DISASTER, INFRASTRUCTURE AND SOCIETY
No.2 June 2012
Learning from the 2011 Earthquake in Japan
災害・基盤・社会　東日本大震災から考える

Special Issue

An Interdisciplinary Dialogue on Post-quake Reconstruction

Study Group on Infrastructure and Society　/　「社会と基盤」研究会

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Cover Map:
This map is comprised of three layers.
1. 1:50.000 Scale Topographic Map "Ishinomaki(1912)", by Geospatial Information Authority of Japan
2. 1:25.000 Scale Topographic Map "Ishinomaki(2010)" & "Watanoha(2002)", by Geospatial Information Authority of Japan
3. Tsunami Damage Area Map "Ishinomaki" & "Watanoha" by Tsunami Damage Mapping Team, Association of Japanese Geographers
Tsunami Damage Mapping Team, Association of Japanese Geographers. 2011, Maps of the Area hit by the Tsunami of 11 March 2011, Northeast Japan (http://danso.env.nagoya-u.ac.jp/20110311/map/index_e.html).
This map is a reproduction of the 1:50.000 and 1:25.000 Scale Topographic Maps published by Geospatial Information Authority of Japan with its approval under the article 29 of The Survey Act. (Approval Number JYOU-FUKU No.198 2012).

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Critical Time of Professional Knowledge

Tadahito YAMAMOTO

SPECIAL ISSUE: AN INTERDISCIPLINARY DIALOGUE ON POST-QUAKE RECONSTRUCTION

"What can sociologists do?" Since the 2011 earthquake, this has become a fashionable phrase among Japanese sociologists, indicating that new roles and methods of social analysis are necessary in the wake of the 2011 tsunami and Fukushima accident.[1]

The 2011 disaster made it clear that advanced science and technology had become deeply embedded into our daily life, blurring the traditional dichotomy between nature and society. For example, on the Sanriku coast, one of the areas which most seriously damaged by the tsunami, modern scientific knowledge and civil engineering technology for disaster preparedness were most densely mobilized during modernization in Japan. In addition, the disruption of the physical structures of civil engineering systems caused people's trust in modern science and technology to shift decisively. Through the Fukushima accident, it became scandalously clear that mainstream academic discourse about nuclear power plants had been produced within a complex conglomerate of electric power companies, bureaucracy, and professional scholars. At the same time, methods of democratic control of energy systems will not be invented without scientific knowledge. New agents linking society with scientific knowledge have emerged such as various types of NPO/NGOs, research institutes, social venture businesses, social media, and so on.[2]

Such situation has posed two challenges to sociologists. First, this situation has activated critical sociological analyses of science and technology. It is necessary to verify the usefulness and feasibility of social scientific analyses of the relationship between science, technology, and society, such as SSK (Sociology of Scientific Knowledge), ANT (Actor Network Theory), STS (Science, Technology, and Society), and "risk society" theory, and to update them, taking into account the situation caused by the 2011 disasters in Japan.[3]

Second, the blurring of the line between nature and society led to a reflexive questioning of sociological standpoints: How can we overcome a traditional dichotomy between sociological approach that is critical but divorced from reality and natural science and civil engineering that is realistic but oblivious to social processes?

On the other hand, discourse centered upon "what we can do" can lead to another problem, particularly, in the context of neoliberal restructuring of academic institutions. Without thinking about "for whom" and "for what" such discourse is useful, the critical space embedded in academic practices will continue to shrink, and professional knowledge will be increasingly mobilized by standards of authoritarian economism.

It is necessary to reinvent new methods of preserving the "space" that which allows for a deep examination of reality, even in unstable situations.

Tadahito YAMAMOTO, Senior Researcher, The Institute of Politics and Economy

Our study group held a seminar at the University of Tokyo, Department of Civil Engineering, on July 29, 2011, to probe about such problems. This special issue, An Interdisciplinary Dialogue on Post-quake Reconstruction, is based on the discussions that arose in this seminar. The special issue's editor is Naofumi SUZUKI, a member of our study group at Hitotsubashi University. Please refer to his introductory article for further details.

ARTICLE AND ESSAY

Following the first issue, there is one article and one essay about the post-nuclear power plant movement in Japan after the Fukushima accident. Keiichi SATOH's article focuses on media coverage of the anti-nuclear movement in Tokyo from March 11 to November 30, 2011. During this period, street-based protests, demonstrations, or public gatherings had been largely prevalent; however, there was insufficient coverage by the Japanese mass media. Satoh's article considers the characteristics and foundations of media coverage of the demonstrations.

Alexander Brown's essay is about an epic event held on January 14-15, 2011, in Yokohama: the Global Conference for a Nuclear Power Free World. His report focuses on the multi-layered conditions required to realize such a large-scale conference, including organization, built environment, policing, global networks of activism, and artists' involvement in the emerging contexts of social movements after 2000.

RESEARCH

This issue inaugurates a new section: "Research." It will report on the research developments in our study group.

Tadahito YAMAMOTO describes a research project based on interviews with key persons involved in emergency relief operations in the cities of Ofunato and Tono in the Sanriku region on November 4-5, 2011.

Notes

1 Japanese sociologists had some special projects and meetings after the 2011 disaster. For example, The Japan Sociological Society (JSS) (http://www.gakkai.ne.jp/jss/) created a mailing list (The Japan Sociological Society Great East Japan Earthquake Mailing List) on July 31, 2011, to share information about studies and research projects on the Great East Japan Earthquake and to promote cooperation among sociologists. A list of projects is already available on the Society's website and continues to be updated (http://www.gakkai.ne.jp/jss/2011/09/17111811.php). The 84th annual meeting, which took place on September 17-18, 2011, had two special thematic sessions on the earthquake (http://wwwsoc.nii.ac.jp/jss/research/conf-e.html). The Japan Association of Regional and Community Studies, Japan Association for Urban Studies, and JSS had a joint study meeting about the earthquake in Morioka, Iwate Prefecture, on March 5-6, 2012 (http://soc4symposium.sakura.ne.jp/mt/first_website/symposium/).

2 For example, the Citizen's Nuclear Information Center (CNIC) (http://cnic.jp/) is a civilian research institute that has played a powerful role in informing ordinary people about the Fukushima plant since the early stages of Fukushima disaster response. Tetsunari IIDA of the Institute for Sustainable Energy Policies (ISEP) (http://www.isep.or.jp/) has played a key role in advising the central government on energy policies after the Fukushima accident.

3 In Japanese sociology, there is a long tradition of anti-nuclear power plant movement studies. The Institute for Sustainability Research and Education, Hosei University (http://research.cms.k.hosei.ac.jp/sustainability/), directed by Harutoshi FUNABASHI, is now compiling archives on the earthquake/nuclear disaster problem. After the incident, Koichi HASEGAWA of Tohoku University published a book (Toward Post Nuclear Power Society, 2011) and articles in both Japanese and English (http://www.sal.tohoku.ac.jp/~hasegawa/). The Japanese Society for Science and Technology Studies (http://jssts.jp/), founded in 2001, quite sensitively responded to the disaster and held a symposium "Thinking about STS until today from the Great East Japan Earthquake" on June 18, 2011.

Special Issue
An Interdisciplinary Dialogue on Post-quake Reconstruction

Introduction: Toward an Interdisciplinary Collaboration on Post-Earthquake Reconstruction

Naofumi SUZUKI

ABOUT THE SPECIAL ISSUE

About the Seminar

This second issue of Disaster, Infrastructure and Society features "An Interdisciplinary Dialogue on Post-quake Reconstruction." It is based on the seminar held at the Department of Civil Engineering, University of Tokyo (UTCE), on July 29th, 2011, which included two presentations by faculty members of UTCE who had been involved in the post-quake investigation and reconstruction of the tsunami affected regions, as well as a subsequent Q & A session with the members of the Study Group for Infrastructure and Society (SGIS), Hitotsubashi University.

This was a rather rare occasion where two

Seminar on Post-quake Reconstruction at University of Tokyo, July 29th, 2011
Speakers:
Tsuneaki FUKUI, Project Associate Professor, Center for Sustainable Urban Regeneration (cSUR), School of Engineering, University of Tokyo (UTCE)
Shin OSAKI, Assistant Professor, Department of Civil Engineering, University of Tokyo (UTCE)

Participants from Study Group on Infrastructure and Society (SGIS):
Yutaka IWADATE, Hitotsubashi University
Jiyoung KIM, Hitotsubashi University
Takashi MACHIMURA, Hitotsubashi University
Akihiko SATO, Hitotsubashi Universtiy, Fukushima University
Atsuo TERADA, Hitotsubashi University
Tadahito YAMAMOTO, The Institute of Politics and Economy
Ikumi KAMIYAMA, Hitotsubashi University
Sunmee KIM, Hitotsubashi University
Sayaka MORI, Hitotsubashi University
Naofumi SUZUKI, Hitotsubashi University
Takefumi UEDA, JSPS, Keio University

Naofumi SUZUKI, Assistant Professor, Graduate School of Social Sciences, Hitotsubashi University

contrasting parties met to engage in a dialogue with a shared interest: a couple of civil engineers who were conscious of the relevance that "social" factors have to infrastructure development and management, and a group of sociologists who had just embarked on a research project to examine the relationship between physical infrastructure and society. The focal points of the dialogue, of course, were the devastating earthquake that terrorized the entire east coast of Japan and the process of post-earthquake recovery and reconstruction, which was just underway at the time of the seminar.

It is hoped that the seminar, as well as this issue, will enhance the process of reconciliation between civil engineering and sociology. On the one hand, it appears as if engineers are struggling to deal with the social side of their profession, while they are becoming increasingly aware of its importance when transferring their technical expertise to social reality. On the other hand, sociologists seem rather indifferent to the fact that any social process occurs under certain material circumstances, or, if not, at least may feel uncomfortable taking material reality into account when explaining social reality. This division is clearly visible in the process of the post-disaster reconstruction. While the engineers are almost always involved in the local advisory committees of the affected regions to give "technical advice," sociologists are often missing, despite the fact that this policy-making process is highly sociological.

Aims of the Special Issue

This issue thus aims to serve three purposes. First and foremost, it seeks to voice unconditional support for those spirited civil engineers who dedicate themselves to building a secure nation. The irony is, however, that security is not only about being protected from life-threatening natural disasters but also about the comfort of being able to live a pleasant life every day. How the two can be balanced is dependent on value judgment. It is always contentious to find the right balance between preparing for the almost unpredictable, but destructive "someday," and improving or maintaining the welfare of the very foreseeable "tomorrow." This is not a choice for which engineers can take sole responsibility, but one that should ultimately rest on society's collective decision, conscious or unconscious. The general public may well be responsible for its blindness to the technicality involved in engineering decisions. Meanwhile, the engineers' aspiration to learn from the disaster and improve their expertise deserves to be honored and appreciated.

Second, the issue aims to caution against leaving the process of post-quake reconstruction in the hands of engineers only. However noble their spirits are, their expertise is limited in scope, and their technical decisions are often overwritten by political ones. After all, post-quake reconstruction is ultimately a process of rebuilding the social fabric of the affected regions. The coastal infrastructure must be rebuilt, and new housing and town development is also urgently needed. However, the areas' true loss was their people. Many lost their lives, and many others were forced to flee and evacuate their homelands. Engineers are certainly capable of laying out plans to reconstruct safe and functional living environments, but no one can guarantee whether the community interactions to emerge from them would be desirable ones.

Third, the issue will hopefully encourage sociologists to start playing more proactive roles in the reconstruction process. Sociologists are certainly underrepresented in the local post-earthquake reconstruction planning committees, where experts from engineering schools, such as civil engineers and city planners, often take central positions. Of

course, urban and regional development has been considered as predominantly a matter of engineering; however, engineers themselves have become increasingly aware of the need to take social factors into consideration, and yet are often not quite sure how to do so. It may often happen that interventions led by engineers appear to overlook the social side of development. This, however, is not because they cannot see it, but because they are not trained to deal with it. This is one area in which sociologists could be of great assistance to engineers. Arguably, sociologists can, and should, share the responsibility of making reconstruction planning truly serve the local communities.

The Dialogue

The dialogue consists of two sections. The first part is the record of the two presentations, along with the subsequent discussions. Fukui and Osaki delivered two quite contrasting presentations in terms of their scopes and approaches, but they nonetheless underscored two common issues of considerable relevance to the sociological understanding of infrastructure development and management. First, they made it clear that "social" and "human" elements had been increasingly integral subjects of study within the academic circle of civil engineering. Second, they also indicated that the practice of civil engineers is embedded in the socio-political process of decision making, in which engineers should be understood to constitute only one of the concerned parties, having only a partial influence, rather than a decisive power based on their expertise.

This is then followed by three written responses by members of SGIS that constitute the second section, titled "A Reply from Sociologists." It is "a reply," not "replies," as these articles were assembled to represent the collective reaction of the sociologists who attended the seminar. The SGIS members held an internal discussion directly following the seminar in order to exchange views. There seemed to be a shared concern voiced in the discussion, that is, to question the roles of sociologists both academically and practically. On the one hand, it was clear that civil engineers had shifted their interests toward "people," and had thus come to share intellectual concerns with sociologists to a significant extent, blurring the boundaries between the disciplines. On the other hand, the sociologists witnessed the struggles of the engineers, who had once again seen nature trump the expert knowledge their predecessors had accumulated over thousands of years, and yet were already up on their feet and making practical contributions to the reconstruction of the affected areas. Sociologists as a profession, in contrast, seemed to lack the specific expertise to justify their intervention in the practical process of reconstruction. Either way, the seminar presented an opportunity for sociologists to reflect upon their own standpoints. The three essays hopefully convey this shared tone of self-reflection.

THE "SOCIAL-NESS" OF CIVIL ENGINEERING

The first section starts with Fukui's close examination of the extent of the tsunami damage in Ishinomaki, which provides an analysis of the critical factors that divided those who lost their lives and those who survived. In doing so, he offers a self-critical reflection on the role of civil engineering in natural disaster prevention, indicating that civil engineers, as well as those who trusted them, might have become complacent, relying too much on modern engineering, while ignoring traditional local knowledge.

