @ Suzuko Park

Location: Kamaishi Box @ Ohtadakoe Park, Ohtadakoe Kamaishi, Iwate / Kamaishi Box @

Suzuko Park, Suzuko Kamaishi, Iwate

Construction: Self Built by “Friends of Kamaishi Group”

Material Donation: Katsura Wood Supply Co. (Wakayama Prefecture) / Haganuma Workshop

Co. (Fukushima Prefecture) / Asahi Glass Co. Koriyama Branch (Fukushima) / YKK AP Co.

Design: Kazuhiko Namba • Kai Workshop + Haryu Wood Studio + Nihon University

Department of Engineering School of Architecture, Tomoyoshi Urabe Laboratory

Structural Engineer : AUM Structural Engineering Co.

Mechanical Engineer: Kazuhiko Namba • Kai Workshop + Pacific Consultants Co. (Suzuko Park)

Building Area: Ohtadakoe Park 46.37m² / Suzuko Park 59.62 m²

Total Floor Area: Ohtadakoe Park 39.75 m² / Suzuko Park 39.75 m²

Specifications

Floors: Single floor

Structure: Wood Construction

Construction Period: 08.2011 - 11.2011

Exterior Finish:

Opening: Aluminum window frame (YKK AP, Product name Apia)

Landscaping: Fine pebbles

Floor: Carbonized cypress (yakinari) finish

Wall: Carbonized cedar (yakinari) finish

Ceiling: Kanbo Pras Co. Apple Star Shading Tarpaulin

All shown drawings are from Suzuko Park project

p.116-117

How Architects Get Involved in a Disaster. Taking Part in the Wooden Temporary Housing and “KAMAISHI Box”

Kazuhiko Namba

(Architect, professor emeritus at Tokyo University, Principle of Kai Workshop)

Unison of the log house and the “Box House” - Second request for temporary housing proposal

It was after the meeting with an architect from Fukushima, Mr. Sei Haganuma that I first got involved with the temporary wooden housing project for the disaster relief. Our first meeting went a few years back when he asked me to lecture at the JIA Fukushima conference. I remember him coming all the way to my office from Fukushima for the meeting about the lecture. Since then, we have been seeking to do something together, and after the disaster, Mr. Haganuma engaged in the recovery efforts of Fukushima and its temporary housing project, which I later joined.

According to a government estimate, roughly 70,000 temporary housing units were needed. It was apparent that Prefabricated Construction Suppliers & Manufacturers Association could not take on the task alone. Then immediately, temporary wooden housing projects were planned in the three prefectures such as Fukushima, Miyagi, and Iwate. The project was commissioned to the local contractors and developers in a competition format by the Fukushima department of building. However, because it was also their first experience, developing a temporary housing community by themselves in such a short time and a layout planning for each individual site proved to be difficult. As such, local architects and others through indirect routes stepped in to lend a hand.

In June, JIA Fukushima held a midterm report conference regarding the wooden temporary housing, and I participated in it. Members of the JIA Fukushima were actively involved in this project. There, various types of wooden temporary housing scheme were presented. Watching closely, I was convinced of their superiority over the temporary housing designed by Prefabricated Construction Suppliers & Materials Association. Taking this opportunity, I have decided to join the project team of Mr. Haganuma and others to develop a temporary housing facility using a log construction system.

In June, at that stage, the initial batch of wooden temporary housing had already finished its design phase, and the construction was already under rapid progress to complete by the end of July. I visited the sites under construction and reviewed their layouts, unit plans and structures. The constructed temporary housing units were superior in both quality and design to steel ones built with standardized parts provided by Prefabricated Construction Suppliers & Materials Association. What was even more superior was the texture of the wood, which brings certain

mental comfort to the victims. Even so, since it was their first experience for all to build a temporary housing unit with wood, the initial batch had some issues to resolve. With the air lock space attached to the built-in units, the exterior became more complicated than necessary, causing some future weathering problems. Inside the home, the layout of kitchen, toilet, and bathrooms was not properly planned, and small rooms were already further segmented. This also led to overly complex wiring and piping.

