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Reflections on the Concepts of Social Capital and Resilience in Sociological Disaster Research

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Introduction

This paper looks at the aspects from which the "concept of resilience" has been introduced to and connected with "sociology of disasters for clarifying and responding to vulnerability," based on recent research trends in sociological disaster research, and introduces, through two examples, the research practices¹ (or action research) that have been utilized repeatedly in this area, and discusses the possibility and significance of interpreting these research practices by relating them to the concept of social capital.

1. Relationship between social capital and resilience in sociological disaster research

Recently the concept of "resilience" has been introduced into the sociology of disaster (particularly in community revitalization research), where it has attracted considerable interest. In this field, the point that the conventional disaster prevention engineering point of view of confronting urban vulnerability, that is to say the "philosophical" limits of research of "trying to picture grandiose damage scenarios of how actual damage conditions become manifested, after incorporating physical behavior mechanisms (progression of damage: Author's note) and social action mechanisms" – or to put it another way, the point that "by using a methodology to focus on social interaction and its progression at the micro level, a clear explanation cannot always be provided regarding why, depending on the region and society, differences arise in the scale of damage as the result of a disaster of the same magnitude" [Urano, 2007: 31] – was studied critically, and the concept of resilience has been proposed to address this question. Furthermore, according to Urano,

It is possible to believe that when a disaster phenomenon... extends over a long period of time vulnerability is accumulated and that, depending on the region and the society, different damage conditions will appear as some restorative capacity or recuperative capability that has been cultivated (or destroyed and

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¹ In Oyane (2002), the research practices in sociological disaster research have been discussed.

continued to be destroyed) within the local society is activated at the scene [Urano 2007: 31]. The concept of resilience is, so to speak, a conceptual device for looking at the unifying forces, communication capabilities, problem-solving skills or other elements that have been accumulated internally within regions or groups, which tend to be overlooked in that process in order to objectively observe the environment and conditions at a macro level, and thereby attempting to identify the driving forces for restoration and recovery of the region to be found within the cultural and social resources that have been buried and nurtured in the region. In that respect we can say it is a conceptual device that perhaps has some affinity with concepts such as social capital. Furthermore, it is necessary to sufficiently understand that, together with the vulnerability concept, this resilience concept forms a set, and that the concept demonstrates its effectiveness and significance through that set [Urano, 2007: 32-33].

Such thinking attempt to link the resilience concept to an urban vulnerability concept, and additionally suggest there is a relationship with the social capital concept that is the principal subject of this paper (this project: SCPJ).

I would like to begin with a general overview, from the origin of the resilience concept to the process of its recent introduction to the sociology of disaster².

(1) Psychopathology

The concept of resilience first attracted attention in "research on adaptive capacity under adverse conditions" when, in epidemiological investigations of vulnerable groups under conditions adverse to mental health such as children of parents with schizophrenia, individuals who have experienced distressing life events or urban families living in poverty, it became clear that even among such high risk groups there are groups of individuals who overcome their adversity and adapt robustly. In the area of social psychiatry, this has been summarized as follows:

...resilience is the capacity to respond to and overcome difficulties when confronted with stress or adversity. This is not insensitivity to stress. Nor is it a lack of reaction to severe circumstances. Rather it is the ability to face hardship, receive the impact and recover with time. Life is never just smooth sailing, and adversity is inevitable. It is the ability to react forcefully and recover at such times, much like a high jumper's pole that snaps back after being bent, which defines resilience. [Ihara, 2008: 140]

These responses "have until now been captured vaguely by terms such as 'mental toughness' or 'positive thinking'" in the fields of psychiatry and psychology, and "also are not unrelated to the concepts described as 'emotional intelligence (so-called EQ)' and 'moral intelligence'." Moreover, according to the American Psychological Association, following the 9/11 terrorist attack in the United States this concept was seen as a key concept giving hope for

² In Oyane (2009) pp. 3-13, particularly the additions and revisions on pp. 7-10.

a recovery of the panic stricken mind of the people from these adverse circumstances [Ihara, 2008: 140-141].

Moreover, resilience is also said to be an indispensable characteristic for clinicians. "A clinician who is not resilient will likely be overwhelmed by the daily demanding work, unable to maintain his or her morale and suffer from a lack of drive. This phenomenon, referred to as so-called 'burnout,' is an occupational illness of individuals employed in assistance work, and other than self-instilled resilience there are no countermeasures." [Ihara, 2008: 141] The interpretation of this resilience concept is related closely to Critical Incident Stress Debriefing as mental care for "helpers" (i.e., the individuals who confront a severe disaster site as professionals, rather than "sufferers") in disaster psychology [Matsui, 2007].

Words identified as critical terminology when understanding the resilience concept are "risk," "protect," "competence (or adaptation)." "The term 'risk' indicates the various crises and difficulties individuals experience or have. 'Protect' indicates the personal, social and environmental factors that provide a buffer against these crises. 'Competence' means the demonstration of individual abilities and a sound adaptive state. Whether individuals are, as the result of some factors (protect factors), able to maintain and enhance their successful adaptations (competence) against the risks of individual difficulties and adversities in the personal development process, without falling into serious maladaptations, is the main theme of resilience research." [Nakatani, 2008: 112-113]

Finally, "as a result of extensive past research, particularly in the United States, the resilience research that began in psychopathology has advanced in the fields of development, clinical, social, personality and educational psychology, as well as in other research areas including medicine, nursing and welfare." [Nakatani, 2008: 113-114]

(2) Applications in computer science and the business world

On the other hand, the term resilience has recently been used frequently on computer network security sites. Before recent examples such as the Year 2000 Problem and cyber terrorism, this problem was discussed in urban vulnerability research throughout the second half of the 20th century as a criticality for lifeline backup, and countermeasures were devised (such as 1984 Setagaya Telephone Office Tunnel Fire).

References to resilience in the computer science area recently imply that resilience is no longer a dimension of such backup preparations to overcome vulnerabilities and that results improve more dramatically by combining several mitigation measures than when measures are made to function individually. The resilience concept as defined in this field is as follows.

"Resilience": Fault tolerance and the ability to recover from failures. Resilience refers to the ability to

predict problems beforehand, avoid fatal error that lead to system failure and restore a system quickly even in the event of unforeseen failures [Rhonda, 2005].

So judging from corporate system maintenance efforts, including attempts to apply the concept of resilience to information network maintenance, for example, studies of the concept as resilience in the computer science field are progressing as described above. Various applications can be given as illustrations, such as "the highly resilient network at the New York Stock Exchange," for example [Tsunoda, 2007]. Such corporate efforts, moreover, are progressing not only in the information network area but also as studies of an entire firm's resilience including its information systems. One such example is BCP (Business Continuity Plan), of which much has been heard recently:

The objective of BCP is to envisage cases in which the resources indispensable for business activities during normal times (employees, facilities, lifelines) have suffered damage, and enable the firm to continue its important operations (production, services), regardless of the outside forces (disaster, risk) that are the cause. This approach does not result in a comprehensive manual of individual disaster response plans in the manner of traditional disaster prevention measures, but is more of a strategic crisis-management approach aimed at utilizing limited resources and capacities to recovery to the required service level within a certain timeframe by prescribing the priority operations that should be maintained even after a disaster [Morioka, 2008].

Measures that have been prepared "in a comprehensive manual of individual disaster response plans in the manner of traditional disaster prevention measures" (logically and inevitably) do not, in many instances, function following a disaster. First of all, the divisions and employees on which the disaster response in the manual is predicated have themselves been struck by the same disaster, a contradiction to attempting to execute the manual, and when this is considered, the fact that conditions under which the manual will be implemented successfully are unlikely to be present should be easy to imagine, but when studying crisis-management under calm, everyday normal conditions there is a normal tendency to use, as presuppositions, the various stable functions before one's eyes and readily at hand. In that sense, one might say that BCP elevates the dimensions of disaster prevention measures to one higher level. The reason is that awareness of the missions the organizational entity should protect is, through the process of "prescribing the priority operations that should be maintained even after a disaster," raised before a disaster. When we think back on the flood disaster prevention examples over the years in Japan and other countries that have been handed down across the generations, studied and implemented in which, in order to protect the fundamental village, the levees were breached artificially (as a final measure) during heavy rains or flooding once the steps that needed to be taken had been completed (piling up sandbags, temporary evacuation), the BCP as a disaster prevention concept for current conditions will also be understood to have a little more depth and development possibilities.