He highlights two factors in particular: the geographical characteristics of Ishinomaki and the patterns of evacuation behavior. In terms of the

geographical characteristics of Ishinomaki, Fukui argues that civil engineering should appreciate traditional local wisdom regarding where to live and where not to live; he bases this observation on the fact that the tsunami only struck the lower land of Ishinomaki, where there had been no settlement historically before modern civil engineering erected the seawalls to make it available for housing development. Social norms also played a part in guiding people's evacuation behavior. A lot of people apparently lost their lives in cars stuck in traffic jams, while few seemed to opt to abandon their cars and walk to higher ground. This example shows how hard it can be to deviate from norms, even in an emergency situation. Thus, Fukui recommends that these kinds of "intuitive" behavioral patterns need to be taken into consideration in designing evacuation routes. Hence, effective natural disaster prevention would not be possible without internalizing these sociological elements.

In the meantime, Fukui also raises another point for discussion in terms of the embeddedness of civil engineering in socio-political processes. Despite admitting the need for a shift to more humble, socially conscious approaches to disaster prevention, he doubts such proposals will become dominant in the post-quake reconstruction planning. It may be possible to propose improved solutions based on those findings, but whether this would be actually adopted is dependent on risk perceptions by concerned parties, including the national government. In this respect, the practice of engineers should be understood as part of the process of the "social construction of technology" (Pinch and Bijker 1984).

While Fukui's lecture is concerned with more conventional approaches of civil engineering toward disaster prevention, Osaki's project in Otsuchi offers an example that might not fit well with the conventional image of civil engineering. He discusses a microscopic, "people-centered" project in which he and his students collaborated with local people affected by the tsunami to build self-made food stalls, so as to bring a sense of gathering and festivity to the community. His presentation certainly conveyed to the seminar participants the refreshing impression that civil engineering is changing. Ironically, however, his case also illustrates the difficulty of rendering the reconstruction process truly participatory and people-centered. Those who would be fit to constitute the core of a participatory process had also been deprived of their normal ways of living, with houses, jobs and basic infrastructure all lost, making it hard for them to stay in the community.

Osaki thus echoes two concerns: First, his participatory approach to designing community facilities is aimed toward positively stimulating the interactions of local people, and thus requires a sound understanding of community dynamics. Second, such a practice cannot be free from the larger socio-political process of reconstruction. This sort of participatory approach is only possible when the local people's daily lives are secure, which is not within the power of the engineers' designs. Sociologists would be of significant help in both areas.

NEW ROLES OF SOCIOLOGISTS?

In response to the two lectures above, Sato opens the "reply" with a description of his observations of Iitate, one of the municipalities most severely affected by the radioactive emission from the nuclear power plants in Fukushima. He expresses his concerns over the process of Iitate's evacuation and resettlement-planning, pointing out two interrelated issues. First, he argues that the dominant influence of higher-order decisions was quite obvious, as conversations held in public meetings with local people seemed to have no influence whatsoever on the final plans. Second,

while those public meetings were supposedly held "for the local communities," the communities were inevitably underrepresented because of the fact that the large majority of them had already evacuated. Thus, if his observation stands, the participatory procedures in Iitate might be labeled as nothing more than tokenism. Along with the case reported by Osaki, this raises a question as to what could be done to ensure that the proposed reconstruction and resettlement plans truly reflect the interests of concerned parties — most importantly, the evacuated local people who are supposed to move back to the reconstructed towns and villages.

Terada then contemplates the profound question of whether we can rely on conventional civil engineering knowledge to ensure that we can continue living on the soil of Japan, which is considered to have entered an active period of seismic activity. Terada urges us to understand the decisive power of physical infrastructure to determine the way in which our urban civilization substantiates itself. In his eyes, despite the magnitude of the damage that once convinced him of the need for a "paradigm shift" to disaster prevention, it looks as though people have gradually reverted to former attitudes and the memories of the tragedy are fading. However, if, as Fukui suggests, conventional civil engineering was in part responsible for making the people vulnerable to natural disaster, then those conventions must be subject to scrutiny throughout the process of reconstruction. He sees this as the opportunity for sociologists to investigate the complex interactions between infrastructure and "everyday life," which should then provide the basis for the construction of a new vision for urban civilization in Japan.

The "reply" closes with Mori's expression of a newly discovered sympathy for civil engineers, whose dedication to disaster prevention and commitment to "seriously" consider "human" elements impressed her. She states that her previous encounters with civil engineers had been so negative that she had come to perceive the profession to be rather inhuman, but the lectures by Fukui and Osaki apparently changed that perception. This was partly because they appeared very socially minded to her, as their analyses of the disaster extended beyond physical infrastructure and embraced human and institutional aspects, such as evacuation behavior, traditional local wisdom, and the social responsibility of civil engineering. Furthermore, what impressed her most was Fukui and Osaki's confession of the limited reach of engineering advice, which has less power in intervening in political decisions concerning reconstruction than some might believe. Then, she finds the common ground for both disciplines to fight together against such political power, particularly in protecting and making use of the traditional "local wisdom" embedded in each unique geographic environment.

TOWARD INTERDISCIPLINARY RECONCILIATION

The devastation of the tsunami and the subsequent crisis in Fukushima must have been a great shock for the engineers who felt responsible for — and proud of — building a secure nation using their technological expertise. The coastal infrastructure was almost no use against a tsunami of such a gigantic scale, while nobody would have foreseen the horrendously vulnerable nature of the nuclear power plants, which were supposed to be protected by multiple layers of safeguard mechanisms.

Engineers might also feel responsible for leaving the people so oblivious to the possibility of technological failure. A lot of people lost their lives, homes, or families, whereas they were "not supposed to." It

is so easy to point fingers at the engineers, blaming them for their incompetence. Indeed, many of them must feel devastated that they let down not only the people but also themselves. They could have done better. But, we all could have.

In summary, this final section attempts to tease out some of the recurrent issues throughout the dialogue and consider the possible means of collaboration between civil engineers and sociologists in relation to each issue.

Social Awareness of Risks Involved in Engineering Decisions

First, it is necessary to raise awareness concerning the risks involved in any engineering decisions. Any technical solution proposed by an engineer is based on a set of assumptions that are supposed to be "safe enough" in a "realistic" sense. Hence, when an "unreal" reality materializes, and thus the assumptions prove wrong, the technology can sometimes fail. Engineers are all aware of that. The problem is, however, that our modern world, as Giddens points out, is founded upon "expert systems" that are so highly specialized that we can only trust experts rather than trying to acquire specialized knowledge ourselves. In this situation, most people are unaware of the assumptions on which the experts' decisions are dependent (Giddens 1990). When experts say that something is safe, we can only assume that it must be safe. In his report on Ishinomaki, Fukui suggested that engineers might have deluded even themselves in believing that when they say that the situation is safe, it truly is:

> In modern times, civil engineers became increasingly overconfident that man could be protected from the natural elements—a belief shared by citizens. […] The lesson we learned is that considering the tremendous force of natural disasters, there need to be areas that are not be for human use. Not even modern civil engineering can totally overcome nature.

Thus, one source of the shock was the loss of their belief in themselves and their ability to make the nation safer. Another professor in the field of civil engineering said in a personal conversation a few days after the event, "Our responsibility, as engineers, is not to provide a 100% safe solution, but to be prepared for the occasion when the reality exceeds our assumptions, because anything is possible in this world." Thus, civil engineers responded very quickly to the disaster. Fukui's group was among many of those who visited the tsunami-stricken areas immediately after the event, pondering what they could have done, and what they could do now and in the future.

Notwithstanding the ethical attitudes widely shared by civil engineers, it is still a problem that the large majority of people are ignorant of the fragility of engineering assumptions. Therefore, this may be one of the areas to which sociologists could contribute, in part by promoting the knowledge accumulated through the work of the sociology of technology and science.

Post-quake Reconstruction as Process of Social Construction

Second, the dialogue underscores the fact that the practice of civil engineers is only part of the process of social construction (Pinch and Bijker 1984). Engineers' decisions and advice are not directly reflected in the post-quake reconstruction plans. Rather, they result from their interactions with other interest parties, such as politicians, administrative officials, business communities, and local residents, among others.

Indeed, the engineers were shocked not only because

the scale of the earthquake and the tsunami simply exceeded the assumptions upon which the designs of the coastal infrastructure and the nuclear power plants were based, but also because some of the adversities could have been avoided if their technical advice had been accepted and the decision makers had made "safer" decisions. They had proposed solutions well before the earthquake that would have prevented some of the damages, such as the explosion of the nuclear power plants, if only they had been adopted.

For example, although it is difficult to reconstruct the truth now, some say the coastal levees protecting the nuclear plants should have been higher, since there had been a projection predicting a tsunami as high as nine meters, while the actual height of the levees are around five meters. Such stories are ubiquitous. While it may be true that there had been a number of misjudgments made by different decision makers in that their decisions turned out to be not safe enough to prevent the damages, those decisions were not purely technical but always economic and political as well. Engineers could only present possible scenarios and corresponding solutions, but it is the decision makers who have to decide whether to accept them.

This is nothing new to sociologists: a few decades have passed since Pinch and Bijker used the term "social construction of technology." But, sociologists should do something more than simply emphasize this. I would argue that they should also actively engage in the process of social construction. More often than not, sociologists' stance in intervening in infrastructure development might have been rather confrontational to engineering. When civil and urban engineers take the side of planners who try to drive forward their development agendas, sociologists sometimes take the side of the activists opposing them. There is a tradition of sociologists intervening in reality so as to empower the "powerless." In this respect, however, engineers, who are usually supposed to be relatively powerful because of their superiority in expert knowledge, may also be regarded as powerless to a considerable degree.

Beyond the Epistemological Divide

Third, the dialogue suggests that what may be called the "epistemological divide" between civil engineering and sociology needs to be overcome.

Of course, the need for understanding this social process has been felt by civil engineers from within the discipline itself. It must be noted that the two speakers are no exception among contemporary civil engineers. The last two decades have seen "human" and "social" subjects become increasingly popular research themes within the civil engineering circle. UTCE, for example, has six research groups for undergraduate students to choose from, and four are more or less concerned with social or human subjects. Thus, it should be no surprise that civil engineering and sociology have a lot in common as far as research interests are concerned.

Naturally, though, civil engineers must often negotiate with the fact that social entities are not amenable to an engineering perspective. Simply put, social elements may still remain "uncontrollable." Their reaction to this realization tends to be either to leave the matters only to subjective judgment, or to confine themselves to purely "objective" observations.

These two polarized stances most starkly manifest themselves in the ways in which engineers intervene in participatory decision-making processes, such as workshops or public meetings for town planning. Some would unashamedly impose their subjective views upon their counterparts and try to persuade them, and others may provide assistance to participants and facilitate their "self-decision," without questioning such things as the

representativeness of participants or the ethical consequences of the decisions made.

Social science has long coped with this dichotomy between subjectivity and objectivity and has attempted to find the middle ground somewhere in between. Of course, there is no single agreeable answer to this, and there is a broad spectrum of philosophical standpoint any social scientist could take. One thing for sure, however, is that social science needs to continuously engage with this open-ended process of reflexivity. And, civil engineering, as long as it tries to deal with the social reality, is no exception. Therefore, sociologists' active engagement in the dialogue with civil engineers is necessary in this respect.

Understanding the Uniqueness of Locality

Finally, sociologists could contribute more directly to generating knowledge for the construction of a "new paradigm" for disaster prevention. The dialogue has made it clear that incorporating local knowledge is the key to both disaster prevention and post-disaster reconstruction. Engineering may tend to pursue universally applicable technology, whereas any local knowledge is unique to its context.

Thus, the sociologists' contribution to this would be twofold. One would be to carry out studies on the local wisdom found in different localities and to inform the engineers about them. The other would be to develop an institutional framework with which the transfer of local knowledge into engineering designs could be effectively facilitated. The latter is particularly relevant, as "community involvement" mechanisms often tend to be characterized by confrontation, disagreement, and power games, and thus end up in a deadlock. In contrast, what is truly needed is constructive collaboration to overcome the differences and proceed.

Despite the obvious complementarity of the two sets of experts, generally speaking, their respective professional practices rarely seem to interweave. They may sit together on various kinds of committees to provide different viewpoints, but they do not necessarily try to overcome their differences themselves and work together. Their encounters are even sometimes confrontational, as noted above. They engage in debate, but not in dialogue. This dialogue, therefore, will hopefully work as a building block for the much needed constructive collaboration between the two.

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Considering the Extent of Damage in Ishinomaki from a Civil Engineering Perspective

Tsuneaki FUKUI

JOINT INVESTIGATION IN ISHINOMAKI

As a research group member of the Japan Society of Civil Engineers (JSCE), I conducted an interview survey in the disaster-hit area of the Great East Japan Earthquake from April 29 through May 2, 2011. Here, I will report on the conditions of Ishinomaki City（石巻市）, Miyagi Prefecture, to which I was assigned[1]. At that time, since only a month and a half had passed after the devastation, I could not talk directly to quake-stricken residents. Today, I would like to give a general overview of the extent of the damage to the city.

Normally, research members of an academic society such as this restrict their attention to the realm of civil engineering. However, on this occasion, academics from various disciplines, including geologists that deal with the physical aspects of disaster, and fields related to agriculture and fishing, participated in the research. For this reason, in this research, we were able to broaden our perspectives and understand the earthquake disaster from a comprehensive point of view.

OVERVIEW OF THE DAMAGE IN ISHINOMAKI CITY

Ishinomaki is a city facing the Pacific Ocean with a population of over 160,000 people; it is second only to Sendai City（仙台市）in Miyagi Prefecture. According to the damage statistics of June, 2011, nationally, more than 15,000 people were listed as

Photo 1 Extent of damage (Old Kitakamigawa Nakase area)

Photo 2 Extent of damage (area behind lindustrial port)

Photo 3 Extent of damage (area behind fishing port)

Photo 4 Comvenience store used as goods distribution point

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Considering the Extent of Damage in Ishinomaki from a Civil Engineering Perspective

Tsuneaki FUKUI

dead and 7,000 are still missing. In Ishinomaki, there were 3,000 dead and nearly 2,800 missing. The city has the largest number of dead and missing people of any quake-hit municipality.