For the second call for proposal, I proposed to tie the technical potential of the log house with the “Box House” concept (see p.38). More specifically, I reduced the structural wall presented in my first proposal to a minimum, simplifying the structural system as much as possible, and kept the roof to a single element. In addition, the interior structural walls were removed to unify the rooms into one, and I altered the layout to open up the space to the outside. Bath, toilet, and kitchen were gathered together so as to not intrude the simplified singular room, thereby keeping the wiring and piping route simple. This allowed for a clean exterior forming an alcove, achieving a flexible single room environment. I proposed to have the entrance hall facing each other, an idea advocated by Riken Yamamoto, by connecting the temporary housing units that was open to outside with each other to activate people’s activities. But to change the standardized parallel layout deemed difficult.

Designing a new construction method - KAMAISHI Box

The project to build a small assembly hall for the disaster victims of Kamaishi city in Iwate prefecture began with Mr. Haganuma’s personal proposal submitted to the City. He is currently a working student in the doctorate course at Tohoku University. Taeko Iwama is his junior and a former staff in his office. Her father Masayuki Iwama was a director in the architecture department of Kamaishi City, and was struck by the disaster in Otsuchi town, north of Kamaishi. From such personal connections, Mr. Haganuma, sincerely wanting to dedicate himself to the recovery process, came up with an idea of building an assembly hall and this idea eventually led to my involvement.

We first presented a proposal to serve as a springboard for discussions and headed to Kamaishi in early June with Mr. Tomoyoshi Urabe of Nihon University Department of Engineering (Koriyama city) and the laboratory members who would help us with this project. Meeting with Iwama family, we headed for Otadagoe Park, a candidate site located in the city center, to inspect. This site was located at the end of the park road stretching from south to north, the road created during the city planning readjustments. Behind a gentle slope on the southern side, a Zen temple and a graveyard were spreading across the steep slope. Mr. Haganuma and I felt a strong “power of place” there. That night, we decided to build a small “Box” in this park to repose the souls, and called it “Kamaishi Box”. Afterwards, negotiating with the Kamaishi officials through Mr. Iwama, we were granted permission to build another “KAMAISHI Box” at the Suzuko Park in the west of Kamaishi. Since Suzuko Park was faced with busy traffic on the road, we decided to build an open terrace and a footbath with a biomass boiler using thinned wood as a fuel.

Haganuma Workshop provided the material used for the “KAMAISHI Box”, constructing temporary log homes. Mr. Haganuma’s elder brother runs the company. The building material used for the temporary log homes is cedars from Fukushima, and they are machined to be stacked horizontally. For the “KAMAISHI Box”, the proposal was to vertically arrange 4m long standard members to form a wall panel, different from the standard horizontal stacking method. For the foundation posts, the same cedar timber like the ones in the temporary homes was used. As the posts were inserted on the spot site, the wall panels were then bolted on to the base platform sitting on the posts, thereby producing a floating effect. Parts were prepared at the shop of Haganuma Workshop in Fukushima, and delivered to Kamaishi to be assembled on site. Since this is a temporary structure, we must take into consideration how to dismantle and reassemble the structure. The material property of the cedar has an insulation property that matches a 50mm thick 10kg glass wool. Therefore, thinking of the weather in Kamaishi, I felt it all right to simplify the assembly system with a single layered finish inside and out. For the

temporary homes, anti-weathering paint is applied to the exterior wall, but no paint was used for the “KAMAISHI Box”. The surface of cedar was first gas burned and later, washed with a wire brush. This method is called a surface sintering finish. This carbonizes the surface and gives an anti-weathering property, with a serene and subtle expression of the wood grains. Because it was too troublesome to place the wood members one by one and difficult to maintain its quality, it was proposed for the members sintered at the workshop to be bolted together first to form a wall panel, and later assembled on site. Glass to be fixed and the size of window frames were based on the module of the cedars, and were screwed together to ease the dismantling process. To maintain tight seal, sintered cypress members much like those of the walls were installed on top of the waterproofed plywood. The roof gained surface rigidity by the structural plywood applied over a 2×10 beam, and 200mm thick glass wool insulation was installed over it, covered with a black exterior tent fabric. The ceiling also has the same black tent fabric intended to seal the air preventing moisture to reach the insulation in the ceiling and cause condensation.

The on-site assembling job was headed by the carpenters from Haganuma Workshop, supported by the staff from Haryu Wood Studio and students from Urabe Laboratory of Nihon University Department of Engineering. Since the construction members were simplified into parts, the assembly process was eased, and as such, its project completion took only a few days.

Inside the house, built-in furniture was kept to a minimum. Sixteen chairs were donated to each of the two “KAMAISHI Box” by Muji Net. The shelter itself was completed, but plumbing and electrical work to be done by Kamaishi city, has not yet started as of November. By the year-end, lighting and footbath are scheduled to be installed.