(3) Applications in the humanities and social sciences

In a field more closely approaching sociology, the concept of resilience has been studied and introduced in environmental research (such as environmental ethics). This includes works such as *Considering Mediance from the View of Environmental Ethics* [Kitoh, 2006], and has resulted in thinking that

in environmental ethics, in contrast to the thinking that emphasizing a global viewpoint and "universality" such as global environmental concerns, which was a strong tendency until now,... in recent years it has been necessary to again recognize "the criticality of local knowledge" and, in addition to the traditional earth-centered universal point of view, establish a new, special, regionally-centered point of view and develop research based on this perspective." [Kobayashi, 2006: 3-4]

Although local distinctiveness continues to be taken into account,...the climate and culture theory (by Watsuji: Author's note) has been reconsidered based on a universal framework. Furthermore, from the standpoint of "communitarianism in political philosophy (Author's note: [Delanty, 2006]), in which 'diversity and pluralism' and 'cooperation' are positioned as two wings as constituent elements of the concept of 'public spiritedness'," the "concept of positioning local concepts and cooperation within public spiritedness" (Kobayashi, 2006: 5) can be noted. A number of empirical studies that focus attention on the process uniting specialists' scientific knowledge with the life wisdom of local populations to acquire resilience as government authority have been published (Kitoh, 2008).

Over the last several decades since the second half of the 20th century, concepts, empirical research and research practices that correspond to resilience have been repeatedly applied, simultaneously and in parallel, in various academic sectors including psychopathology, computer science, environmental research and sociology of disaster. And as we have examined up to this point, this word, on which studies and empirical research on the concept and standards were first carried out subjectively in the fields of psychiatry and psychology, then began to be used in other fields of study as a general term to describe related events in those areas, and has gradually come to be intentionally used and uniquely defined academically as a special concept.

In this paper (SCPJ research for the current year), study of the relationship between the concept of resilience and the social capital concept has not yet been sufficiently deepened theoretically. The possibility of a relationship has only been suggested. Consequently I would like to introduce here research practices (or action research) that are being carried out based on the resilience concept that has been implemented and introduced as an approach in the disaster and disaster prevention research field this year at this SCPJ, using two examples: preparation of a disaster prevention map, and activities to dismantle and rebuild two old private dwellings.

2. Outline of the "Nakanoshima Town Disaster Prevention Map" project and study of related concepts

(1) Disaster prevention map preparation phase

As one approach to solving local issues in Tama ward in Kawasaki city, Kanagawa, Japan, a "Collaboration Project by Tama ward and Three Universities" was undertaken with the cooperation of three local universities (Senshu University, Meiji University and Japan Women's University). Prior to this program, various efforts that made excellent use of the intellectual resources of each university had been utilized, such as parent-child nature classes, surveys of ward residents' needs and support activities to sends university students to schools, but in fiscal 2008 the ward decided to tackle, as an effort with Senshu University, the "preparation of a disaster prevention map" using "disasters and prevention" as a theme.

For the "Collaborative Project by Tama ward and Three Universities in 2008: Disasters and Prevention-Related Activities", it was decided to focus on "development of a safe and secure community," which is one priority issue of the Tama ward administration, and together with the volunteer disaster prevention organization of the Nakanoshima Town Association address the "disaster prevention map preparation," which the community association requested based on "development of a disaster-proof town" as an issue in the area of "disasters and prevention." The purpose was to foster disaster prevention awareness and practices among the local residents in their daily lives, by walking around with residents and uncovering and discovering issues (not only problems for disaster prevention, but also the "resources" for disaster prevention and disaster mitigation) that will arise during a disaster in the community, consolidating the various information obtained by participants while walking around on foot and preparing a disaster prevention map through a collaborative effort.

The Tama Ward Nakanoshima Town Disaster Prevention Map (the Map) project is a residents-led "*software-development-type* of town development plan," in contrast to the populated urban area improvement program for Oda 2-chome and 3-chome area of the city, for example, which is a "*hardware-development-type* of (disaster prevention) town development plan," and includes the possibility that future widening of roads and improvement of urban areas with high concentrations of wooden residences will be added to the agenda through proposals by local residents themselves, and at the present time has not yet become a statutory redevelopment project.

The Map preparation seeks to enlist the participation of various resident brackets and identify disaster prevention-related issues and resources using a workshop format by implementing walks around the communities, and sharing this information with the participants, local communities and administrative authorities by displaying the information on the map. When the project was begun, steps were taken to confirm the intent and significance of "preparation of the Map." Because many disaster prevention maps have, despite both the intentions and efforts to create disaster prevention maps at many local governments and community associations, ultimately ended up producing only an equipment location map, activities were carried out repeatedly to confirm the concept, intent and significance of "disaster prevention map creation" and correctly carry out the Map preparation, by *harking back to the true meaning* of the act of "map-making" and bearing in mind the fact, as has been admonished numerous times in the past in the disaster prevention engineering field, this is not the same as the goal of "disaster prevention = preventing disaster."

Maps indicating on a town map the locations where fire hydrants are located and disaster prevention supplies and equipment are available, and where more recently AED have been installed, are still simply equipment location maps for emergency supplies, and such maps do not encompass the meaning of "disaster prevention." They are just storage location records for helmets and emergency biscuits on a map. Because "disaster prevention" is the "social action" of "preventing disaster," a "disaster map" must clearly display "the actions to prevent disaster" on the map. In other words, who will wear the helmets (stored in the emergency supplies warehouse), and first and foremost why will they wear them, and what should the people wearing the helmets do? Because the locations where the disaster prevention activities utilizing the materials and equipment are specifically imagined and will be performed on the stage that is the town map, a disaster prevention map must be thought of as the site on a disaster prevention diagram for exercising the activities. The things called "disaster prevention maps" that are most prevalent, however, are actually just material and equipment arrangement diagrams. Believing that a disaster prevention map has been prepared by creating such a map is completely mistaken, and very often believing that disaster prevention in a community has been accomplished by creating such a map is jumping to a conclusion. For in fact, even if fire hydrants have been mapped, if the actors to connect hoses to those hydrants, grab the nozzles and spray water on burning houses are not realized, fire hydrants are simply red-painted iron pipes along the roadside.

The Map preparation was undertaken by walking around the town, conducting workshops and, preparing the Map, with the activities advancing through the following various phases³, based on a sufficient understanding of this true meaning of "disaster prevention map preparation."

The Nakanoshima district was divided into several areas, and members of the voluntary groups for

⁽¹⁾ Tama ward Nakanoshima district field survey (a walk through the town)

³ The following explanation of the activities is taken from the Senshu University Department of Literature Oyane Research Office 2009 "Preparation of the Nakanoshima Town Disaster Prevention Map" (Collaborative Project by Tama Ward and Three Universities in 2008: "Disasters and Prevention-Related Projects" report).

disaster prevention and local residents actually walked through the each area. During the walk, locations that were considered to possibly become a problem in a disaster and various resources that were thought might contribute to disaster prevention and disaster mitigation were marked on a map, and records were made using photographs and sketches. To the extent possible children also participated, and problem locations from a child's perspective (a point of view that tends to be overlooked by disaster prevention authorities) were clarified.

(2) Processing of the data used for preparation of the Map (workshops)

The information obtained from the town walks was input to a digital map, and a unique map (the Nakanoshima Town Disaster Prevention Map) was prepared. Based on the prepared map, the results were discussed with the participants in the town walks, and the contents revised and corrected.

(3) Implementation of information exchange meetings with disaster prevention volunteer groups of the other community associations

The meetings progressed simultaneously with the Map preparation activity, with the goal of heightening community disaster prevention awareness and revealing and absorbing the knowledge of the concerned parties such as novel examples that had been implemented in other districts.

(4) Implementation of opinion exchange sessions

Based on the preliminary Map, opinion exchange sessions were held with disaster prevention volunteer group members and the residents who participated in the town walks.