Since the Meiji period (1868-1912), the Sanriku region has been repeatedly hit by tsunamis. But no major tsunami had hit Ishinomaki, I understand. But this time, a three- to five-meter-high tsunami came. The central area of Ishinomaki was all swallowed up. This area was badly drained in the first place, and then the drainage pump did not work properly, so the water did not recede for a long time.

Driving into the affected area by car, the first thing you noticed was that a convenience store not in business was being used as a supply stations for goods; it was functioning as a public facility, so to speak. Also, the rubble, including automobiles, had been swept into farmland, and there was no way the land could be used for any purpose in the immediate future.

In the case of Ishinomaki, there were several routes for the tsunami to reach inland. By the first route, the tsunami went directly over the tide embankment on the coast; on the second route, it rose through the Kitakami Canal that ran across the city and then inundated the inland area; and by the third route, it crept through the areas along the Kitakami River where no embankment had been constructed. The actual damage was not done by the flooding of the tsunami itself. Rather, the damage was done by the debris — all those things that had been swept and pushed up by the tsunami. They hit houses and the houses in turn ricocheted against other houses; those floating objects worsened the damage. The key measure to reduce damage from a tornado or tsunami is to stop or minimize the damage caused by broken or floating things. For example, observe the way bridges were broken. While there was little damage on the upstream side of a bridge, it was totally destroyed on the downstream side. In other words, objects that were carried from the ocean side caused major damage to such structures as boats and buildings.

Photo 5 Extent of damage (Senkarida area)

Photo 6 Extent of damage (O-magari area)

Photo 7 Drifting objects causing damages 1

Photo 8 Drifting objects causing damages 2

EXTENT OF DAMAGE TO THE COASTAL AREA

The damage to the tide embankment was staggering; in some cases, it was moved so far away that one had difficulty finding the original location. The tide embankment does not function if there is an opening of any sort; water will seep in even if the structure itself does not break. Apparently, the designer of the tide embankment did not sufficiently take into account the possibility that the seawater might go over it. Unfortunately, the embankment could not withstand such a massive tsunami.

Photo 9 Damages to fishing port facilities1

Photo 10 Damages to fishing port facilities2

Looking at the facilities of the fishing port, overall, they experienced land subsidence of about 70cm. Under these conditions, no fishing boat can dock to land its catch. I didn't know this, but in the Japanese fishing industry, a fishing boat can land its catch of fish at any port, homeport or not. However, business-wise, it is extremely important for a port to maintain its characteristic catches. For example, at the Kesennuma Port（気仙沼港）, they land the bonito catch in May, and once they have lost that catch, other ports will take that "brand" away. That's why it is crucial to restore fishing ports as soon as possible. The construction of a fishing port requires not just a landing place and a market; it also requires ice-making, refrigerating and seafood processing facilities. They are all integrated and must function in coordination to bring in a catch.

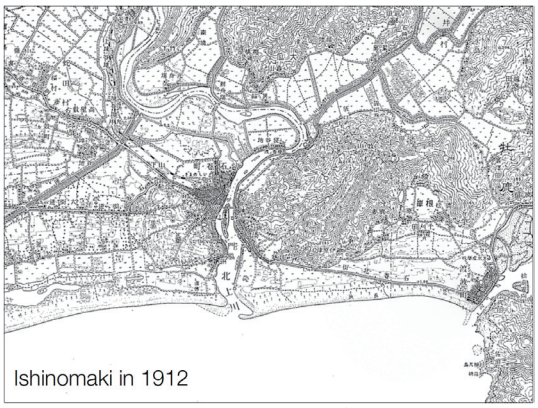
THE RELATIONSHIP BETWEEN TSUNAMI DAMAGE AND THE TERRAIN

What I would like to particularly emphasize in this talk are the relationship between tsunami damage and the terrain, and evacuation behavior.

First, let's begin with the terrain of Ishinomaki. What topographic features did the most affected area have? The answer can be verified from old maps. The area most devastated was the area where before modern times (such as during the Meiji period) there were originally no inhabitants. Simply put, it was wetland/lowland along the coast, a boundary area between the sea and the land. Over the years, they encircled such an area with embankments utilizing civil engineering technologies, sometimes reclaiming or inflating it. And so, it is no exaggeration to say that after this earthquake and tsunami, the area was changed back into the original terrain. I went to the actual area as you can see from the photograph. Behind the breakwater lay ordinary residential land. The original sand beach had been used as dry land thanks to the construction of embankments. In any case, there were no residents in the first place.

Old maps show that old settlements were located on beach ridges or micro high land along the coast. This Watanoha（渡波）settlement, too, used to be located only on micro high land; there were no residents on

the beach. Of course, that was probably because there were tidal waves or storm surges as well as tsunami disasters. Yet, we can also say that in those days, people were more sensitive to delicate topographic



Fugure 1 Old coast line of Ishinomaki[2]
Note: The map aquired from Geospatial Information Authority of Japan.

Photo 11 Damaged houses behind seawall 1

Photo 12 Damaged houses behind seawall 2

conditions than we are now. In modern times, civil engineers became increasingly overconfident that man could be protected from the natural elements — a belief shared by citizens. As a result of advancing into such terrain, a great many things that we had built were lost due to this tsunami devastation.

The lesson we learned is that considering the tremendous force of natural disasters, there need to be areas that are not be for human use. Not even modern civil engineering can totally overcome nature. It's very obvious, but we must avoid utilizing high-risk areas.

EVACUATION BEHAVIOR AFTER THE EARTHQUAKE: SUCCESSFUL AND UNSUCCESSFUL CASES OF EVACUATION

Next, let us talk about evacuation behavior. Let me share with you a successful case and an unsuccessful one. The successful case was the evacuation at the Nippon Paper Industries plant, which is very close to the Ishinomaki Industrial Port. There were 1,500 employees there at the time of the earthquake and tsunami, yet no one lost their life. One possible reason was that they had frequently conducted tsunami evacuation drills. But there was one other important lesson.

Located next to the premises of this plant is a company housing building, which is constructed on higher ground on the inland side. When the earthquake hit, the employees began to evacuate toward higher ground (where the company housing is), just as they had been trained to do. There are two key points here. One is that they evacuated toward the familiar housing facility. The other is that they evacuated toward higher ground. It is logical and practical that those two key conditions were both met, which are suited to human intuition and sentiment. What if the company housing had been located on low-lying plains? If it were only a drill, everybody would go toward higher ground. But when actually faced with a quake and incoming tsunami, wouldn't they try to go check on their family?

Now, the case of an unsuccessful evacuation. This

happened in the residential district facing that paper mill. This district has limited exits for evacuation facing inland. Particularly, when trying to evacuate by car, there are really only two exits that are available. Yet, everybody tried to flee by car. Naturally, they were stuck in traffic jams. They still could have run on foot. But most didn't. If they had walked, they could have directly run up to a hill, but they didn't. Consequently, many people lost their lives.

It is necessary that a safety evacuation plan be instinctively understood by people. The fundamental rules are: escape to the side opposite the sea, flee to higher ground, and evacuate to a place that you are familiar with on a daily basis. And there is one more issue. How do we behave when we are not in a disciplined and organized setting such as a school or company where we are used to being told what to do? Factory workers would flee in accordance with the drill, but once they are off the premises and have to think for themselves as individuals, how would they behave? Sadly, we were not sufficiently prepared for that. And that was reflected in this terrible disaster.

Q & A SESSION

Infrastructure Design Accounting for Earthquake Disasters

Mori: You said that no major tsunami had hit Ishinomaki. What kind of historic range are we talking about?

Fukui: The three major tsunamis that hit this region in relatively recent times were the Meiji Sanriku Tsunami（明治三陸津波）(1896), the Showa Sanriku Tsunami（昭和三陸津波）(1933) and the Chilean Tsunami (1960). As far as urban areas in the Ishinomaki plains are concerned, there are no records of damage from either the Meiji or the Showa tsunami. Perhaps this is because few people lived in the affected coastal areas at that time. But even from the Chilean Tsunami, the level of damage was very small with two people dead or missing. So, record-wise, we can say at least that since the Meiji period, the old Ishinomaki plains had incurred no major tsunami damage. Before that, there were disasters from the Keicho Tsunami（慶長津波）(1611) and the Jogan Tsunami（貞観津波）(869). That's why some told me that they used to believe that, "Even if a tsunami comes, Ishinomaki will be safe."

Terada: From a civil-engineering perspective, how much destruction can we absorb and still be able to repair the infrastructure? In terms of duration and financing, how much do we need to restore it to the original condition? And how do we estimate the long-term cost of the restoration of infrastructure?

Fukui: After the quake, the Tohoku Shinkansen resumed operation extremely quickly. To the layperson's eye, things may look so utterly destroyed that it seems impossible to fix infrastructure. But, for example, those broken poles or posts can be reused without problem after jacking up the floor and reinforcing them. At the time of the Great Hanshin Earthquake (1995), structures such as the Hanshin Expressway routes and Sanyo Shinkansen were destroyed and many lives were lost. Since then, in order to prevent such damage, new design ideas have been adopted, some of which helped mitigate the effects of this earthquake. Nevertheless, some time was, of course, required to resume Shinkansen service. The biggest reason was that many overhead wire poles had been damaged. In fact, with earthquakes in mind, the base of those poles was designed to be loose so that they could fall, yet not break. The trouble was that there were just too many fallen poles to deal with.

In contrast, this level of tsunami damage was

unprecedented for coastal defense structures such as embankments and storm surge barriers. Basically, no one took into account the possibility that the seawater might go over the walls nor plan for its aftermath. So, when the tsunami waves surpassed the walls after the quake, they were completely destroyed. JSCE is keenly aware that design must be changed to avoid destructive consequences if an external force (tsunami, this time) greater than the predetermined force could pressure a structure, and they have been discussing how to deal with it.

Terada: One more question. You said, "people began living where no one should have lived in the first place." Then, would it be possible to put a limit on the population? Would you say as a proposal, "No population greater than this should live in this area?"

Fukui: For a hundred years and several decades, technology has advanced tremendously, and resistance to disasters has improved greatly. So, I'm not saying that we have to live as people used to do in those old maps. I heard that one local person had commented before the tsunami-devastated area, "When I was a little child, the landscape looked like this." I think his comment suggests that when considering a long history of this region, the picture of the area just before the disaster, which had been the consequence of the development in the last few decades, should be considered as only a temporary one that appeared between disasters. Historically, people did live in dangerous areas, but they were also aware of the associated risks. In more recent years, however, we were under the illusion that there exists no risk. Population control is a difficult issue, but at least we must realize that it is important to use land with proper knowledge of possible risks. Considering the history of disasters in this region, no matter how we look at it, it is not appropriate to build a residential complex on lowland in an estuary area, which may be hit by a tsunami once every fifty years. I think that we must carefully take facts like this into consideration when we think about a new direction of land use.

Will the View of Risks Change?

Mori: There is no doubt that people's views on risk will change after this disaster. But in actuality, how much do you think will change? And the lessons we learned from placing too much faith in technology and the necessity of coming to terms with nature — to what extent are they shared? Lastly, how much would those changes be reflected in policy? As researchers who study civil engineering, what are your impressions?

Osaki: Sometimes I feel as if there would not be so much change after all. Of course, that's not good. For instance, Otsuchi Town's population was predicted to drop below 10,000 in 2030. This means that we must discard the conventional approaches to development based on the assumption of expanding urban areas. The reconstruction plans should be based on the projection of low birthrate and aging population. But the tsunami hit the town when no such alternative approach had been established yet. Thus, it is a race against time, and we must act quickly to protect the lives of disaster victims.

Fukui: Ishinomaki's central district is actually located on the old river channel of the Kitakami River. So the risk of being flooded was already high, and indeed the water did not recede easily after the tsunami came. The residents there knew that risk, yet chose to continue living there. The city had not necessarily been developed with safety as the number-one priority. The city exists in an uneasy balance between convenience and the risk of disaster.

I hope that after this disaster, local residents became deeply aware that their life exists in such a precarious balance.

Osaki: The logic of fishermen is simple. Every day, fishermen face danger at work, and they are more conscious of the risks they take. That's why their reward is great. So, even if tsunami hit them and their boats were washed away, they would think, "It happens." By contrast, those on land blindly believed that the tide embankment walls would protect them.

Fukui: After the tsunami damage, I think there are many who feel deceived. They believed it was safe to build a house due to the presence of embankments.

Terada: Is it possible to put restrictions on private ownership in this area?

Fukui: Yes, it's possible. Several municipalities are making reconstruction plans under the policy that they will not allow people to reside in high-risk areas along the coastline. First, they will put building restrictions so that residents will not restore their place on their own. In the future, for example, high-risk areas will be turned into parks, green spaces and public facilities. However, the issue of how to provide compensation still remains. Since the revenue benefits are not yet determined, there is no conclusion in sight.

Terada: From what level will that decision come down?

Fukui: Ultimately, it's the municipality. Of course, the central government will be in the position of backing it up, but the basic stance is that the municipality is the decider.

Yamamoto: When the municipality makes decisions as to whether certain areas are unlivable, they would probably approach it from the physical side first, saying, "This area is physically too dangerous to live in." But there will be some gray areas in this, which should be a matter of social decision-making. I would imagine it is an issue where to draw the line. Where do you think lies the threshold, beyond which you cannot approach from the physical side and leave it to social decision-making?