From here on, how architects should get involved in the reconstruction process is a big problem. The construction industry or even disaster sites have not asked us architects for cooperation. Architects are in an indirect position away from the “construction site”, alienated from the direct system and institutions of the recovery efforts. But this has been the case since the long time past. It has been the basic condition formed since the system of the Architect was established during the modern age, and Architects have been complacent about it. To suddenly turn around this situation established in its history is not possible. The only way to overcome this situation is to invest our heart and soul into each task at hand, and drive forward through the development of each activity, one by one.

p.120-121

Thinking of Fukushima’s recovery Based on Bi-regional Living

Takeshi Nameda (Haryu Wood Studio)

To Live or Not to Live in Fukushima

Due to the nuclear power plant disaster after the 3.11 Great Eastern Japan Earthquake, many families in Fukushima were forced to make a decision whether to live or not to live in Fukushima.

A low-level radiation exposure (*1) was something inexperienced in the past, thus their unstable life continues because the future of the region they once lived in - if or when they could ever return - is uncertain.

Affected are not only the coastal areas struck by the tsunami, but inland areas as well, and a sense of insecurity exists even in the evacuated areas where emergency temporary housing is located. With regards to the low radiation exposure, it is only natural for the families with young children to take a due action, and no one can criticize their emotional detachment to their homeland.

Those from whom we received many favors had lost their homes due to the tsunami, and

they have been relocated on several occasions since 3.11, ending up with the father staying in Koriyama, and the mother and the children living in an unaffected area outside the prefecture away from the radiation. Always thinking of what was best at the time, they concluded they had no choice but to live separately.

One way to understand these families living separately is to get them in perspective with the concept of “Network Living” (*2). There have been cases in the past where different generations of the family voluntarily lived separately across the country, but we can say that the evacuation from the radiation has further intensified the separation.

The beautiful landscape of Fukushima shall remain unchanged this year, but the invisible risk urges the people in Fukushima to decide where to reside.

Creating a scenario from bi-regional living

Without any sign of concrete recovery, a long evacuation life is expected for the people in Fukushima. As the case, we began studying in early April with Urabe Laboratory of Nihon University Department of Engineering whether it would be possible to think beyond the traditional concept of permanent residence and adopt an idea of bi-regional living, tweaked for the Fukushima type evacuation life.

First, we thought it necessary to design a dwelling model, with which the residents acquire a steady home at the evacuation site first and then make the most of the home as a base to make the return while watching the situation of the nuclear power plant closely. (See image 1, 2) Mr. Koji Itonaga proposes for the Iidate village the “Dual Dwelling, 100-year Plan”, in which he says we are called for “ a design of social system for migration and human dwelling model that includes a permanent domicile”. (*3) The idea of bi-regional living rather than a permanent domicile, including a timeline migration, shall naturally be formed in the restoration process of the future Fukushima.

As a next step, we made some simulations about what form of dwelling would be, in fact, more realistic. We weighed on several factors for this plan, such as a risk of low radiation exposure, situations of the families living separately (network living), weather conditions and others. The plan required a timeline clearance of radiation. The conditions to support a sustainable life, such as medical care, work place and home should be squarely met.

These above may be difficult to verify and seem like a crude argument, but the ball must be thrown in the court for anything to happen, so we decided to positively submit our proposals.

What it means to return 5, 10 or 15 years later. (Image 3)

Fukushima University conducted a survey covering eight towns and villages in the Futaba county of Fukushima Prefecture, and roughly 13,460 households replied, but among those, only a 1/4 of them expressed their wish to return (to their original home).

Fukushima University made public this information on November 8th. Even among those households who wanted to return, half of them replied that they could not wait more than two years. (Nikkei Shinbun, November 8th)

A prolonged evacuation life has a completely different implication even for those returning to their homeland. When the evacuation life gets prolonged, many will lose their *raison d'être* to return and choose to maintain their current life environment rather than returning home. Also, the survey results show that more than half of those aged 30 and over did not want to return at all. This may, therefore, result in a situation where a drastic increase of aging population will continue for several decades in the evacuation areas.

We must also consider durability of the temporary home. What it means is that we have to provide the evacuees with a new home. In terms of the lifespan of woodpile, it is said that two to three years is the norm, but if we look at the past cases of the earthquake disasters of Hanshin Awaji, and Chuetsu, five years would be possible. The question is, where to build their new home.