(5) Preparation of the report summarizing the Map preparation procedure and process and implementation of debriefing sessions

A report summarizing the process and main points of the town walks was prepared. The aim was to position the report as a guide (operating manual) when implementing disaster prevention programs of this kind in other districts (town associations, community associations, etc.) in the ward in the future. The hope is that members of the Nakanoshima Town Association of the subject district for the project will play an active role in the future as instructors for the preparation of disaster prevention maps in other districts (community associations, residents associations) in the ward. The report is organized in a way that it can fulfill the role of a manual (guide book) in such instances. This meaning was incorporated when holding the debriefing sessions on the completed Map and the report.

Specifically, five workshops were held as described below. In addition, prior to these five workshops two preparation meetings and one preliminary meeting were held. The details of these meetings are shown in Chart 1.

Chart 1: Preparation Process of the "Nakanoshima Town Disaster Prevention Map" (Workshop Schedule)

◆First Preparatory Meeting
D a t e : 10:00-12:00, Friday, 2008/June/27
Place : Meeting Room #701, Tama Ward Office
Theme : Proposals (disaster prevention by consequence and for local communities) by Senshu
University (sociological disaster study)
Second Preparatory Meeting
D a t e : 10:00-12:00, Thursday, 2008/August/21
Place : Meeting Room #701, Tama Ward Office
Theme : Introduction of local activities (including historical and cultural disaster prevention
activities) by the town associations and residents' associations in the Ward
◆First Preliminary Meeting
D a t e : 18:30-21:00, Wednesday, 2008/December/17
Place : Nakanoshima Town Hall
Theme : First meeting of the ward (the Planning Department), the Nakanoshima Town
Association and the University (the Principal Planning Department and the Oyane Laboratory)
◆First Workshop
D a t e : 18:30-21:00, Friday, 2009/January/30
Place : Senshu University Satellite Campus
Theme : Confirmation of the preparation and operation schedule for the Map.
◆First Walk-through for Preparation of the Disaster Prevention Map
D a t e : 9:00-12:00, Thursday, 2009/February/5
Place : Nakanoshima Town areas
Theme : Preliminary walk-through to find local "risks" and "resources" (by the laboratory
members of the University)
◆Second Workshop
D a t e : 18:30-21:00, Thursday, 2009/February/12
Place : Senshu University Satellite Campus
Theme : Examination of plans to walk through the town and education on community disaster
prevention (lecture by Laboratory of Urban Disaster Prevention)
◆Third Workshop
D a t e : 13:30-17:00 Saturday 2009/February/28
Place Nakanoshima Town Hall
Theme · Walking through the town and information gathering
▼Fourth Workshop
D a t e \cdot 18:30-21:00, Friday, 2009/March/13
Place Nakanoshima lown Hall
Theme Investigation of issues and resources for community disaster prevention based on the Disaster Prevention Map (large)
◆Fifth workshop
D a t e : 18:30-21:00, Monday, 2009/March/30
Place : Nakanoshima Town Hall
Theme : Introduction and examination of the (tentative) report and general overview of this
year's project

Reference:

Preparation of the Nakanoshima Town Disaster Prevention Map, Report of a Collaborative Project by Tama Ward and Three Universities in 2008

The "preparation of a disaster prevention map" request was raised from the town association side at the outset of the preliminary discussion of fiscal 2008 activities. The request was that the town association (Nakanoshima disaster prevention committee, a community volunteer organization for disaster prevention) hoped to prepare a disaster prevention map as part of their efforts concerning disaster prevention. Then, while dividing the town into smaller areas as based on the Map, an annual schedule was drafted to implement area-by-area training (small-scale training). Finally, as the university research office side we attempted to program the Map preparation so the preparation is positioned effectively, efficiently and strategically over the medium to long-term so such concepts on the town association side do not end up merely becoming "pie in the sky" or a "house of cards."

This type of disaster map preparation has become a trend at regional disaster prevention sites throughout Japan. A great deal of energy is expended in such map-making and the map exercises (also known by names such as desk exercises or DIG: Disaster Imagination Game) that has developed from such efforts [Oyane, 1999: 46-47]. Nevertheless, on one point there is a "prerequisite" that should be studied carefully when such map preparation is conceptualized and implemented. That is to properly confirm the positioning of the map preparation, and to avoid the error of such map-making itself becoming the objective and spreading the misunderstanding that regional disaster prevention has been achieved because a splendid map has been completed. In other words, the point is that disaster map preparation is not the "objective" of local disaster prevention, but is one "process" and nothing more than a "means." To prepare a disaster prevention map, local residents should work together to organize "town walks," then actually walk around their community, discuss the knowledge obtained and incorporate that information in the map. If something is understood to be a problem, a solution is sought through cooperation by taking that problem to the relevant authorities and organizations. One of the data presented at such times is the disaster prevention map. The map is a crystallization of the community association wisdom that has been created through the democratic process in the area (community association). To repeat, preparation of a disaster map is not the goal but a means, a process. Consequently numerous seeds and contrivances are buried within the disaster prevention map for producing the appearance of the town in the near future as imagined and drawn by individuals in the community. It's just one disaster prevention map, yet nevertheless it enables all of the individuals who participated together in the town walks to actually and amply read in the map – even though it appears to outsiders to be a simple map – the future image of the community of their own.

Preparation of a disaster prevention map is a social activity to prevent a calamity in the relevant area; the map (making) is never the goal, but a means and a process, which serves to achieve the goal of prevention by fostering an image of the community in the future while drawing a map that is a crystallization of the community association's wisdom. That is, preparation of disaster prevention map should be positioned as one component of town development.

Preparation of the disaster prevention map at the Nakanoshima Town Association was a tool to uncover resilience – that is, to re-evaluate and re-nurture the community's ability to "look at the unifying forces, communication capabilities, problem-solving abilities or other elements that have been accumulated internally within regions or groups, which tend to be overlooked in that process in order to objectively observe the environment and conditions at a macro level," and to attempt to identify the driving forces for restoration and recovery of the region to be found within the cultural and social resources that have been buried and nurtured in the region.

(2) Preparation Process of Nakanoshima Town Disaster Prevention Map and knowledge acquired

The following pages illustrate the various processes for preparation of the Map (fiscal 2008) (Data 1), the local issues that were understood through those processes (Data 2) and the disaster prevention map created as a result (Figure 1).

Data 1: Preparation Process of the "Nakanoshima Town Disaster Prevention Map"

This material explains an outline of five programs in total which compose this program, including the preparation process, and subsequently summarizes contents of this program and the preparation, in order to describe the series of efforts to create the Disaster Prevention Map.

1. Project Flow



- 2. Preparation Process of the Disaster Prevention Map
- 1) First meeting
- Members related to the Nakanoshima Town Association, Senshu University and the Tama ward met for the first time.
- The Town Association explained how the town had been preparing for disasters, accomplishments, problems and limitations.
- The laboratory of Senshu University presented a large frame of discussion points regarding regional disaster prevention, emphasizing on the preparation process the Disaster Prevention Map.
- Opinions were exchanged.

2) Preparation of residential maps

The laboratory created regional maps which were necessary materials for the entire process of this program and actual preparation of the Disaster Prevention Map.

 ◇Zenrin Co., Ltd., Zenrin Residential Map: Tama Ward, Kawasaki City (2009)
◇Zenrin Co., Ltd., Digitown: Tama Ward, Kawasaki City (2009)

3) First workshop

- The project was officially started.
- The entire process flow and schedule were confirmed.
- The laboratory gave a lecture about regional disaster prevention activities and preparation of the Disaster Prevention Map.
 - Keyword: D.I.G. (Disaster Imagination Game), tacitly acknowledged victims in advance, visualization of responsibilities, scenario of anticipated damages
- Discussions

A decision was hastily made to hold an AED event at the "Social Welfare Gathering," a local event (on February 7, 2009), receiving support from the local fire department.

- 4) Actual walk-through of the Nakanoshima district
- The laboratory members drove through almost the entire area of Nakanoshima to find regional characteristics and discussion points for disaster prevention.
- Findings from this walk-through were recorded on the map.



Picture 1: The members recorded their findings on pieces of paper and pasted them on the map after the walk-through.

5) Preparation of a large map



Picture 2: The large map before data input.

Pages related to the Nakanoshima Town on the residential maps were copied and combined together without changing the size to create a large map. This large map was inputted with information and developed as this program progressed.