Fukui: There have been always risks. But we tended to have the idea it is either zero or 100%. From now on, we must present all the risks in advance, and let people make choices as to whether or not accept the risks. In terms of the gray areas, we will need to respectfully discuss such matters as whether a residential complex or business office should be allowed to be built, and whether public facilities are suitable or not. All those things should be discussed based on various conditions such as the scale of flat land, industrial location, and the population of residents who will continue to live there. From physical aspects, we would calculate the extent of possible flooding according to the estimated scale of the potential tsunami and the possible specifications of the embankment. Then, it is a matter of social decision-making what choice will actually be taken. However, since every tsunami differs depending on the earthquake, we should also bear in mind that those estimations of physical aspects are merely one set of configurations.

The Perspective From Civil Engineering and Its Characteristics

Yamamoto: For this research, experts from various fields have got together. What did it mean to you?

Fukui: For instance, we realized that we knew

nothing about agriculture even though we had been involved with regional development. After the research, we learned that the farming industry, including irrigation and drainage, had existed in this area in one broad system — a system much broader than we had expected. The subjects we need to examine are not only the physical environment but also the activities of people and industries in the whole region. It was significant that we became aware of this particular fact.

Machimura: What temporal scale do you normally use in civil engineering?

Fukui: For example, in the case of a river, it corresponds to flooding once every several years to several decades. As for an earthquake, because there hasn't been much accumulated data on the cyclical occurrence of earthquakes, we understand it as an external force to assume seismic motions that have occurred in the past. In the case of a tsunami, since there are very few cases to record as a disaster in the first place, we have yet to place physical phenomena on a temporal axis. In the meantime, what we often point out is the fact that our memories fade over several decades and we have this complacency that disaster will not strike us. That is one characteristic of the temporal scale of human cognition.

Iwadate: Was there any infrastructure that was not damaged or was damaged but was quickly restored? Also, how do you prioritize the types of infrastructure to be restored?

Fukui: When I first arrived at the affected area, I got the impression that electrical cables and poles amid the rubble had been restored rather quickly. The re-opening of the roads was also fast. In some places, the entire roadbed was swept away. I believe they restored it using heavy machinery. Considering the changing priorities in regard to quality of life from the onset of the disaster, the order of restoring infrastructure was, in time sequence, life-saving evacuation facilities, water/food, restrooms, hospitals, and temporary housing. But before undertaking all of this, the first priority was restoring the roads to evacuate and transport supplies. The information network is also very important, followed by electricity, waterworks, and transportation network.

Notes

1 All photos were taken by the author unless otherwise stated.
2 This map is a reproduction of the 1:50.000 Scale Topographic Map "Ishinomaki(1912)" published by Geospatial Information Authority of Japan with its approval under the article 29 of The Survey Act. (Approval Number JYOU-FUKU No.189 2012)

Constructing Food Stalls in a Tsunami-Hit Town: The Case of a Reconstruction Approach in Otsuchi Town, Iwate Prefecture

Shin OSAKI

OVERVIEW OF OTSUCHI [1]

Otsuchi（大槌）, located in the middle part of Iwate Prefecture and facing the Pacific Ocean, was a town with a population of 15,000 before the earthquake. The area is approximately 200 km2, 90% of which are forests and open fields; only 1% is housing land. The population density was high, and ranked fifth among prefectural municipalities. The extent of damage from the earthquake and tsunami was massive, with more than 10% of the population (1,600) either dead or missing. The number of evacuees accounted for was 4,300; initially, about 9,000 people had been unaccounted for. According to the damage classification by the Iwate Prefectural Government, Otsuchi Town's damage was classified as the most serious "Catastrophic" type. Also included in this type were the Taro（田老）district of Miyako City（宮古市）, Yamada Town（山田町）, and Rikuzentakata City（陸前高田市）; the media has frequently reported the staggering level of their damage.

Otsuchi Town borders Yamada Town to the north and Kamaishi City（釜石市）to the south, and it faces Otsuchi Bay and Funakoshi Bay（船越湾）. The southern half of Otsuchi Bay belongs to Kamaishi City. In the coastal area, the Otsuchi River and Kozuchi River（小鎚川）, flowing into Otsuchi Bay, form a sort of skeleton for the open plains. At the most downstream confluence point of the two rivers, there is a central urban district called Machikata（町方）. Located to the side are fishing village such as Ando（安渡）and Akahama（赤浜）. There are two other settlements called Kirikiri（吉里吉里）and Namiita（浪板）that face the neighboring Funakoshi Bay. The town, with the exception of the mountainous settlements, mainly consists of those five settlements.

The railroad (JR Yamada Line), National Highway Route 45, and the old National Highway Route form a skeletal transportation axis from north to south. Looking at the elevation data, it is quite obvious that flat land suitable for residential areas is limited to the two riverfronts and the bay entrance area; thus, the location requires a very close relationship with the sea.

CHARACTERISTICS OF THE DAMAGE

Observing the tsunami-flooded area from the data provided by Iwate Prefecture, it is apparent that nearly the entire urban district of Otsuchi was inundated. Particularly hard hit districts were the area south east of the old National Highway route in Machikata, as well as Komakura（小枕）, Ando,

Photo 1 Extent of damage (central district in Otsuchi)

Shin OSAKI, Assistant Professor, Department of Civil Engineering, University of Tokyo

and Akahama; there, wooden buildings were almost all swept away. The few concrete buildings that had managed to remain were also greatly damaged.

Let me explain the above circumstances with photographs. I took Photograph 1 on April 19th. Looking at the central Otsuchi district from the port side, one can see that nothing remains. The hill in the center is called Shiroyama（城山）, and on it there is the Central Community Center. The hall functions as the evacuation center for the town. At the foot of this hill is the Town Office, now flooded. This area is the core of Otsuchi Town.

Photo 2 Extent of damage (along the Kotsuchi River)

This photograph shows the Kozuchi River. The Kozuchi River had a floodgate, while the Otsuchi River did not. Though the tsunami run-up distance was 3km on the Otsuchi, it was only 2km on the Kozuchi thanks, allegedly, to the floodgate. In the central urban area, 52% of the building sites were inundated, the most in the prefecture. Also, as indicated by its classification as “Catastrophic,” the entire urban district had been washed away and almost all commercial and productive functions had stopped. There were no stores. Later, one convenience store along the National Highway Route, a Lawson store, resumed business. At lunchtime, there were incredibly long lines to buy foodstuffs.

Another characteristic was the paralysis of Otsuchi’s administrative functions. Not only the mayor, but also seven out of the twelve section chiefs were also swept away in the tsunami. Other Town Office workers also suffered or were seriously affected. As a result, newly recruited workers at the Town Office were suddenly assigned to hard work. For example, because the family register data had been washed away, they had to start from scratch by making a name list of the town residents.

THE BEGINNING OF HELP WITH RECONSTRUCTION

When we entered Otsuchi Town for the first time, the local residents were living from day to day and could not envision a future plan for the town. About 70 days had passed, but the residents were still deeply concerned about what would happen to them. One reason we were in Otsuchi Town was because our research facility, the Atmosphere and Ocean Research Institute of the University of Tokyo, happened to be located in the Akahama district. Therefore, in relation to the campus planning, it was suggested that we would enter this region. In addition, Professor Yu Nakai of UTCE was commissioned by the Iwate Prefectural Government to go to Otsuchi as an adviser. And then, the Landscape and Civic Design Laboratory of UTCE, along with the Urban Design Laboratory of the Department of Urban Engineering, began to be active. On top of that, experts on tsunami and fisheries joined them, thereby organizing the University of Tokyo Otsuchi Reconstruction Assistance Team. We began to discuss what we could do for Otsuchi in around the middle of May.

Our team came up with various ideas, but it was obvious that if we were to suddenly begin talking about subjects such as urban structures, neither the administration nor the locals of Otsuchi Town would have been ready to accept any of them. Therefore, we came to the conclusion that we should first focus on what we could do to simply encourage them.

The Urban Design Lab, upon learning that the

discussion on town development by the locals had started in the Akahama district, where the Atmosphere and Ocean Research Institute was located, began to help them. Meanwhile, the Landscape and Civic Design Lab, to which I belonged, felt that there should be a venue to discuss various topics among the local residents. Since many were living scattered at that time in evacuation centers, making their own separate spaces with cardboard walls, we thought about creating a community-gathering place for them. But we knew of no channel to make suggestions. Just when we thought we had no choice but to consult the Town Office, we learned, by chance, of "YUICCO Otsuchi," a local aid organization that had just been founded.

"YUICCO" is a group of volunteers centered around cities such as Kitakami（北上）and Hanamaki（花巻）in the inland area of Iwate Prefecture. There was no YUICCO center in Otsuchi at that time, but the founding members were strongly encouraged by the YUICCO staff to found one, which made them feel that they, too, had to do something. Finally, three people, Mr. K and Mr. A from the Ando district of Otsuchi and one more person, founded YUICCO Otsuchi. That was around the 20th of May.

Photo 3 First residents' meeting

The first activity of YUICCO Otsuchi was to gather residents' opinions by hosting the "Residents' Meeting on the Town's Reconstruction." This photo shows the first meeting. The venue was a corridor in Ando Elementary School, which was also an evacuation center in the Ando district.

FOOD STALLS AS THE FOUNDATION FOR DISCUSSION

On May 31st, we attended the first YUICCO Otsuchi meeting, and after that, we explained our plan to representatives Mr. A and Mr. K. By June 1st, we had decided to establish food stalls. We immediately informed the residents of that, and they said, "By all means, let's do it." Actually, Mr. K used to run an izakaya restaurant and bar before the disaster. To some degree, that was why the idea was decided upon rather quickly. Still, very little was decided as to how to finance the project and supply food materials. On the project proposal, it was written simply, "We'll figure it out as we go along."

After making a snap decision on the plan, we began to discuss how we should proceed with the project. We could "go big" by seeking an infusion of public subsidies, but in the long run, perhaps that would not take root in the local area. In the end, we decided that local residents should contribute to the project little by little. Since this project was not about assisting businesses, running food stalls was not our direct goal. Thus, it was important that we create a "public venue" with food stalls as its medium. For example, the place could be used for food stalls at night and for "*kamishibai*（紙芝居）" (i.e. picture-card shows for children) during the day. Middle-school children could stop by for ice cream after school, and it could also be a café-like place where grandmothers could visit to enjoy sweets. Of course, it did not have to

be limited to the food business; we suggested that they should not limit the type of profession or target customers.

In addition, we asked a designer named Katsushi Nagumo to join our team. Mr. Nagumo is a food stall aficionado, and the founder of the "*Nippon Zenkoku Yatai Darake Kurabu*（日本全国ヤタイダラケ倶楽部）" (i.e. food-stalls-everywhere-in-Japan club). He is a designer of furniture, including street furniture. He frequently designs furniture using wooden materials such as cedar. Thus, he had ample experience making wooden food stalls as well. He was indispensible for our project.

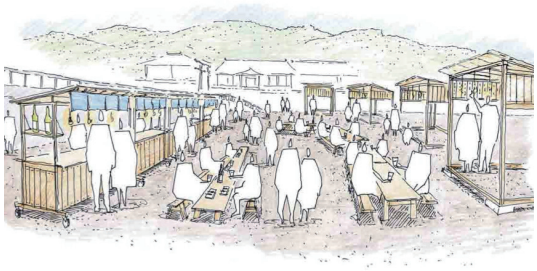


Figure 1 Design image of food stalls
Note: The image was drawn by Katsushi NAGUMO.

We asked Mr. Nagumo to design food stalls after explaining the aforementioned plan to create a venue for the future where local residents could get together. At the least, we asked him to make two food stalls, benches and tables. There was also a hut called an "*ema-goya*（絵馬小屋）," which people can use as a place of shelter when it rains. It was arranged so that anybody could draw doodles and graffiti or scribble messages praying for reconstruction on the walls and waist panels.

Next, we had to find an actual site for this project. This was also difficult. The initial idea was the premises of a Shinto shrine called Kozuchi Shrine at the foot of Shiroyama, which did not work out. Half ready to give up, we asked the Shinto priest who owned the private property in front of the shrine. The owner happened to be an ex-classmate of Mr. K. Later, Mr. K contacted the owner and he easily agreed to lend the land. Thus, the venue was decided.

Another thing that we had difficulty obtaining was lumber. How could we supply lumber for the food stalls? But, this problem also found a solution thanks to the personal network of Mr. K. As we were talking over lunch at a restaurant in the Namiita district, Mr. K suddenly told us that he knew an acquaintance who had been the senior managing director of a lumber mill. He called the senior managing director and, thirty minutes later, we were visiting the lumber mill. We explained our project plan to the president of the mill, who had happened to be in the office, and negotiated over whether we could use their left-over fragments of wood. The president got angry. He said, "You can't make food stalls with left-over wood. If you want to make decent food stalls, why didn't you say you needed decent materials?" That made sense. So, we asked the question again. The president said, "Take anything you want from the warehouse." We were all aghast. Nobody thought that on the same day we could have the prospect of obtaining lumber. We thanked him profusely. Then, the senior managing director took us to the warehouse. After the disaster, this lumber mill had also been flooded and the discolored materials had lost commercial value, he said. We consulted him over future arrangements. This senior managing director was very enthusiastic about helping us. We were there only to get the materials, but he even arranged premachining as well, without telling the president.

As the opening day approached, we made fliers. Yet we could not secure enough people to hand them out to evacuation centers. So, our ad campaign started on June 23rd, just one day before the opening day. That day was a Saturday; with the cooperation of volunteers, we managed to disseminate 300 fliers.

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Shin OSAKI

THE MAKING OF FOOD STALLS: REPORT ON THE TWO DAYS THEY WERE MADE

The location of this picture is the premises in front of the Kozuchi Shinto Shrine. There were two piles of crushed stones. Mr. K had obtained them for free after negotiating with a builder, an acquaintance of his. We needed those stones to level the ground. There had been small bits of glass on the ground due to the flooding. As soon as we began the laying operation with the lab members, a man sauntered up to us, asking, "What are you doing?" After hearing

Photo 4 Venue before construction

our explanation, he said, "Doing that operation by hand is very hard," and then left. A few minutes later, he returned in a loader, and before we knew it, he had finished leveling the ground.