If they are to return within five years from their temporary home or after their return to the homeland, it may be easier for them to live in a permanent housing facility in their hometown.

If it takes 10 years, their permanent housing facility must be constructed somewhere else, because making extra effort to return to the hometown would be too much a burden. For their new permanent home, the focus will be placed on how to sustain the community. If it takes more than 15 years, their reason d'être itself will most likely have diminished by then. In that case, we may have to design a plan for a new city that secures temporal dwellings capable of accepting many victims.

A Scenario for Revitalization of Fukushima Based on Bi-regional Living. (Image 4)

We roughly reviewed and discussed among ourselves what type of scenario could be written for the future dwelling in Fukushima and the post evacuation life.

1) Permanency of temporary housing community (image 5)

A temporary housing facility is the only place where evacuated local government offices can come together. From this existing temporary housing facility, an idea for permanent residency will proceed. To make the transition possible from the temporary to permanent dwelling, we will replace the wooden foundation piles with concrete foundation, and join the units together according to the durability and need for larger space. This plan also has an advantage in limiting the amount of wastes of wooden makeshift housing. This may be a new-townism of makeshift housing.

Thanks to their locations, major cities such as Fukushima, Koriyama, Iwaki, Aizu-Wakamatsu would be capable of providing jobs nearby, but remain concerned about the potential exposure to low radiation. And in Aizu-Wakamatsu area, the weather is quite different from that of the coastal area, which is a matter of concern.

The second proposal under the theme of reuse was called for with respect to Fukushima emergency makeshift housing facility, and minimizing the relocating distance may increase the reuse rate of the log members.

2) Merging with Existing Cities (image 6)

1. Using the existing temporary housings in the home cities, and stock facilities through renovation.

2. In the urban areas near the emergency temporary housing communities, the stock of vacated homes nearby should be used to ease the settlement of the victims. (Henmi plan for Shirakawa). Accommodating many evacuees in home cities, such as Iwaki and Koriyama, would be the easiest. In the case of Chernobyl nuclear power plant accident, mass relocation to existing major cities was conducted. On the other hand, however, there is concern that major cities may absorb the network of the evacuated local governments, when taking on this mass relocation.

3) Establishing a New City (image 7)

We build a new city that can accept an evacuating local government as a whole. We should incorporate a new industry to secure jobs to the sites near urban areas, such as Iwaki and Koriyama where radiation affect is slim. Though it would take a massive development cost, the city would allow mass numbers to accept, and yet could maintain the community when the time comes to return to their hometown. We should start a new industry as a satellite city near the existent big city so that the residents could immediately move in after leaving their temporary housing communities.

Toward Recovery

After the great earthquake disaster, what form of dwelling could be designed in this unstable land of Fukushima? Many people are hopeful that they will think deeply about it and eventually our ideas will lead to forming a new type of dwelling for Fukushima people.

In order to shift our focus onto the construction of future permanent dwellings, the three entities like industry-academic-government groups within Fukushima must be unified in one and work together. Local architects are expected to play a role of network pipe, at times as a construction manager to arrange between architects and contractors.

In the aftermath of the disaster, architects and contractors have proposed a number of designs for wooden housing, many of which transcending the standard concept of a temporary home.

I would like to call what presents a new potential of architecture toward recovery through makeshift housing as “Wooden Temporary Housing Group”, and see this as a program of revitalizing the whole.

I would like to think of this “Wooden Temporary Housing Group” as a first step towards recovery.

*1 The risk of low radiation exposure has not yet been determined. “The Truth About Radiation!” (p.112), by Jiro Shinbou and Sentaro Takahashi

*2 Network living is defined as a dwelling system that meets the need of the family members who are living separately utilizing several homes and facilities. There are cases where aging relatives without children find a relocation home in a similar region to watch over each other.

What is called “Network Living” means a shift from a spatial settlement, in which parents raise their child like a nuclear family, to a system of spatiotemporal relative relationship, during which time, space and bloodline are separated from each other, yet responding to the dwelling need of each individual and family. (Takashi Ohmi, Professor emeritus of Tohoku University)

*3 “Bio-city” 2011 no.48 “Disaster eco village and a vision for recovery and revitalization” (p.41-43), by Koji Itonaga

p.124-125

Photo log

Mitsumasa Fujitsuka

It was initially uneasy for me to write about “Wooden Temporary Housing Group” for the victims of the Great Eastern Japan Earthquake. Looking at the homes made out of wood and the layout, which allows for the neighbors to frequently meet and greet, and feeling a sense of affection towards the victims struggling for recovery, I was beginning to feel peaceful and relax after some point in time.