6) Second workshop

 The laboratory gave a lecture about "walk through the town for preparing a disaster prevention map," explaining precedent cases in different regions. The members were instructed for preparation of a map and a walk through the town for disaster prevention in a concrete manner. The large map was used for discussion, focusing on two keywords: "risks" and "resources." Regional characteristics of this town were confirmed for determination of a route for the next walk through the town.



Picture 3: The map with information inputted through discussions.

7) Preparation of a map for a walk around the town using digital residential maps.

A portable map was created for a walk through the town using "Digitown" software by Zenrin Co., Ltd. This map also contained areas which were considered as key points in the discussion. However, the walking route was not given on the map in advance. Instead, each participant was asked to directly mark their route on the map.

8) Third workshop

The more than 20 participants actually walked through the town. The members were not only the regular members but also women participants and elementary school students, which was very meaningful. The participants were divided into two groups and started walking at 13:00 through seven points: ①Shin Tamagawa Heim, ②Nakanoshima Station Street, ③Roads along the railroad and the riverbeds, ④densely built-up wooden housing areas, ⑤Misawa river and Nikaryosui canal, ⑥Shimofuda Elementary School, ⑦Koinuma Construction Company. It took about one hour and a half. The route can be confirmed with the "Nakanoshima Town Disaster Prevention Map" in the next chapter as well. The participants had a set of goods for this walk (the map, recording paper, pens, notebooks, clear plastic cases, tea, and bags) and wore vests used by the Nakanoshima Town Anticrime Patrol.

After the walk, the participants reported to each other about their finding points at the Nakanoshima Hall. Their findings were immediately divided into three categories, such as "resources," "risks" and "proposals," and recorded on pieces of paper which were pasted on the large map.



Picture 4: The findings were pasted on the map.

9) Preparation of the Map and points for discussion based on the results from the walk.

Findings were taken back to the laboratory for preparation of the Map and discussion points for the next meeting.

The map was created with software, Illustrator, which overlapped the map with the walking route, locations of fire hydrants and tool boxes and pictures.



Figure: Preliminary Disaster Prevention Map for discussion

10) Fourth workshop

This workshop organized and discussed findings from the walk. In the beginning, the laboratory members explained the distributed materials (a preliminary Map and a collection of discussion points) and then reviewed the walk for confirmation of findings on each location and further discussions for each discussion point. This process extracted many issues and abundant countermeasures. In the end, the laboratory members gave a lecture about a method to organize the presented discussion points in accordance with disaster processes.

 Completion of the Disaster Prevention Map and a collection of discussion points based on discussions in the fourth workshop

The Map and a collection of discussion points were

completed based on discussions in the fourth workshop. The Map was linked with the collection in order to concentrate the essence of discussions.

12) Completion of the Disaster Prevention Map and a collection of discussion points

This program presented the completed Disaster Prevention Map and a collection of discussion points to the local residents and provided the Nakanoshima Town Council and the Ward with a report which summarized the preparation process of the Map.

Reference:

Preparation of the Nakanoshima Town Disaster Prevention Map, Report of a Collaborative Project by Tama Ward and Three Universities in 2008



Figure 1: Nakanoshima Town Disaster Prevention Map

Data 2: Collection of Discussion Points for the Nakanoshima Town Disaster Prevention Map



1. Shin Tamagawa Heim and park

Nakanoshima Hall and a park in front of the Heim are open spaces which could serve as activity sites for emergency aids after disasters. Therefore, these spaces are considered to be significant resources of this region. However, they may cause some risks at the same time, such as concentration of many people for emergency aids after disasters and panic or confusions of people as a consequence of the concentration. For this reason, it should be preliminarily discussed how to use these open spaces and how to deal with gathering of people. Preparation of a scenario of anticipated damages can be a tool to provide a chance to discuss measures for problems extracted through examination of the temporal progression after an occurrence of disasters.

2. Station street area



The shopping street is a lifeline which runs from north to south across the Nakanoshima Town. Given the numerous utility poles built along the routes, however, there is a concern roads will be blocked if even one pole is toppled during an earthquake. For this reason, burying the lifelines underground and widening sidewalks based on the district plan are given as solutions. Burying the lifelines underground and widening pavements based on the district plan are given as solutions. While neither measure can be accomplished overnight, both are closely linked to the larger theme of "resident-oriented town development."

3. Roads along the railroad and the riverbeds



Riverbeds are designated as refuges for regional evacuation. However, it is questionable if riverbeds are suitable for refuges due to a weir nearby, no toilet and their rough ground surface. In addition, the roads which evacuees have to cross to get to the refuges regularly have a heavy traffic of large-sized vehicles; and are expected to become difficult to access in the case of disaster due to a traffic jam with emergency transportations. Due to these problems, safety has to be ensured for these refuges, developing an organization of traffic guards. It is also necessary for this region to determine other places to be protected; people who protect them; and methods for protection.

4. Densely built-up wooden housing areas





This area has different characteristics from those of "densely built-up wooden houses" in a general definition. This area has many old wooden houses with large lots, large rooms and low fences which lessen a sense of pressure. This local community has been maintaining traditional ways of communication. Moreover, the owners of houses agree to setback in case of rebuilding houses, gradually widening sidewalks and eliminating dead-end streets every year. These characteristics made it suitable for this area to be called as "rich wooden houses" or "an evolving area with densely built-up wooden houses through times" instead of being called, "a fragile area with built-up old wooden houses in terms of disaster prevention." The suggested "Risks" correspond to multiple "Proposals" which are expected to be implemented taking advantage of these unique characteristics of this area.

5. Misawa River and Nikaryosui Canal



This area has "Resources," such as welfare facilities, which can be used as refuges in case of emergency. However, these refuges will cause problems for the regular users. Therefore, it is necessary to be confirmed how to deal with the regular users in the case of utilization of the facilities for refuges.

6. Shimofuda Elementary School



Elementary schools and daycare centers tend to be exclusively considered as "Resources." However, they actually have serious problems; How to care for children, how to deal with a group of children who have difficulties to get home, and how to establish and operate refuges without confusion. For preparation against these problems, it is useful to determine "a scenario of anticipated damages" which will become a desirable premise to implement various programs, such as trainings for establishment and operation of refuges and practical trainings for emergency evacuation.

Reference:

Preparation of the Nakanoshima Town Disaster Prevention Map, Report of a Collaborative Project by Tama Ward and Three Universities in 2008

For "densely built-up wooden housing areas" for example, people frequently refer to the reconstruction of those areas as a development of a disaster-proof town because many senior citizens (living on pensions who could only afford to live) in such areas lost their lives when many old wooden houses collapsed or burned down in the Great Hanshin-Awaji Earthquake. But in fact the preparation of disaster prevention map at the Nakanoshima Town Association as well initially appears to have been started based on such concern. As a result of many individuals participating in the town walks, however, people began newly using the expression "rich, concentration wooden housing," and not "densely built-up wooden housing to be renovated (or to be rebuilt)," to refer to the wooden housing district in Nakanoshima. The logic of such thinking is as follows.

This is an urban district that had never had one outbreak of fire before the quake, an urban district offering ample neighborhood relationships (rich personal exchanges extending across several generations through groups such as the fire fighting group), and an urban district where setback along narrow streets (reconstruction in compliance with the Building Standards Law: compliance with the 4m minimum adjacent road width regulation or corner cutoff) has been accomplished as each home has been rebuilt with the change of generations, gradually widening the streets over the past several years and eliminating dead-end streets, and as a result of everyone directly seeing, confirming and discussing such historical and current conditions has caused residents to realized this area is not "densely built-up wooden housing that should be rebuilt" but is (in fact) "rich, concentrated wooden housing" Indeed, various risks have been discovered in some places around the town where the government's disaster prevention assessment is excellent, such as the shopping district surrounding the station where roads for priority traffic in a disaster have been created, and around large condominium complexes where open space is assumed to have been sufficiently ensured. From there, issues such as the removal of utility poles and burial of utility lines on main streets (fear that priority roads would be blocked and rendered impassable during a disaster), effective use of supermarket parking lots and a change in the way of looking at local welfare facilities (not as dangerous facilities housing vulnerable individuals but as resources that might be used) has begun to be studied among the residents involved in preparation of the Map. That is, by residents themselves reflecting on and reexamining local conditions that had been groundlessly considered to be risks (stereotypes) and repeatedly engaging in communications to again bring local resources to light, an attitude of looking earnestly at what they really have began to be nurtured. With participation by housewives and elementary school children in addition to local elderly residents and middle bracket individuals (fire fighting groups and proprietors), the spread of activities over three or four generations has began to evident.