The next step was making food stalls. This picture shows us working after borrowing equipment from the mill. That aforementioned senior managing director was so nice to let us use their workspace and equipment. Local carpenters and volunteers also helped us assemble food stalls. Several days before this, the frames of stalls had been assembled by two carpenters. That day, we managed to complete the manufacture of one stall. We set it up in the plaza and tested it on the eve of the festival. The next day, we made another stall and additional benches and tables, as well as an "*ema*（絵馬）" hut. We barely made it

Photo 5 Students working at lumber mill

Photo 6 Local people assembling food stall

to the opening day.

In the end, we manufactured two food stalls, one ema hut (we planned to make two, but ran out of time), two sets of benches and tables. Just before the opening of the event, we had Mr. and Mrs. K write the names of the stalls as the finishing touch.

After the tsunami disaster, there had been nothing at all in this area where the food stalls were set up now. So, the sight of small lights illuminating the pitch-black darkness was quite moving. Those lights were made possible by an electric generator, which we were able to have, thanks, again, to one of Mr. K's

Photo 7 Just before opening

acquaintances.

As for the visitors, few locals were there on the opening day. That was because not all evacuation centers were located within walking distance of our venue. That day, a few people came from the evacuation center in Shiroyama that was closest to us. Many people had lost their cars to the tsunami, and everyone had difficulty in terms of access. But one middle-aged local man said with deep feeling, "The sake tastes so good in a situation like this."

Q & A SESSION

The Characterization of the Food Stall Project in the Regional Community

Terada: Do you intend to further create plazas centered around Shinto shrines? Or will you try to discover places that the locals are attached to in a special way? How are you going to create some kind of spatial network with the cooperation of local citizens?

Osaki: I think that the Shinto shrine is the center of this town. Basically, we felt we should create a place at the shrine for the good of the entire town. Furthermore, since individual communities are now scattered around, this kind of place should be created for every community. The ideal would be to create a network of those places while at the same time judiciously allocating different roles according to their differences. But in reality we are not at that stage yet. That we were able to borrow the land in front of the Shinto shrine was sheer luck. We don't know how long we can continue to use it. If by chance a relatively large aftershock comes and a tsunami warning is issued, that place will be off limits. Also, businesspeople may have mixed feelings about this project because they want to start or resume businesses but cannot do so right now. So, we need to continue to do this while finding a balance between the ideal and reality.

Sato: I've been involved with citizens' activities in Iitate Village（飯館村）, Fukushima Prefecture where residents were forced to evacuate due to the nuclear power plant accident. One thing I learned there is that what outsiders do out of good intentions for the locals more often than not ends up alienating them, sometimes even changing the direction local residents wished to go. How do you feel about the relationship with the locals for the future? For example, how will you broaden the relationship with those who were involved with this food stall project? And if or when you eventually leave the town, how will you handle that relationship in the future?

Osaki: In the case of this project, only the locals who were eager to participate came. And that's okay, I think. There are those who are willing to do this in the local community and they cooperate with the outsiders who want to help them, which is just fine if the two sides mesh well and achieve something. As for how we leave the town or the timing of us leaving the project, I think the ideal time would be when the locals become independent enough in terms of physical power and ideas.

Suzuki: Isn't it important to not only host events like this, but also develop everyday communication?

Osaki: I'm not very familiar with the laws on hygiene, but the setup of those food stalls was allowed only because it was characterized as an event project. The limit on the duration of an event is one week, but as an alternative, it seems possible to repeatedly hold a short-term event.

Suzuki: I'd imagine it's not easy. You started from

here, but then how you could smoothly get into the daily lives of residents may be the next thing you might want to think about.

Osaki: As expected, the age group involved in the project is lopsided when holding an event only at night. In order to truly integrate into the lives of the locals, we should aim at creating venues for different people to utilize, particularly for the comings and goings of women and children.

How to Utilize the Power of the Regional Community

Mori: Did local groups in the Otsuchi area often hold residents' meetings in the first place?

Osaki: I think they did. In the Ando and Akahama districts, in particular, I find their community bonds very strong. Among the University of Tokyo project teams, the Urban Design Lab has more contacts and a stronger connection with the local community than we, the Landscape and Civic Design Lab. They have been assisting the Akahama district in examining their town development. For instance, some residents have rather extreme ideas: they want the tide embankment to be 25 meters high. In response, the Urban Design Lab may provide them with a specific feasibility plan: "If the embankment is 25 meters high," they would explain, "that may look like this and cause this." Or if some residents say, "I want to move to a place where the sea waves will never reach," lab researchers will show them how to realize their wish. In this manner, we've been assisting the locals so that town development will take concrete shape.

Suzuki: Is that kind of activity going on only in the Akahama district?

Osaki: Yes. For now, only in Akahama. We believe that this kind of painstaking assistance work is necessary in every settlement, but so far, other districts have not yet adopted it. In the Kirikiri settlement, where the sense of community is very strong, it may be happening.

Mori: There is a power structure in almost every settlement. There are often biased situations against outsiders in which only certain, special local people can participate. How will you incorporate opinions of those who are unwilling to express themselves in their settlement?

Osaki: That can happen in town development during normal times. But we're not in normal times now, and everyone is trying desperately to cope with the current situation they're in and thinking about how to improve it. Still, we cannot force residents to get involved in town development; so, as for now, it's okay if they work on a voluntary basis. Eventually, when examining the reconstruction of the town in a proper fashion, we should focus more on the voices of rank-and-file town residents.

Kamiyama: While listening to your presentation, I felt that the key would be how to further expand this activity in the future. Do you have plans to create opportunities for more townspeople to gather at events such as a summer festival at the Shinto shrine?

Osaki: Yes, as strategies, not as plans. We're not sure if the local festival will take place this year, but Otsuchi has been selected as one of the eight coastal fireworks sites for the "Light Up Japan" event. The date is August 11th. They're really up for it; 2,000 fireworks will be set off. Nike is one of the sponsors, so it will be quite an event. This is going to be an opportunity, I think. Also, in mid-September, Shinto rituals will be held at the Kozuchi Shrine. This may

not be a festival, but we could expect some turnout at least. The place for food stalls is traditionally the point where the "*mikoshi*（神輿）" (i.e. portable shrine) would depart, a very important spot on the festival route.

Kim: Since the time this project was launched to date, how have things changed? I'm talking about the extent of reconstruction, the conditions of evacuation centers, and volunteer activities.

Osaki: Our project does not necessarily cover the entire area or condition of the town, so we don't know the details. But the commercial function has been gradually recovering, and it seems that its center has shifted to the areas along the Kozuchi River, where there is the Lawson convenience store on one side and a large-scale commercial complex opposite it. There seems to be another plan in town to create something like a Food Stall Village, but because it's more of a business endeavor, some are opposed to it. In terms of the evacuation centers, they are mostly elementary schools, the Community Centers, and Shinto shrines. Currently there are several centers in every settlement. There were nearly 100 separate emergency shelters after the disaster. Now it's down to about twenty.

Terada: I believe that this project had the intention of restoring venues for the locals to gather, in the same way as they used to. For a method to assemble people, how do you feel about the relationship between this project and the approaches of restoring people's performing arts and traditional events?

Osaki: Those approaches have already started in the local area. For example, they are discussing how to make the costume for the mikoshi parade because it was washed away by the tsunami. Such approaches are also very important, so we would like to do both while considering their frequency.

Notes

1 Figures on the extent of damage as of late July, 2011. All photos were taken by the author unless otherwise stated.

Common Traits in Earthquake-related Disasters and Difficulties in Reconstruction Activities

Akihiko SATO

Through a series of discussions held at the University of Tokyo, certain common traits were found in problems experienced by damage-stricken regions, which were compelled to evacuate because of two completely different events: the tsunami and the explosions at the nuclear power plant in the Fukushima Prefecture. Such traits became particularly eminent in the process of mapping schemes for the future reconstruction efforts debated in each region.

Here two issues are briefly discussed. One concerns the phenomena that are physically occurring in these regions. Local government heads and administrative functionaries are working on creating reconstruction schemes in regions that have lost civic functions and public facilities because of the tsunami and are being forced to evacuate because of radioactive contamination. However, the people supposed to undertake and be involved in these reconstruction activities cannot be found in both regions because they were forced to evacuate to other regions and are unable to return or because they have already started a new life and are resuming their business elsewhere. In addition, there are people who assume that they have to discard their old lifestyles and jobs that have a strong root in the locality and history. As differences have become apparent between the administration and local inhabitants, it seems difficult to find and map out a clear path to reconstruction.

The other issue is related to this difference existing between the administration and inhabitants. For instance, in the Iitate village in Fukushima Prefecture, villagers evacuated because of a high level of radioactive contamination. During internal meetings at the village office that focused on formulating the reconstruction scheme, mainly junior officials and experts developed arguments reflecting criticism of governmental policies made by local inhabitants. However, what was emphasized at public meetings (held at about 20 venues between October and December) was to define decontamination activities as a prioritized national policy, and to work on them as main priorities, so that the evacuees could return to the village at an early date. They explained that compensations and relocations for the purpose of reconstructing lifestyles and business — an idea proposed by local residents on almost every occasion — were dismissed because the national government would not allow them. As far as we could tell based on the interviews we have done, although, at the aforementioned internal meetings, there were arguments that may be labeled as "sociologicalization of engineering (including decontamination activities) and policy making" or "humanistic perspectives," on engineering, "policy making," or "thinking on humanistic perspectives," they all got overwritten by the words "prioritized national policies."

Considering such a state of affairs, it is vital to decipher and understand the complex interaction of three different issues — policy making for reconstructing damaged regions, civil engineering as a tool, and inherited lifestyles in those areas — from perspectives inside and outside damaged areas.

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A Reply from Sociologists

Overcoming Modern Urban Civilization: Infrastructure and Everyday Life after the Great East Japan Earthquake

Atsuo TERADA

The earthquake in Japan on March 11th caused extensive damage to the physical infrastructure, which enables our society' survival. Although the earthquake damage was limited locally, its impact reached into a wide area of east Japan, including the Tokyo metropolitan area, which was affected by both the tsunami and the Fukushima Daiichi nuclear disaster.

At that time, some said that Japanese society and Japan's modern urban civilization would change drastically because of the enormous damage caused by the earthquake. I was one of those people, and remain strongly confident that what I felt at that time is correct.

According to Japanese seismologists, seismic activity in Japan has entered into a period of activation. Japan's national land foundation consists of several plates, and Japanese people will inevitably need to accept such instability of the earth. Facing this reality, Japanese modern urban civilization, which is based on the earth's stability, will be forced to change significantly.

Civil engineering plays an important role in the development of the infrastructure underpinning urban civilization. These engineers went to earthquake-affected areas soon after the disaster and identified the scale of the damage and sought plans to reconstruct the affected areas. Thus, they faced an infrastructural paradigm shift derived from the 3-11 earthquake.

From the engineering professionals who traveled to affected areas, I received various insights into the challenges of the reconstruction of devastated communities. Their suggestions are summarized into the following two points.

First, establishing a sense of gathering through various spatial resources plays an important role in the reconstruction of the local community. Following the results of research for resident needs in affected areas, Osaki and his colleagues tried to provide a place for "gathering" as well as basic needs like food and household goods. They aimed to create a sense of gathering for reviving residents' everyday life in the affected area, and prepared a bar as public space in cooperation with the residents.

Second, Fukui's research of affected areas shows unintended consequences of civil engineering knowledge about the habitat area. Progress of urbanization destroyed the substratum logic of a folk society — do not live along the gulf coast — and formed suburbs that were at the forefront of the tsunami. This fact requires reconsideration of the logic of folk societies that was put away in the urbanization process and of the engineering knowledge about disaster prevention.

Certainly, I expected the end of Japan's modern urban civilization on March 11th. Contrary to my expectation, after a few months, everyday life, which seemed to collapse after the earthquake, rapidly recovered with restoration of the infrastructure underpinning urban civilization. At the same time, my empathy for the people in the affected areas and my memories of those days faded during the recovery

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process.

Wherever there are various differences in the experiences after the earthquake, people living in east Japan must have experienced these inner changes. These changes do not mean the lack of sympathy and solidarity for people in the affected areas. In fact, this phenomenon represents the inseparable relationship of people's emotions, memories, everyday life, and infrastructural systems.

Perhaps people are not aware of the relationship between everyday life and infrastructural systems because they are completely swallowed by the constancy of everyday life produced by modern urban civilization. Ongoing recovery of everyday life, therefore, is a chance to realize these social processes. I think it is important to analyze the complex mechanisms of Japan's modern urban civilization and discuss the concept of new urban civilization, in addition to exploring a way to advance the reconstruction of the affected areas.

When considering these issues, as inspired by the civil engineers' suggestions, I can point out four new directions to explore: (I) research of the autonomy of the infrastructural systems and their power over society to be the material base of urban civilization; (II) research of the resilience of infrastructure systems and the circuits of cultural production that make people accept infrastructure systems as part of everyday life; (III) research of the forms of spatial autonomy created from spatial aggregation of people, and the spatial resources (e.g., public spaces) required for basic needs of people; (IV) research of a folk society's logic found in the rhythms of the natural environment to weave substratum spatial scales. These four directions are not mutually exclusive, but rather are closely intertwined.

After many twists and turns, the limits of Japan's urban civilization will be overcome by involving various actors through diverse social places and circuits. It will take a long time for such a paradigm shift to become clear to everyone.

Civil engineers' suggestions include key findings about the relationship between the infrastructure and social system in Japan. I think that sociologists should piece these fragmented images together like a jigsaw puzzle and determine how Japanese society has been transformed after the 3-11 earthquake.