But, a feeling of heartrending sorrow comes up again when thinking of the sense of helplessness the people have against the enormous destruction by the earthquake and the great sea tsunami that used to bless them with its resources.

Temporary homes for victims have been built with prefabricated steel for a long time. This system originated in a temporary shack of a construction office, so the living environment has never been a priority. So it has been the case with the living environment of temporary home, which is either steaming hot or freezing cold. In addition, due consideration has not been given to sound insulation; therefore, in areas where traffic is heavy, the temporary home is constantly exposed to noise. And even in the quiet areas, privacy is out of the question with the quartet of neighbors snoring, talking in sleep, breaking wind, and teeth grinding. Some would say further exposure to such stress is prone to be a potential health issue for those already under great stress. The stance toward these homes must be, “it’s definitely better than living in an evacuation shelter, so let’s just provide just enough protection from the weather and visual privacy”. What I found most interesting was the log-styled temporary homes made out of local Fukushima cedars, while taking photographs of the wooden temporary communities and homes. When one of the designers for this system, Sei Haganuma of “Haryu Wood Studio” showed me one of the log pieces, I felt a sense of hope. On the other hand, however, I also addressed a question as to why so many cedars are available. I heard, that the cedars growing in mass numbers are considered villains and have been left uncut, being the major cause of hay fever. Many had been planted nationwide, starting around 1950 as part of the recovery efforts from the War. Since then, the deregulation of importing lumber has brought in cheap overseas lumbers, leading to the decline of domestic forestry industry. So though they are in its prime years, the cedars over 50, 60 years, waiting to be cut are left untouched nationwide like a savings deposit.

Later, I saw lengthy log members at a construction site. Since 113mm thick member is exposed on the structure much like that of reinforced concrete, there is no need of an interior finish.

Actually the Japanese, who have historically been around in wooden space, on an instinct level, feel the warmth of wood that controls humidity and warmth, insulation as well as sound insulation properties. Some visitors would say, “Is this really a temporary home? How envious!” And I would not agree more. From them, I sensed a strength that enables us to feel the urge to move ahead toward disaster recovery. Moreover, since it is built out of wood, it can easily meet the demands of the wives with a quick DIY. Thinking ahead of dismantling and relocating the homes in the future, I found its construction the right way to go.

Taking photographs, I had to keep an upbeat feeling, and that was the right way to move towards disaster recovery. What was inspiring was the contrasting scene where people in the wooden temporary housing were gathered chatting happily, with those in the steel constructed prefab homes on the other side of the gate ball (Japanese croquet) field at Miharu area. Of course, on one side the residents would say their home is “steaming hot and freezing cold”, and the other would remain happy with the pleasant wooden space.

There is another wooden temporary housing group site in Miharu near the lake. There, strangely at the parking lot sits a bright red fire engine. People of Tomioka are living together there and they brought it with them when they evacuated. It was symbolic like a guardian angel. Its familiar look seems to provide a sense of security to the residents.

Speaking about the Itakura method in Aizu, a son in his 70’s lives next to his parents. He came to show me a wooden deck he had built connecting the two homes. It would be best if the walls could be removed for an easy access, but for now, they can move between the two without wearing shoes. For a resident who felt it necessary to install tatami mats for himself, and due to the sturdy and thick wooden wall, it provoked others to personally build shelves by hammering nails directly into the walls.

On holidays, a Hiroshima-styled okonomiyaki (Japanese styled unsweetened pancake with various ingredients) called “Katchan” from Fukushima city came with their mobile store to feed the victims. It was a heartwarming scene as if a festival had come to town. In the evening, I was able to feel the reality of life with street lamps and lights from homes lit, smells of prepared dinners enveloping the area, one can imagine alcohol being served after dinner. And anywhere under the sun-shining blue sky, we see futons being hung and the passing wind waving the laundries. It was a welcoming ordinary daily scene after the disaster, but at the same time, it also represented a symbolic life of recovery.