3. Taiwan and Japan old private dwelling relocation projects

The Mikura district in Kobe's Nagata ward, one of the areas devastated by the Great Hanshin-Awaji Earthquake (1995), continues to grope for a resident-driven town restoration

effort, (trying to find the common ground while arguing over details) drawing a line with the ongoing restoration urban planning program (land readjustment program), which is a government-led reconstruction effort. As part of this, a town meeting place had been constructed as one core component for reconstruction of the stricken area. Unlike other ordinary community centers, it is an old wooden private house moved from a depopulated fishing village and rebuilt in the community. This subsequently was brought to the attention of local researchers who were seeking town restoration in Taiwan, which had experienced similar devastation (September 9, 1999, Taiwan Chi-Chi Earthquake: Magnitude 7.6, over 2,000 killed and 8,000 injured), and resulted in another old private house from a fishing village on the Sea of Japan being relocated and rebuilt in Taiwan.

While one can see, in the restoration of local society in a stricken area, the process of fusing the local population's living wisdom with the scientific wisdom of specialists and acquiring resilience as public wisdom, I would like to defer discussion of the details of the study on how this can be understood using the concept of social capital to a later paper. In this paper, I would like to present in outline this activity of dismantling and rebuilding an old private residence. To do this, it would be necessary to provide a brief summary of "Machi-Communication (Town Communication)," the non-profit-type organization that carried out the activity, and an overview and history of the Mikura district where the organization is active, as follows.

(1) Life in the Mikuradori 5-chome and 6-chome district prior to the earthquake

The Mikuradori 5-chome and 6-chome district is an area covering about 4.6ha in the southeast part of Nagata ward, Kobe city, Hyogo, Japan. Prior to World War II the neighborhood was a prosperous district home to the chemical, metals and machinery industries. Row houses for workers were also provided, and the neighborhood was urbanized as a typical mixed residential and factory area.

Following World War II, a war-damaged land readjustment project was carried out and 6m-wide streets were constructed at intervals of about 100 meters, but most of the streets running in front of each house were private roads about 2.7m wide. The obsolescence of the housing stock, particularly among housing units built as row houses, was remarkable. Before the earthquake, the district was a typical inner city neighborhood where the trends of an aging population, spurred by the outflow of young workers, and industrial decline were evident. Numerous houses collapsed in the Great Hanshin-Awaji Earthquake on January 17, 1995, and 80% of the district area was consumed by the conflagration that occurred immediately after the quake. Twenty seven individuals lost the lives.

(2) Construction of cooperative housing in Mikura (Machi-Communication activities) Many of the residents were driven from the ruined area, and no one gave thoughts to starting over. It was under such conditions that two months after the earthquake, based on its March 17, 1995 urban planning decision, the city of Kobe specified the Mikura-dori 5-chome and 6-chome area as an earthquake restoration and land readjustment project area. Because its board members had grown old (and everyone was in shelters and absent from the area), the community association was no longer functioning. "If we do not get involved, won't our neighborhood just be rebuilt however the city likes?" Area resident volunteers, who had doubts about the approach being contemplated by the city government, formed the "Mikuradori 5-chome and 6-chome Community Creation Association" (referred to below as "the Association") in April 1995.

Because much of the area in the Mikuradori 5-chome and 6-chome area had been burned down and many of the residents had been moved outside the district to shelters and temporary dwellings, calling people back to the district again had become the number one concern. Therefore voices calling for the supply of public housing were loud, and on June 18, 1995, a "Request Concerning the Early Construction of Earthquake-Resistant Public Housing" was submitted by the Association. In addition, the Association conducted a questionnaire survey and interviews among the former residents, landlords and landowners in August 1995 with the aim of rebuilding the community. Among each category, at least 70% responded they wanted to return to the area and rebuild.

Based on the questionnaire results, several study meetings concerning town development methodologies and cooperative reconstruction were held and the Association prepared a "proposal for own restoration," which it submitted to the Kobe city government. The slogan for the proposal was, "Homes and workplaces existing together. 'Mikura' – A community where you can slip on your *geta* and walk."

Talk of cooperative reconstruction in the Mikuradori 5-chome and 6-chome district reached the Association after about one full year had passed since the earthquake. The urban planning carried out for the district was a land readjustment project, and the right holders for the project were limited to landowners and leaseholders. The desires for rebuilding in the area among the tenants who accounted for 70% of the former residents were only unrealized dreams. Taking hold of the crisis in these conditions, the Association asked researchers and architects who came to visit the district following the earthquake to prepare cooperative reconstruction ideas that gave considerations to rebuilding the lives of the tenants.

A plan entitled "Our Proposal for Cooperative Housing Reconstruction!" appeared in *Hikobae*, the newsletter issued by the Association, in April 1996. This was a grandiose project plan that envisioned turning the entire north block of Mikuradori 6-chome, an area equivalent to one-quarter of the district area, into a single site. Plans related to landowners as well as land and building/house renters as one of the right holders, and by having the city of Kobe participate as a right holder, a plan to treat part of the cooperative housing as public housing had been incorporated into the proposal. This cooperative reconstruction plan can be said to have been a

proposal that presented a vision where the renters who might be excluded from the image of the land readjustment project were able to walk side by side with land owners and leaseholders by putting aside their differences.

However, this project plan actually urged substantial revisions to the "Ideal Future Image proposal" of the town in the "proposal for town restoration" that was initially prepared (a big condominium style, rather than "slip on your *geta*"). Moreover this project plan also simply assumed that large adjustments to the rights would have to be made in order to achieve it.

Because of the grandiosity of the ideal, the image of cooperation was rejected by Kobe city and the consultants as an unworkable plan. During the phase when the project had little probability of being realized, conditions were such that calling for participation by the leaseholders and renters was in fact impossible, and in practice this could be dealt with only by the landowners.

(3) Establishment of Machi-Communication and details of cooperative reconstruction

In April 1996, volunteers who had provided support services from the first stage of the Association's activities established the volunteer group "Great Hanshin-Awaji Earthquake Support Group: Machi-Communication" (referred to below as "Machi-COMI"). Support for the community by the nonprofessional group was provided under the slogan, "restoration is impossible without restoration of the community." With only 20% of the residents living in the district since the earthquake, the volunteers were necessary to supplement manpower and to obtain information on behalf of the residents on topics such as hard-to-understand reconstruction efforts like the land readjustment. Machi-COMI's activities were not often understood or assessed positively even by those in the community being assisted as they supported the community while many volunteer groups focused on support for temporary shelters.

Machi-COMI was troubled by the overwhelming lack of information among the local residents concerning cooperative reconstruction. The group therefore conducted, in collaboration with architect and researchers, surveys of residents' actual conditions. Damage status, various work, family and housing conditions, the status of rights prior to the earthquake and other matters were confirmed by these surveys. Along with the surveys, Machi-COMI prepared photographs of cooperative housing and explained its mechanism at the meetings in which they called for the people surveyed to participate in order them to elicit more realistic images of cooperative housing.

In cooperation with the Association and the "Our Town Association" (an organization comprised mainly of women from the area), because revitalization and restoration of the area could not be attained through just town lot readjustment, Machi-COMI continuously planned and held local events after the quake such as a memorial service, obon festival dancing and

mochi rice cake preparation. Along with calling back people who had moved to the temporary shelters constructed in the suburbs, even if only temporarily, these activities helped build mutual trust between residents and the outside volunteers and strengthened local town development approach. In December 1996, a rice cake making festival was held as a commemorative event for the one-year anniversary of the Mikura 5-chome and 6-chome District Temporary Meeting place. An architect was invited, and a "Magic Lantern Night" (slide-show meeting) was held where examples of advanced cooperative housing were introduced. The effect was to generate interest relating to cooperative reconstruction by proposing images of residential dwellings not only as buildings but also as a "way of living." In addition, by sponsoring events in tandem with the explanations of the cooperative reconstruction, many efforts were made to create situations in which residents could participate easily.

A workshop concerning cooperative reconstruction was convened in May 1997. Unlike a typical study meeting where participants learn about the substantive benefits from cooperative reconstruction, the main focus was put on firmly establishing the sense that "living close together is enjoyable," by thinking about the pleasant ways of living in a housing complex and eliciting residents' requests.