A Reply from Sociologists

Beyond the Barriers between Civil Engineering and Sociology

Sayaka MORI

The massive earthquake on March 11th, the strongest ever to hit the quake-prone Japanese archipelago, devastated northeastern Japan more than any previous disaster by causing a huge tsunami along the Pacific coast, landslide, fire, and the worst-class nuclear power plant disaster in the history. As of January 11th 2012, the National Police Agency estimated that at least 19,294 people were dead or missing and 334,786 people living as evacuees. Miyagi Prefecture, hit hardest, and the neighboring Iwate and Fukushima Prefectures had no electricity; about 2,580,000 houses had total power failure, about 420,000 houses were cut off from city gas, and 1,660,000 houses' LPG was also facing the same situation. Such unexpectedly wide and continuous damage was almost the first experience for quake-prone Japan. As urbanization increases, compared to old times, the damage is different from today, even if the same area were hit by an earthquake of the same scale. Because we have reclaimed land from the sea and rivers, and cleared forests to expand the land available for housing, although these places were originally unable to support humans, we cannot make a living without highly systematic technology in not only the city but also rural districts. In particular, lifeline systems such as energy and water supplies, wastewater treatment, information, communication, and transportation are centralized and controlled by the government and rely on technical knowledge. You might say that urbanization, accelerated all over the country in various forms, is the process of exclusion of local wisdom that has supported a way of life becoming harmonious with original geographical features, vegetation, and climate. It is technological knowledge that is substituting local wisdom. Does the disaster corroborate that urbanization grounded on technological knowledge, which is expected to make society more convenient, causes more extensive and complex damage when society suffers from a natural disaster? I doubted this after the disaster. However, while doubtful, I attended a meeting of engineering expert speakers.

Two lectures and their corresponding question and answer discussions about the extent of disaster in Ishinomaki and the street project in Otsuchi brought me to establish several findings. It is well known that engineering experts are considerably shocked by the March 11 disaster and are reconsidering their way of engineering thinking. They conducted an on-the-spot survey of the earthquake-stricken area and offered opinions grounded on the survey, from the viewpoint of "hard" infrastructure in terms of facilities and materials and how they can develop applicable technology to prevent building drifts during tsunamis to the viewpoint of "soft" infrastructure such as evacuation plans like an evacuation area and a safety route suited to human intuition. They also recognized the engineering advantage that makes difficult tasks possible, which resulted in topics like "expanding land for housing" now being called into question. Frankly speaking, it was quite surprising for me that these engineers seriously look for a way of preventing the effects of a disaster with understanding each sphere of humans and nature; having watched an

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expert committee for infrastructure construction as a topic of study, I had rarely met such engineering experts before. They also seemed vexed and to realize that the technical knowledge for solving a problem rationally has been turned to account for a consideration of policy makers during the policy-making process. The earthquake disaster taught important lessons to engineers, and might lead to developing better or different technology; however, engineers were pessimistic that those learned lessons would be applied to the actually policy by the policy makers.

First, for disaster prevention measures, the concrete technology for a measure is chosen in consideration with the possibility of control or a forecast, hazardous area limit, potential damage scale, economy, feasibility, urgency, impartiality, and negative effect. In the selection stage, it becomes a problem of decision making in society and not one of technology. It is not necessarily true that the way of thinking of a policy maker and that of the pillar of engineering knowledge match. However, it is true that policy makers, especially those in charge of infrastructure construction, rely on engineering knowledge, but the knowledge twists scientific rationality in the policy-making process, and as such, is reflected mainly of policy and not engineering because of that power.

It was also obvious for the pillars of engineering knowledge that infrastructure construction is impossible by only applying knowledge based on the physical law. During the meeting, I came to know that we, the pillars of sociological and engineering knowledge, share the importance of local wisdom and a way of life rooted in the concrete natural environment. Noticing my personal misunderstandings about the pillar of engineering, I feel that we should pursue how engineering knowledge is considered in policy-making and is applied to power. Engineering knowledge may be the problem itself. Sociology is the same in terms of its knowledge. It might be expected for pillars of knowledge, beyond the branch of learning, to maintain the knowledge that leads to a solution for the problems that arise when people hope for a sustainable daily life in a land that has a concrete historical natural geography to the stage of policy making without twist from power.

Article

What Should the Public Know?: Japanese Media Coverage on the Antinuclear Movement in Tokyo between March 11 and November 30, 2011

Keiichi SATOH

THE REPUTATION OF THE *TOKKYO SHIMBUN* AMONG ACTIVISTS

Among Tokyo's antinuclear activists, one local newspaper is gaining a wide reputation: the Tokyo Shimbun. Many activists who participated in the demonstration at the Economic Ministry building on November 11, 2011 told me that they switched their newspaper subscription to the Tokyo Shimbun because "it correctly reported the antinuclear activities."

Favorable attitude toward the Tokyo Shimbun among activists could also be seen at the press conference held by the citizens' group Minna de Kimeyo (Everybody Decides) on November 12. When a reporter from the Tokyo Shimbun introduced himself before asking a question at the press conference, he received a sudden outburst of applause by the audience.

This enthusiastic support among activists for the Tokyo Shimbun results from their frustration concerning the lack of active media coverage on antinuclear movements. As Tan Uichi wrote in the previous issue of this magazine, a series of large, nationwide antinuclear demonstrations took place in Japan just three months after the Fukushima accident. A group of shop owners in Tokyo's Koenji district, calling themselves "*Shiro-to no ran*（素人の乱）" or "Amateur Protesters,"organized one of the main demonstrations in Shinjuku, Tokyo. Approximately 20,000 people demonstrated at the event. As Tan criticized, even though this was one of the largest demonstrations in recent years, most of the mass media provided minimal coverage. Following the Tan's essay, I will handle here two questions: 1) how does the Japanese media generally cover antinuclear movements? 2) How should we think about media coverage from the perspective to raise public opinion in society, especially after a severe nuclear accident has occurred?

Let me first show the media's coverage of antinuclear movement in Tokyo.

MASS MEDIA REPORT ON ANTINUCLEAR DEMONSTRATIONS

Demonstration Organizer Types

Table 1 on the following page lists the major antinuclear demonstrations that occurred in Tokyo between March 11 (the day of the Fukushima nuclear accident) and November 30, 2011. The first column of the table displays the type of the organizer for each demonstration. Roughly three types of organizer groups can be seen in Tokyo. The first group (Type A) consists of traditional activist groups that have a long history of antinuclear activism well before the Fukushima accident occurred. These groups are the largest, and they have strong and effective mobilizing power. The second (Type B) is a newly organized group formed after the Fukushima accident, which primarily focuses on shifting energy sources away from nuclear power to alternative renewable energy sources such as wind power. This type especially targets those who have previously not participated in antinuclear movements, such as mothers who are afraid of the impact of radiation on their children. The

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What Should the Public Know?: Japanese Media Coverage on the Antinuclear Movements in Tokyo between 11 March and November 30, 2011

Keiichi SATOH

Table 1: Major Demonstrations and its Report by Each Newspaper in Tokyo between March 11 and November 11, 2011

Demonstration's Date, Organizer's type, place, number of participants	Tokyo Shimbun	Mainichi	Asahi	Yomiuri	Nikkei
Mar.27,(A), Ginza, 1,000		Mar.28,p.23(Overall),278 words,(S)			
Apr.10,(A),Shiba-Park, 2500		Apr.11, p.17 (Overall),278 words, (S)			Apr.11, p.34,160 words, (S)
Apr.10,(C),Koenji,150,000	Apr.11, p.12,300 words, (S)				
Apr.24,(A), Tepco Headquater, 3,000		Apr.25, p.19 (Society),227 words, (S)			
Apr.24,(B), Shibuya, 5,000			Apr.25, p.19 (Society),341 words, (S)		
May.7,(C), Shibuya, 15,000		May. 8, p.23 (Overall),292 words, (S)	Apr.25, p.38 (Society),484 words, (S)		
Jun.11,(A), Minato Ward, 6,000					
Jun.11,(B), Shibuya, 1,500			Jun.12, p.35 (Tama district), 877 words, (S)		
Jun.11,(C), Shinjuku, 20,000		Jun. 15(E), p.2 (Overall),2706 words, (F)			
Jun.11, whole series of Demonstration,78,899	Jun.12, p.26 (Overall),403 words, (S)	Jun.12, p.30 (Society),317 words, (S)	Jun.12, p.1, 455 words, (S) / Jun. 12, p.38, 744 words, (S)	Jun.12, p.38 (Society), 230 words, (S)	Jun.12, p.34, 306 words, (S)
Sep.11,(A), METI Building, 2,000	Sep.12(E), p.8 (Society),277 words, (S)	Sep.12(E), p.10 (Society),272 words, (S)			
Sep.11,(B), Shibuya, 900	Sep.12(E), p.8 (Society),277 words, (S)	Sep.13, p.28 (Activities),426 words, (S)			
Sep.11,(C), Shinjuku, 11,000	Sep.13, p.37 (Feature A),1328 words, (F)/ Sep.16, p.26 (Feature), 1356 words, (F)/	Sep.13, p.27 (Overall),213 words, (S)		Sep.12(E), p.13 (Society),215 words, (S)	
Sep.11, whole series of Demonstration	Sep.13, p.37 (Feature B),1342 words, (F)/ Sep.16, p.24 (Tama District), 365 words, (S)	Sep.11, p.28 (Activities),620 words, (F)/	Sep.12(E), p.14 (Society),605 words, (S)		
Sep.19, (A), Meiji Park, 60,000	Sep.20, p.1,506 words, (S)/ Sep.20, p.26 (Feature A), 1245 words, (F)/ Sep.20, p.26 (Feature B), 1245 words, (F)/ Sep.20, p.29 (Society), 1557 words, (S)	Sep.20, p.24 (Society),1028 words, (S)/ Sep.22, p.19 (Family),2695 words, (F)/	Sep.20, p.1, 253 words, (S)	Sep.20, p.38 (Society), 241 words, (S)	Sep.20, p.34, 204 words, (S)
Oct.27-, (A), METI, ave.200/day		Nov. 2, p.2 (Overall),2714 words, (F)	Nov. 3, p.34 (Life), 453 words (F)		
Nov. 6, (B), Kichijoji, 700	Nov. 7, p.22 (Society),488 words, (S)				
Nov.11,(A),METI,1300	Nov. 11, p.1, 266 words, (S)		Nov. 11, p.38, 305 words, (S)		
Total Number of words	*11,955 words*	*12,066 words*	*4,517 words*	*686 words*	*670 words*

Notes:
1. Organizer's type: (A) traditional (B) New organizer (moderate), (C) New organizer (radical)
2. Number of the participants according to the organizer
3. News type's description: ( ) section of the news; (E)Evening edition ; (S) Straight news; (F) Feature article

Table 2: Report by Each Newspaper about Demonstration in Germany on March 26

	Tokyo Shimbun	Mainichi	Asahi	Yomiuri	NIkkei
	March 27, p.5 (foreign), 514 words " 200,000 Demo in Germany, Tohoku Great Disaster , Silent Prayer for Victims: Fukushima Accident"	March 28, p.4 (overrall), 1862 words, "Tohoku Great Disaster, Call for review on NP spread worldwide	March 27, p.9 (foreign),197 words, "250,000 Demonstration in Germany call for stop the NP, because of Fukushima accident in four cities"/ March 28, p.5 (Overall), 3136 words, "Adverse Wind for NP, 250,000 Demo in Germany, French Russia, US straighten the safety"	March 28, 5.(foreign), 304 words, "Anti NP Demo in four cities in Germany"	March 29, p.8, 1281 words, "Anti NP opinion in EU, Anti NP legislator got seats in Local Govt in Germany and French, NP Constitutes 30% of Total Energy, difficult to stop"
Total number of words	514 words	1,862 words	3,333 words	304 words	1,281 words

third (Type C) is a newly formed group mentioned earlier as "Amateur Protestors." Similar to the Type B organized demonstrations, most of the demonstrators of Type C are also newcomers mostly mobilized through social networking applications such as Twitter and Facebook. However, their demonstration style is generally much more radical than those of Type B organizers and includes noisy drums and loud music.

Demonstration on June 11, 2011

Until the day of June 11 or three months after the Fukushima accident, each group individually planned its demonstration. During this time, most newspapers provided minimal coverage based only on what each of the newspaper's reporters just happened to know. On June 11, all nationwide activists (including those who lived in Tokyo) jointly organized a series of demonstrations known as a "National Action." Since that time, a series of joint demonstrations has occurred once every three months: on September 11-19 and December 11.

The demonstration on June 11 was also the first one to be covered simultaneously by all major newspapers. However, the volume of articles differed widely among the newspapers. Middle-progressive newspapers such as the Asahi and the Mainichi provided substantial coverage while the economic newspaper Nikkei and the middle-conservative Yomiuri devoted very little space to it. Apparently, the length of the report was based strongly upon each newspaper's stance on the importance of the nuclear energy dependence.

Interestingly, the Tokyo Shimbun too provided minimal coverage to the event at that time. Why, then, did the newspaper gain such favorable support by the activists? I will answer this question later.

Although the Mainichi and the Asahi reported comparatively as much about the June 11 demonstration where a total of 78,899 people participated in the series of nationwide demonstrations, the coverage volume for this event on the next day of the event (Mainichi 317 words; Asahi 1,621 words) was much smaller compared to that for a demonstration in Germany on March 27. As shown in Table 2, the Mainichi dedicated 1,862 words and the Asahi more than 3,000 for the event.

It is fair to mention that the Mainichi covered the June 11 demonstration after four days as featured news with 2706 words. But still we can observe that as an overall trend, Japanese newspapers report a national case and a foreign case very differently, if we compare each newspaper's word count on a national case on June 11(Table 1) and on a foreign case (Table 2).

Demonstration from September 11 to 19

The second "National Action" demonstration had

Keiichi SATOH

Photo 1: Demonstrators listening to a speech at a park in front of the ALTA studio in Shinjuku, Tokyo on September 11
Note: Photograph by the author.

Photo 2: Demonstrators writing messages on the fences built to obstruct the gathering at the park in front of the ALTA studio in Shinjuku, Tokyo on September 11
Note: Photograph by the author.

become more heated compared to the first. This time, tension between activists and police increased. For example, at the demonstration in Shinjuku, 12 demonstrators were arrested for allegedly expanding their ranks across the other side of the road, which was against regulations. In addition, they reportedly resorted to violence against the police. The organizer's groups, however, denied these official statements and argued that police control was especially hard that day and pedestrians were strongly prohibited from entering the ranks of demonstrators midway through the march.