In Minamisoma, I met with a young couple visiting their parents to bring their third child on its seventh day after birth (on which the baby is supposed to be named). That baby looked like a tiny blossoming future. Various ordinary daily town activities, such as handing a circular notice, delivering mails, and kids playing on bikes, were there around the assembly hall. The murals on the wall of the assembly hall painted by Naoyoshi Hikosaka were nice. It gave an extra accent to the monotonous expression of the log homes, expressing the energetic power and the role of art in times of disaster.

Mr. Sei Haganuma was coincidentally in his design house, located in the town of Tomioka only 2km away from the Daini Fukushima Nuclear Power Plant when the great earthquake hit at 14:44 on March 11th, 2011. In this persistent and varying shake of the great earthquake, he almost instinctively and immediately responded to it and decided to begin planning this temporary housing group.

What struck me most were his aspiring efforts to better the temporary structures by getting Mr. Kazuhiko Namba involved in the process. I can say that it was truly an architect-like action and was only made possible for wooden construction.

In order to admonish myself, I would like to add one more thing. We must from time to time look at the images over and over again so as not to forget the devastating great earthquake and the great tsunami that devastated the wide areas.

An anticipated and fearful great earthquake may hit the collective urban metropolis in this country, though it may not leave a significant number of survivors in need of temporary homes. As long as we live on this planet, there is no such thing as “safety and comfort”, something spoken lightly by the politicians today.

Peaceful days may be defined as moments between disasters. We must understand this and be well prepared.

Afterword

Sei Haganuma (Haryu Wood Studio)

Simultaneous loss of homes and town, plus en masse relocation resulted in the formation of a landscape of evacuees' wooden temporary housing groups. A documentary-making by Mr. Mitsumasa Fujitsuka, a photographer who has been taking photos of people and architecture, had then begun. In times of disasters and hardships, regardless of their location, family ties became stronger everywhere. Visiting temporary housing communities during the Great Chuetsu Earthquake, I found an open-ended material insularity. I was able to somewhat grasp what was needed for the evacuating people, losing their homes, yet to maintain their dignity. On the latter part of November 2011, I visited Minamisoma with Mr. Taro Igarashi to hold a workshop on a tower, where many residents from the temporary housing community and visiting volunteers naturally gathered. Standing up to move forward, the evacuees need something for their hearts and souls to lean on. It could be a landscape, songs or love. People can rise with something to ignite themselves. I put my thoughts on what role the architecture can take for the hearts and spirits of these people.

To Mr. Mitsumasa Fujitsuka.

Since 2010, he has been taking photographs of Shokokuji, an old temple still keeping the thatch as a base for the roof in Minamiaizu of Fukushima prefecture. He was the first photographer who inspired me to think about architecture photography roughly 20 years ago. I recalled seeing the cover of a book about Rias Arc Museum published 16 years ago by TOTO Publishing Company, and soon found myself driving up north from Sendai along the coast of Sanriku. Mr. Fujitsuka's photographs overlay a nostalgic image, and I may perhaps be more empathetic than what he intends, but the image shots were those of a hunter, and following him around this time, I have no words to praise but take my hat off to the Fujitsuka world.

To Mr. Kazuhiko Namba.

With Mr. Namba, we were planning to build a church by renovating an old reinforced concrete building. While this was temporarily on hold, March 11th came. A few days after planning the temporary housing, I was also thinking about how to get Mr. Namba involved. He is a discrete person, so I thought he would not attempt to take immediate action for anything like a disaster. I asked him for help, saying something like, "Will you make the best House Box project ever, and help the disaster area?" Looking at me walking behind Mr. Namba, Professor Urabe once mentioned laughingly, "There goes a Mafia boss and his bodyguard". He probably saw Mr. Namba with his Panamanian hat as the boss and myself who were kindly talking to him respectfully from behind as a bodyguard. Following the insights of Professor Urabe and Mr. Namba who are from Osaka, I decided to become a follower of his "House Box Theory". Almost opposite in its pairing, he rationally panelized an analogue material, using machined pieces from the original lumber to build the "KAMAISHI Box".

To Mr. Tomoyoshi Urabe and his students.