In June, 1997, a "Cooperative Reconstruction Preparation Group" was formed by several families that stated their intent to participate in the project. Group members commented that they "sensed the attractions of the cooperative housing way of living" and that "(because of reasons such as the narrow lot areas,) the only alternative left for rebuilding is cooperation."

In addition, negotiations concerning the ownerships in the 6-chome north block that was the initial candidate site encountered rough going, and finalizing the site for the project proved difficult. To increase the desire for the project, repeated meetings of the preparation group were held and tours to see advanced examples of cooperative housing were organized. Nevertheless, the project itself did not advance very far because of the need to recruit more participants in order to realize the cooperative housing complex. To break out of these straits, the president of a local firm who owned land in the 5-chome north block was requested to participate in the project, and consent fortunately was obtained.

Discussions on the basic design between the rights holders and the designer were begun in October. When detailed meetings with the architect in Osaka proved difficult, a local architect in Kobe was alternatively selected. At the same time Machi-COMI, which had continued its efforts aimed at realizing cooperative reconstruction from the beginning, played the role of coordinating between rights holders and experts as well as among the rights holders themselves, and followed the entire project. In the stricken areas in Kobe, many cooperative reconstruction projects were carried out. This was the sole example in which a "non professional architect" volunteer group coordinated such a cooperative reconstruction project. As a result "Mikura 5," the cooperative reconstruction residential project for 11 families, held its completion ceremony in January 2000. [Miyasada, 2007: 113-116]

(4) Progress of resident-led town development in Mikura (From "Mikura 5" to an "old private house")

Although a number of private homes were rebuilt and two public housing units (94 families) and the cooperative housing project "Mikura 5" (11 families) were constructed in Mikura, the percentage of former residents who returned to the community did not exceed more than about one-third (100 households). Because the area damaged by fire was extensive, many residents had been forced to take up temporary lives outside the area. Once they had left the neighborhood, the attitude of many households and businesses evolved from that went from "a temporary roof overhead" to "a final home" because families were concerned about the repeated moving (emergency shelter \rightarrow temporary housing \rightarrow disaster restoration public housing etc.) and changing their local relationships and children's schools, and businesses were faced with the large cost of relocation and the fact that customers and business partners were now far away in terms of time and distance. Then, as most of the building activity by former residents and businesses came to an end around 2002, the reality that former residents were unlikely to return was widely acknowledged.

With people barely able to carry on their daily lives in the aftermath of the earthquake, the attitude of helping others was said to have given many the strength to live. To cultivate that attitude amidst the current conditions, Machi-COMI planned and implemented a variety of local events.

In the autumn of 1999, as "Mikura 5" was nearing completion, the president of a local firm owning the right to space at "Mikura 5" offered the space free of charge. The residents began discussing proposals on whether to establish a community space in a first floor unit of "Mikura 5." Local residents and volunteers came together, and in April 2000 opened the neighborhood community space "Plaza 5" as a base for "mutual support and active community welfare." Activities were planned and held here by volunteers from within and outside the area, including a community café *Fureai*, a mini-daycare service (to help the elderly who tend to stay inside to meet people and to alleviate the feeling of isolation) and a personal computer classroom, with the goal of increasing opportunities for old and new residents to meet and for senior citizens who are living in the public housing to go out.

Mikura-Kita Park was designed and built in January 2002, following discussions among residents and consultants, with residents putting in the efforts to lay sod and plant shrubs. Residents also decided to erect a memorial monument, and this also was completed by residents (especially housewives) from laying the foundation to pouring concrete.

In addition, to pass the lessons learned from the earthquake to the next generation, the Association and Machi-COMI jointly planned a program that is implemented by accepting students on school excursions from throughout Japan. Each year about 2,000 individuals, mainly junior high school students, visit the district to hear residents' stories about the damage and efforts to rebuild their lives. In 2003, local residents created a card game called "Misuga Karuta." In all, 133 individuals living in or outside of the area contributed phrases and pictures, and their thoughts and sentiments regarding the neighborhood and the earthquake were incorporated on the cards [Miyasada, 2007: 116-117].

Local residents also had a hand in building the meeting place as a base for local people to gather. Located directly in the center of the Mikura district, with its rows of brand-new buildings, stands a building made with deeply beautiful and elegant pillars and fittings. This is a meeting place built by dismantling and relocating an old private house that was said to be 130 years old, which had been located in Yasugi-mura in Kami-cho, Kasumi-ku in the northern part of Hyogo prefecture.

Local residents who gathered in the stricken area following the earthquake had a difficult time securing a "place" to discuss the district's future, and strongly felt the need for such a venue. In October 2001, as individual houses in the Mikura district had proceeded to a certain extent, residents began talking about building a meeting place by using the "Disaster Area Community Plaza Establishment and Management Activity Aid," a disaster restoration fund, and renting land at no charge from the city of Kobe. As they continued study meetings and site visits, the residents decided to dismantle, move and reconstruct an old private house.

The building contractor's office estimated the cost to be 60 million yen. This was 1.5 times the residents' budget. The volunteers therefore provided their labor, and also raised funds. They also raised operating funds (no interest). Volunteers were recruited by visiting universities and asking for student participation in the rebuilding.

The dismantling work in Yasugi in Kasumi-ku was carried out during the summer of 2002. By using the summer vacation when the students could participate easily, the on-site live-in work was finished in roughly two weeks. Construction work in the Mikura district began in May 2003. The students used their weekends and after-school hours to participate. For the construction work after returning to the Mikura district, the local resident-workers also participated by using their days off. Given the many residents with special skills among the workers at small factories, this also provided an opportunity to showcase for local residents their techniques in areas such as wiring and metalworking as personal functions. There were many other roles to fulfill as well, such as preparing food for the people carrying out the work and collecting funds. In all, more than 2,000 individuals contributed in some form to construction of the meeting place. In January 2004, nine years after the area was devastated, the meeting

place, made by dismantling and rebuilding an old private house, was completed as a symbol in the region (land area: 393m² (rented land); total floor area: 220m²; building area: 190m²).

(5) To the Taiwan-Japan old private house dismantlement and rebuilding project

The desire to dismantle and rebuild the old private house and its impact were surprisingly large. It resulted in a project to move the private house built in Oi-cho, Fukui prefecture by the father of writer Tsutomu Minakami to Taiwan, after that island was struck by the 921 Chi-Chi Earthquake (September 21, 1999).

Details of this project described in "Monthly Machi-COMI" are excerpted and introduced below.

"Monthly Machi-COMI" July 2005 edition

•Meeting place in Mikura district connected with a private house

Two years have passed since the meeting place construction project by residents and students in the Mikura district (referred to below as "Mikura"). The Mikuradori 5, 6 and 7-chome Residents' Association Hall is being used by many people – residents, of course, as well as students on school excursions, visitors and others. A new breath is being felt in Mikura, where space with the history stretching back more than 120 years was reproduced.

With Mikura's mini-day service, senior citizens can meet, rest, and take time to chat around the hearth. Once every three months, the hall is packed on Sunday as people turn out to hear the "singing association" or the "Hyakubun Club." Many people were involved in the private house construction work, and the atmosphere weaves the spell of an old space that recaptures their respective desires. A venue that cultivates both the hard and soft aspects of a neighborhood has been achieved in Mikura.

• Taiwanese town developers enchanted by old Japanese private house!

Along with support for the stricken area in Taiwan in the wake of the Taiwan Chi-Chi Large Earthquake, individuals related to Machi-COMI and Mikura residents have deepened their collaboration aimed at restoration by collaborating with individuals working on town development in Taiwan and studying town restoration and development together. Through 2005, 300 individuals involved have visited Taiwan. The prefectural governor from Changhua County in Taiwan, with which Mikura is collaborating, along with many individuals involved in the town development, visited Mikura on June 16, 2004. As they interacted leisurely during the exchange period in the warm space at the old private house and meeting place, people were filled with deep emotions. Among the town development people from Taiwan as well, the desire to dismantle and rebuild such an old, emotionally moving private dwelling space in their home country Taiwan began to flower. Thoughts were exchanged, and in the beautiful setting strong feelings welled. Visitors closed their eyes, and imagined the scene of a private house, built in Japan, now set in the earth in rich green Taiwan and standing against the blue sky.