I witnessed another case of control at the same demonstration which was harder than the one on June 11: Following the demonstration, a planned gathering was to be held at a park at Shinjuku station, but most of the trees were enclosed by a fence and minimal space remained for the participants.

TO REPORT IT AS "VALUABLE", OR TO MAKE IT "VALUABLE"?

Division Points before Reporting

Textbooks about news reports often explain that the contents and lengths of the articles must be decided according to its overall value for society. Whether an article is written (or not) and how long the article will be is individually evaluated by each newspaper. Looking at the data presented in Table 1, how is an event concerning antinuclear movement evaluated by each newspaper? I will focus on two examples: a sit-in demonstration in front of the Economics Ministry by the "Women from Fukushima" on October 27 and a gathering held by the Minna de Kimeyo group on November 12.

Let us first examine whether an event is covered. In the case of the sit-in demonstration, according to the organizer, the Yomiuri and Nikkei did not show up at the event, whereas the Asahi and Mainichi did. This was also the case for the Minna de Kimeyo gathering, which received coverage by the Asahi, Mainichi, and Tokyo Shimbun. This situation suggests that newspapers with a somewhat antinuclear stance cover the demonstrations actively while papers that favor nuclear energy usually neglect the events.

If the decision is made to actually cover the event, then what factors determine the overall length of the article? It depends on whether a newspaper chooses a straight news or feature article. Most of the demonstrations were reported in a straight news style and an article of this style tends to be very short because the event itself did not have many elements to constitute the news. On the other hand, feature articles are normally longer than the first one because

it casts an event into a much broader context in relation to society. Therefore, feature articles often require more readiness by the reporter, and editorial desks must effectively analyze the meanings to society.

In the event of the "Women of Fukushima," the Mainichi adopted the feature style while the Asahi used a straight news style. It is worth mentioning that both these newspapers as well as the Nikkei also chose feature style articles in their report of the German demonstration on March 27. Seemingly, the Japanese media tends to report foreign social movements more actively than domestic events.

Media's Role for the Active Discussion

As is often argued, a reciprocal process occurs when evaluating an event for society: the media covers an event that is considered worth reporting on, while an event is evaluated as being important because it is being covered by the media. In this case, both the media and the event are simultaneously producing and changing the event's value in society. Therefore, the value of an event cannot be evaluated by itself. We cannot say what the proper treatment of an event is in general. We can only argue the better treatment of an event based on each specific context.

Based on this stance, I will argue here that it is important to cover the antinuclear social movement in order to rouse public discussion from the following two aspects: 1) Many congress members still remain unclear concerning their positions on nuclear energy issues and citizen cannot effectively judge their opinions on the subject. 2) Japanese nuclear policies have been promoted in a situation where no governmental agency actually exists that can break its promotion. Therefore, in the current situation voices questioning its promotion only can be rouse from the outside of the government.

In regard to these conditions, social movements

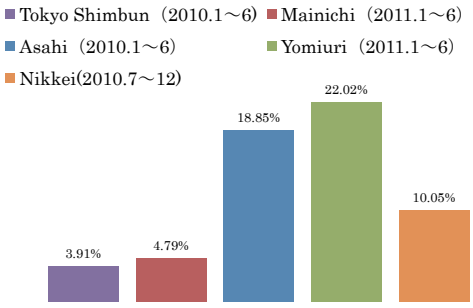

Figure1: Circulation Rate of each newspaper in Tokyo
Note: Cirqulation Rate is caluculated by the number of subscription in Tokyo devided by the total numver of household in Tokyo.

can serve as a means to question future nuclear policies. Nuclear energy is now becoming an issue that representatives are unwilling to handle. As a result, the legislative and public spheres have become detached. The dangers of operating a nuclear power plant is often stated simply as a narrowly marginalized problem posed by local people who live near the plants, even though the Fukushima accident revealed a nationwide problem. As stated by Oe at the September 19 event, demonstrations were the only exercise of democratic action for antinuclear forces. However, as seen in Graph 1, the newspapers that actively reported on antinuclear demonstrations have fewer readers compared to others. Consequently, the majority of readers in Tokyo are less aware (or even unaware) of the existence of a nationwide objection to nuclear power.

It can be said that excessive reporting on antinuclear movements can actually harm the media's neutral stance. However, a more positive way exists to guarantee such neutrality: report on the demonstrators' arguments as well as people who are against such arguments within a single article.

After the accident, the use of social media has rapidly increased in Japan and people are becoming increasingly active, particularly in regard to acquiring information about the future of society in general. Why not, then, have the media commit to this society-wide project?

Essay

Attending the Global Conference for a Nuclear Free World in Yokohama

Alexander BROWN

The nuclear disaster at the Fukushima Daiichi nuclear power plant has sparked an anti-nuclear renaissance in Japan and around the world. This renaissance has facilitated new encounters between activists in Japan and abroad and led to the strengthening of existing networks. For example, solidarity actions were held around the world to coincide with the large Genpatsu Yamero (Stop Nuclear) demonstrations held in Tokyo last year. The revival of anti-nuclear sentiment in Europe following the Fukushima disaster saw Germany announce plans to abandon nuclear power while in a referendum held in Italy last year a majority voted against the development of nuclear energy. In the context of this growing global anti-nuclear movement the Global Conference for a Nuclear Free World was held at the Pacifico convention centre in Yokohama from 14–15 January this year. The stated purpose of the conference was to

> give birth to concrete support for the people of Fukushima, be a further step towards creating a future without nuclear power plants, and develop into ongoing global action.' (Yoshioka 2012)

The conference attracted 11,500 people over two days including 100 international guests from 30 countries (Global Conference 2012). I attended the conference on both days as an assistant translator for five Australian guest speakers. In this essay I provide an overview of the conference from the point of view of a participant.

ORGANIZATION OF THE CONFERENCE

The conference was organized by a committee made up of several large Japanese Non-Governmental Organizations including Peace Boat, the Institute for Sustainable Energy Policies, Green Action, the Citizen's Nuclear Information Center, FoE (Friends of the Earth) Japan and Greenpeace Japan. Peace Boat, which played a central role in coordinating the event, is one of the largest Non-Governmental Organizations in Japan. Founded in 1983, Peace Boat's primary activities revolve around annual international peace voyages on its own cruise ship during which participants take part in peace and sustainability education activities on board while visiting civil society organizations in various parts of the world. Since the March 2011 earthquake the organization has been coordinating a disaster relief project in Ishinomaki City in Miyagi Prefecture. The Yokohama conference organizing committee was chaired by Peace Boat Co-Founder and Director Tatsuya Yoshioka. In a press conference Tetsunari Iida, Director of the Institute for Sustainable Energy Policies, acknowledged the central role of Peace Boat in assuming the financial risk of organizing the conference and providing all of the office staff (Iida 2012).

In the organization of such a large and therefore expensive conference the role of large, well-established NGOs such as Peace Boat was obviously critical. However, the conference itself would not

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have happened without the contributions of a vast number of smaller organizations. A number of smaller organizations cooperated in organizing the conference while others provided financial support. A large number of citizens' movements (shimin undō), church groups, cooperatives and labour unions also endorsed the conference. It was these smaller organizations that convened many of the individual sessions that made up the conference program.

This multi-layered organizational structure facilitated a variety of different levels of participation. This included large-scale financial and logistical support by the larger NGOs, the organization of workshops and conference sessions by smaller NGOs and citizen groups and the participation of the thousands of individuals who engaged in discussion and debate over the two days. This diffuse organisational structure reflects a trend towards decentralized organizational networks in social movement activism in Japan that has been observed since the early 2000s (Michiba 2005: 608).

OVERALL DESCRIPTION

Upon arriving at the conference on the first day I was surprised to see large numbers of people lined up outside waiting to get in. Throughout the two days I was frequently overwhelmed by the large number of people moving through the conference venue. Everybody seemed to have a story to tell or to want to engage in debate or discussion. The conference included large sessions, such as the opening and closing events and many simultaneous smaller 'Self Organized Events' that were managed by small groups of participants from Japan and overseas. Throughout the convention centre were small information booths representing various organisations and causes. There were several exhibitions of photographs and a cinema room in which various films were shown. A 'Fukushima Room' featured speeches and workshops by Fukushima residents. A 'Kid's Program' included 'arts workshops, dance, and play areas for children to have fun as well as learn about nuclear and energy issues.' (Global Conference 2012) The 'Forest of Action' was a central point for collecting ideas for concrete actions to be taken in support of the conference goals. These were later assembled on the conference website.

The conference began with an Opening Event attended by thousands of participants that helped set the tone for the two days. It featured speeches by Iida Testunari from one of the main organizing groups, the Institute for Sustainable Energy Policies, former Fukushima Governor Eisaku Sato, Member of the European Parliament for Germany Rebecca Harms, Australian Aboriginal elder and Co-Chair of the Australian Nuclear Free Alliance Peter Watts, doctor and hibakusha Shuntaro Hida and Jordanian parliamentarian Mosafem Awamleh.

The make-up of this Opening Event reflected the conference's grounding in an international civil society that includes politicians, NGOs, professionals and activists. The speeches by two serving parliamentarians and a former Fukushima governor highlighted the conflict within global state structures over nuclear power. Rebecca Harms, as President of the GREENS/EFA Group represented the strong position of the environmental movement within many European states. The presence of Jordanian politician Motasem Awamleh reflected the controversy in his country over plans to import nuclear technology from Japan.

PROTEST AND POLICING: THE CONTESTED POLITICS OF ANTI-NUCLEAR ACTIVISM

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The Pacifico Yokohama convention center in which the conference took place, is a large multi-storey building in the heart of a redeveloped area near the port of Yokohama. The centre is accessible from the Minatomirai subway station by travelling through a large shopping mall and then crossing a raised overpass across the road to the conference centre itself. It was possible to approach the convention centre from the subway station without once stepping out onto the street. Travelling through this highly artificial environment one arrived in a convention centre where one was completely surrounded by anti-nuclear messages and people who were sympathetic to the anti-nuclear cause. I felt an intense contradiction between the hyper-modern and resource-intensive space of consumption surrounding the convention centre itself and the politics of the anti-nuclear movement inside the conference space.

Upon entering or leaving the convention centre one was reminded of the political conflict over nuclear power in Japan. The first and most obvious reminder was the significant police presence around the entrance to the conference. While it is not unusual for police to attend large events, the police also served as a reminder to participants that the issue of nuclear power is marked by conflict. The small group of plain-clothes Public Security Police (kōan keisatsu) at the entrance of the conference was a particularly troubling indicator of the limits of democracy in Japan. The presence of these officers sent a clear signal to attendees that by attending an anti-nuclear conference they would be subject to surveillance by the state. That this surveillance is directly connected to the active repression of dissent in Japan was attested to by the arrest of 12 anti-nuclear activists during an anti-nuclear protest on 11 September last year. A further reminder of the contested politics of nuclear power was provided by right-wing (uyoku) activists who continually circled the conference venue over the two days in vans displaying large Japanese flags and broadcasting nationalist propaganda via loudspeakers.

On the first day of the conference, the 'Global March for a Nuclear Power Free World in Yokohama' protest was held in association with the conference. It was attended by approximately 5000 people who assembled in a park near the conference venue before marching through the streets of Yokohama. In accordance with the usual method of policing Japanese demonstrations, marchers were confined to one lane at the side of the road. The march itself was broken up into three separate blocs that were kept a considerable distance apart from one another by police. The sealing of protest within small blocs confined to the margins of the street reduces the overall impact of the march both in terms of its disruption of traffic, which is arguably part of the purpose of street demonstrations, but also in terms of the visual impact on passersby. These limitations provide a very visual confirmation of the precarious position of political dissent in Japan, confined to the margins of social space by heavy policing and strict surveillance by plain-clothes political police.

SELF-ORGANIZED EVENTS: THE AUSTRALIAN DELEGATION

The majority of sessions at the conference were made up of 'Self Organized Events' managed by groups of conference participants and guest speakers. This structure meant that within the overall framework organized by the large NGOs there was space for a wide variety of different voices. Many of these groups maintained a small booth in the exhibition spaces between individual lecture theatres and

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meeting rooms. As one walked through these exhibition spaces one was surrounded on all sides by a diverse number of groups and individuals highlighting different aspects of the nuclear fuel-cycle. As I attended the conference in the capacity of assistant translator for the Australian delegation I will reflect briefly on the activity of the Australia group. I believe that this experience was representative of similar 'Self Organized Events'.

The Australian delegates organized a 'Self Organized Event' on the uranium mining industry in Australia. This event highlighted the supply-side issues of the Fukushima crisis and exposed the role of the Australian uranium mining industry in fuelling the reactors that caused the Fukushima crisis. Approximately one hundred people attended the session. During this session each of the five delegates gave a different part of the presentation. Volunteer translators were provided by the conference organizers. There was very little time for questions or comments during the session. However, the event was not the only or even the primary means by which the Australian guest speakers interacted with the other participants. Several of the delegates participated in a 'Global Discussion Room' in which more informal discussions between guest speakers and regular conference attendees were facilitated by conference staff. The Australian delegates also organized a booth where they handed out information about uranium mining in Australia, collected signatures for a petition against uranium exports to Japan and sold t-shirts. People visiting the booth often engaged the delegates in conversation, dependent on English-language ability, and asked questions, exchanged contact details and discussed future collaborations. Two of the delegates attended the Saturday protest march where they had the opportunity to meet with protesters who were not attending the conference itself. In addition, a number of delegates participated in a bus tour in which 60 of the guest speakers visited Fukushima city and drove to the edge of the 20-km exclusion zone around the Fukushima Daiichi plant. While organizing and attending formal conference sessions was an important part of the delegates' participation, it extended far beyond this and included countless less formal interactions with other participants.