The cities of Fukushima, Koriyama, and Sukagawa were hit the hardest in Fukushima prefecture by the earthquake alone. Several old concrete buildings collapsed, and many exterior walls peeled off. The Urabe Laboratory of Nihon University School of Engineering is located in Koriyama. While the School was inoperable, the students gathered at the lab. Professor Urabe transferred several buses provided by JR East to get to the lab himself. Even in early April, the city of Koriyama was quiet and insular, and the students were seeking what they could do. That is when they started their first layout plan for the wooden temporary housing community. Without providing any specific information and themes, or not having time to think about it, they accurately grasped the points with Urabe-style assessment of the situation. The bond

between the students heightened as they were planning the layout of a temporary housing community which none have done before. Even today, after half year since the day of the earthquake, the expressions on the faces of the students were vivid and lively. There is no doubt that the Urabe Laboratory will play an important role in the whole scheme of the wooden temporary housing community, including its dismantling, and restructuring process.

To Mr. Taro Igarashi.

The column written by Mr. Taro Igarashi in the Shinkenichiku WEB about the damage condition of the Tohoku University's human environment building must have been the first column read by many architectural professionals after the disaster. As a graduate research student there, I also held a seat on the 9th floor of the same building with my important books and goods buried among others on that floor, and could understand Mr. Igarashi's personal heart-rending voice, and the importance of the Tohoku University's Human Environment Division.

Compared to other laboratories at Tohoku University where its many undergraduate students enter its own graduate school, the Igarashi Laboratory is a large laboratory with many students from outside the University, including students from abroad. Including the survey conducted in the disaster areas, I asked if there was something they could do. There were plans presented already in place to create the Igarashi Library at the "Urban Planning House" located in Sagigamori of Aoba-ward, housing architecture magazines like "Kenchikubunka" and "Shinkenichiku" from the first issue donated by the publishers, and video recordings of "Shokokuji" temple already under progress before the disaster. In addition, a project to build a mural and tower began. This was an idea proposed by Mr. Igarashi in response to a design request to build an assembly hall for Minami-soma. I wish for these activities to spread across the world, and the speedy recovery as a result.

To Mr. Kunihiko Ando.

In our office bookshelves sit several books about how to use 4sun (a sun=3.03cm) cedar members written by Mr. Ando. If the log constructed temporary homes is considered a maverick, the temporary homes using cedars by Mr. Ando is most orthodox. The residents show their pleasure in living in such homes, waving away tiny dissatisfaction. The activities by Mr. Ando include the materials before they become architecture, such as growing reed and Japanese pampas grass that is used on the thatched roof, and while exploring into the technical aspect of the growing process of the straw, he was actively participating in the nationwide environmental protection movement in its rearing and cultivating areas. He also takes note of this wooden temporary housing that may pay the way for the future permanent homes, and the activities of Mr. Ando are effective in educating us about how homes should be.

From Emergency Temporary Housing to Permanent Homes

What role this book "Wooden Temporary Housing Group" plays may be an idealistic image, but the architecture we aim for is not that of permanence, but something that transforms syncing with the changing lifestyle. As they move to their "permanent homes", no matter how the residence of the temporary homes take on these structures, the lives of the victims must be positive, and that the true recovery would only begin with accepting the current living environment.

As a Fukushima person who makes a living from designing architecture, it is his obligation to make sure there is nothing left behind in this current process. On top of this, it is also necessary to take into consideration the balance between the system, quality, and cost. Thinking of how 5,000 or so wooden temporary architecture will socially meet its end, and how to reuse it is also a professional obligation. It is also necessary to show his or her confronting attitude regardless of their ability. Not just in the field of Architecture, but also a recent manufacturing structure puts cost performance at its priority. Without regulations or social criticism, the cost performance will continue to be prioritized. I believe the time has come for the Architectural world to present what is really important. Especially during the alarming disaster, we must establish a strong program for the future of wooden temporary housing group and its cycle. In a way, this

is an opportunity, and it could develop into a system beyond the marketing logic, not just the designers but major construction companies, and contractors should take actions seriously as well.

Without the cooperation from the members of JIA Fukushima chapter, the contractors who participated in this wooden temporary homes, Haganuma Associate Constracion, Log House Association, Mr. Masayuki Iwama, Ms. Taeko Iwama and the people in Kamaishi shopping district, and the victims and the residents of the wooden temporary housing group, all of this was not possible. I would like to extend my sincere gratitude to you all. Thank you very much for your kind cooperation.

To Mr. Kan Akira, Mr. Yuji Hashimoto, Mr. Ryota Iwamatsu for the design, and Ms. Mie Uchida for editing, I would like to show my sincere appreciation for taking on this job with us who are unfamiliar with this task. My great respect and gratitude goes to you all. “Thank you so much”