• Private house dismantled and rebuilt in Taiwan

In the summer of 2001, when the meeting place in Mikura was constructed, consultations were held with an individual who owned a private house in Okada village in Oi-gun, Fukui prefecture who wanted to know if there was "a way my private house could be used effectively?" This was the Okada village home of the late writer Tsutomu Minakami in Oi-gun, Fukui prefecture. Wakasu Itteki Bunko, which opens the author's collection of books to the region, is also located nearby.

When surveying the private house in the fall of 2001, the words, "Chief Carpenter Kakuji Mizukami" were written on the ridgepole placard or *Munefuda*. Chief carpenter Kakuji Mizukami was Tsutomu Minakami's father. In his books, Tsutomu writes that his father was a poor carpenter. The techniques seen in the Sayado Kakuji built at age 19 are wonderful to behold. The private house that was dismantled and rebuilt was first built in 1916, when he was 21 years old. In winter for the snow is piled several meters high, the central pillar and

supporting pillars remain sturdy and robust, and the cross beams too have a strength that never yields to load on the roof. The work of the curved beams in a so-called teppou that emulates the chief carpenter's technique is impressive. The appearance captured the hearts of the town development people from Taiwan as well.

•Decision to begin dismantlement work

There are things learned from the dismantling and rebuilding the old private house project. One of them is "in season." Works were carried out by choosing the right season for cutting trees and bamboo, and the respective time for straw and the soil. The old house had lived by leaving itself to the seasons. Many things exist in season. People have desires, and requests, and become fickle. Things too take on a life of their own and decay. Used properly and repaired, the time required for things to deteriorate can be prolonged. The private house, empty for several years, had leaks. It was only a matter of time before it would fall victim to rot. Although the project plan had not been decided, there was absolute confidence in the space and time that could be made by dismantling and reconstructing the old private house. The decision factors were arrayed. The opportunity was at hand, and the time to act was now.

•Dismantlement begins!

Dismantling the private house required one month from August 15, 2004. Beginning about two months before, time to explain the project during class hours and request student participation was obtained with the cooperation of teachers at nearby universities and vocational schools. As a result, 55 students participated in the dismantlement work, and the enthusiasm of far more than 100 volunteers including four architecture students and one movie director from Taiwan, Mikura residents who felt the importance of ties at the meeting place, teachers and carpenters was pooled for the effort. Thanks to the ability to use an empty house in Okada village for sleeping quarters and the kindness of countless local citizens including people at Itteki Bunko, the dismantling work was completed in four weeks. At the end of the work an international exchange concert co-sponsored by Itteki Bunko was held concurrently with a charity for victims of torrential rains in Fukui prefecture, and participants pledged to successfully complete the dismantling and rebuilding and continue cooperation. For drying and to enable the carpenters to handle repair work on the old materials, the dismantled wood was moved to a warehouse in Hikami-cho in Sasayama city, Hyogo prefecture.

•Negotiations with Taiwan

To discuss the project with Chiu Ming-min, representative for the counterparty in Taiwan, members from the Japan side have made five visits to Taiwan, where specific decisions concerning the dismantling and rebuilding were made. The major issues are locating a site and gaining consent in Taiwan. Discussions aimed at resolving differences in building standard laws, land selection, the availability of materials, differences in traditional craftsmanship and construction requirements also moved forward. According to Minister Chen Chi-nan of the Council for Cultural Affairs, many Japanese-style buildings and buildings from the years when Japan ruled Taiwan still remain and are still being importantly used.

Negotiations to select the planned construction site proved difficult, but ultimately it was decided to rebuild the house in Tamsui, a scenic area in northern Taiwan.

•Formation of a Japan-Taiwan Support Group

To cover issues from a technical and financial aspect, preparatory steps were taken to form a support group comprised of academic experts and citizens in Japan as well. Even though he was busy Luó Chéng Xióng, (羅辰雄), president of Horai Co., Ltd. kindly provided strong support to the Japan-Taiwan collaboration and Tsutomu Minakami's eldest daughter Fukiko also provided assistance for donations including a collection of books.

• Shipment to Taiwan

The materials were packed in containers on November 19-20, 2005, and shipped from Kobe Port on November 30. The containers arrived in Taiwan on December 3, 2006.

The lumber shipped to Taiwan began finally to be assembled on-site in fiscal 2008.

The following section continues to introduce the progress from the details to-date.

"Monthly Machi-COMI" August 2008 edition

After the dismantling and rebuilding of the old private house meeting place in the Mikura district in Nagata ward in Kobe was completed with the help of 2,000 people (January 2004), a Japan-Taiwan collaborative old private house dismantlement and rebuilding project was begun based on collaboration with a stricken area in Taiwan. Three years have already passed since the desire to pursue the project was first discussed. It's been a long road, but preparations for construction have at last begun, based on the warm support and cooperation from Taiwan and Japan.

The old private house will be built in the Peace Memorial Park located in Tamsui Township in Taipei, Taipei County, Taiwan, as a place where the mentality of *Itteki*, which is also the origin of the name of Wakasu Itteki Bunko (established by the writer Tsutomu Minakami in Oi-cho Okada, Oi-gun, Fukui prefecture), can be felt. Filled with books by Tsutomu Minakami and Chin Shunshin, the house will also play a role in preserving buildings and culture. Through the efforts of numerous young people and interested parties from Taiwan, Japan and around the world who pour their sweat into the site under the direction of Japanese carpenters, and the construction process and follow-up collaboration to assist surrounding activities, people-to-people exchanges for peace between Taiwan and Japan and all the world will be advanced.

The presentation ceremony was held in the public office of Tamsui Township in Taipei, Taipei County, Taiwan on July 21, 2008, and the old wooden private house in Oi-cho, Oi-gun in Fukui prefecture (Tsutomu Minakami's father Kakuji Mizukami was the chief carpenter) that was dismantled in 2005 and approximately 200 books written by Tsutomu Minakami and donated by his eldest daughter Fukiko Mizukami were delivered to Mr. Sai Yeh wei, Town Mayor of Tamsui Township, which will be the central entity for the project.

The future schedule calls for starting construction work in mid-November, with completion planned for the spring of 2009.

The path to this point is recounted below.

•Collaboration - the start of an idea

The start of this project sprang from the "heart" in every individual that was born from the earthquakes that struck Taiwan and Japan. This "heart" is the good feeling of people helping one another during restoration efforts and the desire to help others if only a little.

At the invitation of Peace Boat, on January 18, 2000 Machi-COMI advisor Tanaka headed for the area of a Taiwan struck by the Chi-Chi Large Earthquake on September 21, 1999. There he met with Chiu Ming-min (then-representative of the Taiwan Hope Process Association (台湾希望工程協会)). And Tanaka felt a great deal of help, and thought this could be a major source of strength for life in the future. Afterwards residents in the Mikura district (many of them housewives) actively listened to Tanaka's talk of the reconstruction activity conditions in Taiwan. Consequently the women wondered if they couldn't offer hope and comfort to the residents in Taiwan drawn from the experiences of suffering during the restoration process in Kobe and soon began optimistically making plans to encourage the stricken area in Taiwan, and in March, 15 district residents and members of Machi-COMI headed to the devastated area in Taiwan. In the stricken area in Taiwan as well there were people struggling with the same difficulties, and people with hope who were pushing ahead. In the latter half of March, the group went for a second inspection. In going to Taiwan they met people and an environment with which they could empathize, and the hearts of the participants were warmed.

A repeat visit was made to Taiwan in February 2001. By joining forces with Hattori Kumie (a student at Tokyo University of the Arts), with whom they were acquainted from their prior visit to Taiwan, they boosted their collaboration strength with a No. 1 team of 20 individuals (local collaboration) and a No. 2 team of five individuals (survey collaboration). The number of people at the locations in Taiwan and in the Mikura district who thought they wanted to collaborate had increased. In June 2001, Tanaka was invited to an APEC conference, where he delivered a speech. Spurred by the typhoon that struck Taiwan on July 29-30, 2001, residents

cooperated with the "Charity Sunflower Concert to Support Victims of the Taiwan Toraji Typhoon (held at Maiko Villa Kobe on September 12) sponsored by vocalist Ri Kourei (born in Taiwan, residing in Kobe) and raised a fund which they contributed to children in the heavily damaged areas as a scholarship.