CULTURAL RESISTANCE

Cultural and artistic responses to nuclear power and nuclear weapons featured prominently throughout the conference. In the 'Artists Lounge' a variety of musical performances were held over the two days. Some entertainers who participated in the conference, such as singer Tokiko Katō, are long-term political activists who have long supported the anti-nuclear movement and have an ongoing involvement in environmental and social justice movements. Others, such as actor Tarō Yamamoto, have taken a political stand since the Fukushima crisis.

The conference also featured a number of photography exhibitions. These included photographs from areas such as Chernobyl, Hiroshima, the nuclear waste reprocessing facility in Rokkasho village in Aomori Prefecture and photographs of hibakusha from Hiroshima and Nagasaki. The harrowing photographs of children from Chernobyl made me feel terribly sad as I wondered how many children in Fukushima are likely to succumb to radiation-related illnesses in the coming years.

The Tokyo Peace Film Festival convened a 'Nuclear Power Free Film Festival' as part of the conference program including films such as Nadya's Village which examines the lives of villages affected by the Chernobyl nuclear disaster and Hōri no Shima which chronicles a year in the small island of Iwai Shima

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on Japan's inland sea off the coast of Kaminoseki in Yamaguchi Prefecture where residents have engaged in a 20-year struggle against the construction of a nuclear power plant. I attended the screening of Hōri no Shima and had to stand at the back as the room was packed to overflowing with people.

In the Artists Lounge on Sundary afternoon writer and anti-poverty activist Karin Amamiya hosted a talk event with the Seifuku Kōjō Iinkai, a pop idol group made up of six girls aged 12 to 17. The group has taken an active anti-nuclear stance since Fukushima with their song Datsu datsu datsu genpatsu (Away, away, away from nuclear power). The interview provided some insight into how the nuclear issue is perceived among school-age girls. The group members described singing about the nuclear issue as an educational experience that had caused them to think deeply about the issues. A number of the girls explained that their political activity had provided an opportunity to discuss the issue of nuclear power plants with friends at school.

CONCLUSION

The title of the conference itself, 'Global Conference for a Nuclear Power Free World', reflected one of the lines of conflict in the anti-nuclear movement. Organizers could chose between two Japanese linguistic constructions, datsu genpatsu (nuclear power free) and han genpatsu (no nuclear power), in their framing of the conference. While han genpatsu (no nuclear power) reflects an antagonistic opposition to nuclear power, datsu genpatsu (nuclear free) emphasises a movement away from nuclear power but without necessarily implying antagonism (Yoshioka 2011: 46). Organizers of the conference protest march, the Shutoken Hangenpatsu Rengō (Capital District Anti-nuclear Alliance) use the term han genpatsu to describe their protest activity. The term datsu genpatsu, on the other hand, chosen as the overall title of the conference, was the same term used by then prime minister Naoto Kan when he announced his desire for Japan to move away from 'dependence' on nuclear power (datsu genpatsu izon) last year.

This discursive frame appears calculated to appeal to the broadest possible range of people and may reflect a degree of reluctance on the part of organizers to engage in confrontational and oppositional politics. However, the conflict over nuclear politics in Japan was nevertheless inescapable in an environment of heavy policing, surveillance and right-wing activity at the boundaries of the conference space. The structure of the conference and the inclusion of the protest march in the official program provided a very open space for democratic discussion and debate about an issue that is at the centre of social conflict in Japan after Fukushima. The range of sessions and activities within the conference and the holding of a demonstration outside the conference venue provided a space to address almost every conceivable issue relating to the nuclear industry from uranium mining to weapons, nuclear power and waste. The plurality of voices at the Global Conference was a testament to the diversity of the anti-nuclear movement. The global nature of the conference reflected the ongoing development of international solidarity and communication among social justice and environmental movements. The conference constituted an important intervention into the global anti-nuclear renaissance that has followed the Fukushima disaster. Its long-term effects in terms of the development of networks of solidarity throughout Japan and the world are likely to be revealed for many years to come.

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Research

Tsunami Disaster and Assistance: Interviews with Key Persons in Ofunato and Tono Cities

Tadahito YAMAMOTO

OUTLINE OF THE RESEARCH

Date: November 4-5, 2011

Field: Ofunato（大船渡）and Tono（遠野）City, Iwate Prefecture（岩手県）

Researchers: Tadahito YAMAMOTO and Yutaka IWADATE

Purpose: Disaster destroys community and infrastructure systems embedded in ordinary life. This situation often causes new types of agents and networks for emergency assistance to develop and results in the transformation of social geography. In our research, we interviewed key persons from assistance groups, which emerged after the 11/3 Tsunami in the Sanriku（三陸）coast region of Iwate Prefecture.

The interviews focus on the following:

- When and what types of assistance networks emerged?
- Where were the assistance networks based?
- Who were the agents involved?
- How were community, built environment, and infrastructure reconstructed and how are they currently transforming?

POSITION OF OFUNATO AND TONO CITIES

Ofunato City and Outline of the Tsunami in Sanriku Area

Ofunato City is one of the most seriously damaged places in the Sanriku region of the Iwate prefecture. According to the National Police Agency（警察庁）, 15,856 people are dead and 3,084 are missing as a result of the Great East Japan Earthquake (April 4, 2012). Of the bodies subject to inquest, the causes of death were: drowning (92.4%), suffocation (4.4%), and fire (1.1%). The tsunami is the primary cause for the increase in the number of victims.

Iwate Prefecture has 4,671 dead persons and 1,237 missing, most of who come from the Sanriku coast area. The dead in Ofunato City totaled 340, ranking 6th place in Sanriku among 12 cities, towns, and villages.

Photo 1 Ofunato City 4/11/2011
Note: Photograph by author.

Ofunato suffered serious damage; nevertheless, about 70% buildings remained standing. In this, it differs from Rikuzentakata（陸前高田）or Ootsuchi（大槌）, and in the Sanriku region, where residential zones were nearly entirely washed away and administrative functions broke down.

Can Ofunato be reconstructed faster than other seriously damaged cities or towns? How will Ofunato's networks of assistance or particular model of reconstruction influence other areas

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through people's interactions and the media? Or, will reconstruction actually progress more slowly because complex human relationships and interests remain concentrated on the site? This is a topic of our research on Ofunato.

Tono City as the Base of Assistance for Sanriku Area: the Tono Magokoro Net

The ravaged areas of the Sanriku region are far from the Tohoku expressway and Tohoku Shinkansen (Bullet train), which serve as the main transport systems linking big cities such as Tokyo to the Tohoku region. It was difficult to enter the ravaged areas or to convey food, water, and other relief goods.

Tono City is a halfway point between Sanriku and several cities along the Tohoku expressway or Shinkansen. It takes approximately one hour to drive into the towns and cities which have suffered the most damage: Otschi, Kamaishi（釜石）, Ofunato, and Rikuzentakata. On March 27, 2011, Tono Magokoro Net was founded by assistance groups for the Sanriku area and has played the central role of base camp for assistance groups, responsible for matching needs in the afflicted areas with volunteers who come from outside Iwate Prefecture. One feature of this network is that it is composed of groups from both inside and outside of Iwate Prefecture, totaling 59 (December 2011).

Photo 2 Tono Magokoro Net in Tono Synthesis Welfare Center（遠野市総合福祉センター）17/8/2011. Office moved to another place, Tono Clarification Center（遠野浄化センター）from Dec. 4, 2011
Note: Photograph by author.

Further Information:

Tono Magokoro Net（遠野まごころネット）
Web http://tonomagokoro.net/

INTERVIEWS

Ofunato City

Mr. Shingo KIKUCHI（菊池真吾）, Chief of the San-San Group（さんさんの会）

Place: Goishi Community Center（碁石地区コミュニティセンター）

Photo 3 Mr. Shingo Kikuchi (right) at the Goishi Community Center, 4/11/2011
Note: Photograph by author.

The San-San Group sprang into action on March 12, 2011, the day following the earthquake. On that day, the chef of an Italian restaurant in Ofunato made 50 "onigiri (rice balls)" and delivered them to victims. A cooking group gradually developed, and, on March 15, it set up its base in "Riasu Hall," a public hall that had been saved from the tsunami and was serving as one of the main shelters in Ofunato. This new hall had large kitchen facilities, which were good for cooking and distributing a large volume of emergency food to large numbers of victims. In its early phase, San-San Group delivered food to all shelters (around

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Photo 4 Riasu Hall 4/11/2011
Note: Photograph by author.

60 places according to Mr. Kikuchi) and even now continues to make deliveries, although the volume is gradually decreasing.

Just after the earthquake and tsunami, electric and communication systems were shut down and the main roads linking central areas to small fishing villages along the coast were destroyed in many places. Local governments did not have enough resources and power to supply food, water, and so forth in such a situation. San-San Group played an important role in compensating for the lack of government functions after the disaster.

This group sent information through Facebook and Twitter and received relief goods and food from all over Japan. It is particularly interesting to note that Shingo Kikuchi, Chief of Group San-San lives in Tono City, 50 km from Ofunato, and drives between these two cities every day. Although the San-San Group developed from a "local" situation, we cannot say it is purely a "local group." This mixture of "inside" and "outside" elements is an important feature among systems and agents that emerged after the disaster.

The San-San Group left Riasu Hall on September 30 and moved to the Goishi Community Center, located on the coast. It is currently building its own office building, called the "San-San Kichen House". The Malaysian government provided the group with building materials.

Further Information:

San-San Group（さんさんの会）

Facebook http://www.facebook.com/sansannokai

Mr. Kyoji IWAKI（岩城恭治）, Chief of Dream Net Ofunato（夢ネット大船渡）

Place: ふれあい待合室（The Fureai Waiting Room at Sakari Station, Sanriku railway）

Dream Net Ofunato was founded in 2006 as an intermediate group supporting civil society organizations (CSOs) in the Kesen Region（気仙地域）, which is composed of Ofunato City, Rikuzentakata City, the town of Sumita（住田町）. Sixty-four CSOs are listed on Dream Net's website (Sep. 30 2011). Dream Net formed the "Civilian Liaison Conference for the Reconstruction of Kesen Region"（気仙市民復興連絡会議）in April 2011. This network distributed relief goods, emergency food, and shelters, and since April 11, has published "Reconstruction News"（復興ニュース）, which carries information about types of assistance and events for victims. These actions were advised and supported by NPO Aich Net（愛知ネット）from Aichi Prefecture（愛知県）.

On October 5, Dream Net founded the Fureai Waiting Room（ふれあい待合室）in the Sakari Station（盛駅）on the Sanriku railway line（三陸鉄道）, which had closed after the disaster. This Waiting Room provides victims, who are often alone in an

Photo 5 The Fureai Waiting Room (Sakari Station) 4/11/2011
Note: Photograph by author.

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unfamiliar environment, the chance to communicate with each other and gives information to various types of groups and individuals who visit from outside Ofunato.

Further information:

Dream Net Ofunato（夢ネット大船渡）

Web http://www.geocities.jp/npoyumenet/NPO.html

Tono City

Mr. Terukazu OZEKI（大関輝一）, Staff of the NPO Independent Life Support Center（Moyai）（NPO 自立生活サポートセンター・もやい）/ Foundation for Cooperative Community Creation（共生地域創造財団）

Place: Guesthouse "Bent House"（曲り屋）

Mr. Terukazu Ozeki is a member of the staff of the NPO Independent Life Support Center (Moyai), which has been a key player in the anti-poverty movement in Tokyo since its foundation in 2001, specifically after the Lehman Brother's shock in 2008. As a leader of (Moyai), Mr. Makoto YUASA（湯浅誠）has served as Special Advisor to the Cabinet（内閣府参与）, focusing on social inclusion policy, and, on March 16, became Head of the Cabinet Secretariat's Volunteer Coordination Office（内閣官房ボランティア連携室長）.

Photo 6 Mr. Terukazu Ozeki in the garden that is in front of his office in Tono, 5/11/2011
Note: Photograph by author.

Mr. Ozeki took part in emergency assistance in several historical disasters during the past 20 years; for example, Kobe in 1995, central Niigata in 2004, and so on. After the Great East Japan Earthquake, he first went to Sendai, the largest city in the Northeast Region, and worked with One Family Sendai（ワンファミリー仙台）, a sister group of Moyai. About two weeks after the earthquake, he drove into the devastated area of Sanriku for the first time.

He mainly assisted the Ofunato area. He also became a staff member of the Foundation of Cooperative Community Creation that was founded on April 15 by the National Homeless Support Network（全国ホームレス支援機構）(office in Ktakyusyu), Green Coop（グリーンコープ共同体）, and the Seikatsu Club Consumer's Cooperation Union（生活クラブ生協）. Mr. Ozeki established his "base" in Tono City because Tono Magokoro Net, which aims to coordinate the need of afflicted areas with volunteer groups from all over Japan, was located there. It is important for assistance groups to be able to get information and communicate with other groups.

Mr. Ozeki gathered together various civilian groups, individuals involved in aid, and Ofunato municipal government officials and established the Ofunato Action Network（大船渡アクションネットワーク）on June 30. This network played a central role in exchanging information and promoting interaction between assistance groups in Ofunato.

Further Information:

Independent Life Support Center (Moyai)（自立サポートセンター・もやい）

Web http://www.moyai.net/

Foundation of Cooperative Community Creation（共生地域創造財団）

Web http://from-east.org/

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PROSPECTS FOR FURTHER RESEARCH

Networks and "Transit Points"

We learned in these interviews that the emergency assistance system was composed of networks ranging over a broad geographical area and including various types of "transit points." It is possible that an important feature of the disaster response process of the Great East Japan Earthquake is the blurring of the boundaries between "inside" and "outside." We will continue to conduct research on the Sanriku area as well as on "transit points" such as Tokyo, Sendai, some industrial cities in the Iwate prefecture, for example Kitakami（北上）, and so on.

Evolution of Assistance System

The Great East Japan Earthquake has brought the systems of governance and infrastructure which have sustained people's lives and society into question. We will research the central and municipal government's response to the disaster and the reconstruction of the emergency assistance system.

Interview Archives

It is important to promote discourse between afflicted areas, urban areas, and various "points" within the global community. We are trying to compile archives of interviews and will publish some parts of these resources on the original website.