In 2002 students and residents became more active as they participated in the dismantling of a private house that was reconstructed in the Mikura district. During this period Chiu Ming-min and visitors from Taiwan came to Japan three times to study restoration town development in Japan. Encouraged by their visits, a total of 21 individuals, comprised of participating students and residents of Sayo town with whom they had collaborated, joined by the Machi-COMI management committee and local residents, made a third visit to Taiwan in February 2003. The visited the Yeong-Leh Community in Changhua County, shared a lunch with Changhua County Commissioner Wong Chin-chu at a meeting place made from discarded materials and talked about town development.

•From past collaboration to young people from Japan and Taiwan investing sweat together in a project to dismantle and rebuild a old private house – dismantlement of an old private house

Requests to "please use my house" were received from individuals in Oi-cho in Fukui prefecture who had learned of the project. According to the ridgepole placard, the private house was built by master carpenter Kakuji Mizukami, father of writer Tsutomu Minakami, in 1915. The house was examined on September 29, 2002.

Dismantling and reconstruction of the old private house meeting place in the Mikura district was completed in January 2004. A group led by Changhua County Commissioner Wong visited Kobe on June 16, 2004, where they were invited to the old private house meeting place in Mikura. On that occasion Commissioner Wong commented, "I would like to see a building with such distinctive character in Changhua County, too." The private house in Oi-cho as well are building with a story, and to let it breakdown without utilizing it contradicts the "*Itteki* mentality." In dismantling and rebuilding the old private house in Mikura, we learned of "seasons." Nothing – the project plan, the location for transporting and rebuilding – was decided. We had absolute confidence in the experience which can be obtained by dismantling and reconstructing the old private house and in the space the old private house afterwards can create. Fortunately the buildings still had little damage and would best be dismantled in this condition as early as possible, and with now being the "season," the dismantlement work was begun in August 2004. Along with 40 Japanese students, four students from Changhua County, Taiwan joined in the work because of the good experience it offered.

• Searching for a way to move and rebuild an old private house in Taiwan – Search for a building site

When the dismantlement was completed, the participating students pledged, "The students from Taiwan participated in the dismantlement and as proof of their collaboration, we also want to participate in rebuilding a house in Taiwan." Because of the request for cooperation in October 2004, two months after the dismantlement work, to transport and rebuild the old private house in Taiwan, chief carpenter Saito and seven students visited Taiwan. With the cooperation of Chiu Ming-min and others in Taiwan, the group began by requesting cooperation from Taiwan National University and the Council for Cultural Affairs (Taiwan's equivalent of Japan's Ministry of Education, Culture, Sports, Science and Technology) in Taipei in the north, then went south to look at candidate sites in both Nantou County and Changhua County and hold a symposium at Shu-Te University in Kaohsiung County. Because they wanted as many people as possible to visit and see the old private house, the group planed its building site at the foot of beautiful Bagua Mountain in Changhua County at the introduction of the Changhua County Commissioner (the County Commissioner's secretary was Chiu Ming-min), who had visited the Mikura district in Kobe. At this time a model of the building was created using hundreds of pieces of material, based on the restoration drawings prepared in Japan by the students in conjunction with the dismantling of the house.

Another visit to Taiwan took place in January 2005 and the planned site for a flower exposition in Changhua County was added to their building site plan. To request cooperation on a site, Miyanishi Yuji (known in Japan by accolades such as "founder of the town planning and development movement" and recipient of the Ishikawa Prize in 2002 from the City Planning Institute of Japan), an old acquaintance of Chen Chi-nan (Minister

of the Council for Cultural Affairs), visited Taiwan in April. With good sites proving difficult to find, and feeling the significance of the collaboration and a strong sense of responsibility, in July Chiu Ming-min proposed the idea of personally purchasing state-owned land from Changhua County. Struck by Chiu's ardor, representatives from the Japan side visited Taiwan again in August where they surveyed the wood and tile circumstances that would have to be supplemented in Taiwan, together with Japanese-style buildings that already existed there. Assuming there must still be unutilized land in Taiwan, they set up a tent at the most conspicuous location in front of the Presidential Office Building (former Governor General's official residence) and audaciously solicited land by writing, "Looking for 500 tsubo of land," As a result a number of individuals stepped forward to offer land. By October, it had become difficult to store the wood that had been saved in Hikami-cho Hikami-gun in Hyogo prefecture, and the wood was prepared for export and cooperation to cover the shipping company's shipping costs was requested. During this process, the possibility of using land in a park managed by the shipping company was also offered and studied. In November the wood materials were exported from Japan. In the December election, the Changhua County governor who understood the background to the dismantling and rebuilding of the old private house was defeated. The possibility of rebuilding the house in Changhua County was lost. Throughout December, Chiu Ming-min spent nearly every day on the road inspecting land in dozens of locations all over Taiwan, negotiating and requesting the assistance for a site. In January 2006, a group from Japan visited Taiwan, and together with Chiu studied the best candidate sites among the potential sites that still remained. Land with excellent conditions and a hospitable story to tell could not be readily found.

Tsai Yeh-wei, a companion of Chiu's during their volunteer activity in Japan, was elected as Town Mayor of Tamsui Township. Tsai also was interested in the old private house relocation and reconstruction collaboration project and declared his full cooperation, and gave his assistance to locating a warehouse to store the wood materials. On February 14 Mayor Tsai personally paid a visit to the old house in Mikura, where he gave a presentation on the dismantling and rebuilding of the old private house.

To prevent the wood from rotting, in May 2006 students from Taiwan's Tamkang University and township residents applied preservatives, thereby saving the wood. Although it took one year, the Tamsui side worked to prepare a budget for the Peace Memorial Park, and in 2007 the site was decided. In May 2008, a permit for construction as a "commemorative building" was received, finally enabling construction in Taiwan to go forward. In June the design engineer Fujikawa went to Taiwan to check the wood, and work to estimate the building cost was begun. Together with the dedication ceremony, pre-construction preparatory workshop activities were held in July featuring chief carpenter Saito and the Japanese and Taiwanese students whose efforts were a major contribution when the house was dismantled. While fostering a mentality of *Itteki*, a major undertaking had been moved forward.

Daubing the walls with earth, to put the final touches on the re-assembled old private house, was carried out in the summer of 2009, once again with the participation of student volunteers from Japan, and with the interior work performed during the fall construction was nearly completed within the year. Work on the park surrounding the reconstructed and reproduced old private house proceeded simultaneously, and the unveiling ceremony is planned to be held in the spring of 2010. The details of the dismantling and rebuilding of the old private house, which took 10 calendar years, are provided in Data 3.

Data 3: Timeline of the Dismantlement and Rebuilding of an Old Japanese Private House in Tamsui, Taiwan







Data 4: Japan-Taiwan Old Private House Dismantlement and Rebuilding Project Introductory Article

Conclusion

This paper has been limited to introducing two examples: the dismantling and rebuilding of an old private house, and the earlier case of preparation of a disaster prevention map. A theoretical discussion of these cases, reading them using the social capital concept in the context of this project, will be presented in another paper next year.

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Supplementary notes

- The author who participated in this research project (Oyane Jun) is currently on the management committee of Machi-Communication and is the director of the group's Kanagawa Office.
- · After receiving his Master's degree in 1992 from the Senshu University Graduate School of Commerce as an international student from Taiwan, Chiu Ming-min returned to Taiwan, where he took up an important post in the Taiwan government section related to industrial and economic promotion. That was the time when he engaged in community-related businesses in Nantou County as an advisor to the governor, he encountered the 921 Chi-Chi Large Earthquake (1999) and began working actively for revival of areas devastated. To take maximum advantage of the experience he gained while studying in Japan, he subsequently began collaborating with the stricken area in Kobe, and to further deepen his understanding of restoration urban development enrolled in the Kobe University graduate program, where he earned his doctorate degree. After again returning to Taiwan he took a position with the prefectural government of Changhua County, where he served as a vital link for the Taiwan-Japan old private house dismantling and reconstruction project discussed in this paper. Beginning from the current fiscal year he has been teaching at a local university in Taipei. As a past student and affiliate of Senshu University, he provided valuable assistance and research guidance in Taipei to the students from Oyane Jun's seminar who participated as volunteers in the old house reconstruction project.