

Title	Creative Improvisation in Disaster Responses : Practice in areas affected by the Kumamoto earthquakes
Author(s)	Wang, Wenjie; Inaba, Keishin
Citation	Osaka Human Sciences. 2022, 8, p. 173-196
Version Type	VoR
URL	https://doi.org/10.18910/86904
rights	
Note	

Osaka University Knowledge Archive : OUKA

<https://ir.library.osaka-u.ac.jp/>

Osaka University

Creative Improvisation in Disaster Responses: Practice in areas affected by the Kumamoto earthquakes

Wenjie WANG* & Keishin INABA*

Abstract

In the face of disasters, organizations and groups collaborate continuously and fluidly, coordinating with one another in order to overcome extraordinary challenges. When researchers explored this phenomenon in-depth, they employed the concept of “improvisation.” However, there is a dearth of research in the area of “creative improvisation” relating to civic agencies that do not have special plans or approaches to disaster response. This study, therefore, aims at identifying some of the most effective improvisational approaches taken by civic agencies in the field of communication where information, consciousness, and ideas converge. This paper classifies cases of creative improvisation observed during the April 2016 Kumamoto earthquakes into two types and considers the respective conditions of improvisation. These are: 1) “Place-making”: by raising several cases representing “place to convergence” scattered throughout the region, the improvisational condition that can be summarized as, "Awareness of gathering to support the affected key places" is highlighted. 2) “Forming a commonality”: through participant observation at the "informal talk" held by local civil agencies, the interaction between agencies in the sense-making process is highlighted, thus clarifying the improvisational approaches of, "the process of realizing the role while being encouraged to participate initially," and "ingenuity to induce new movement by co-editing opposite opinions".

Key words: improvisation; Kumamoto earthquakes; civil agency

This article is the English translation of the original one “Wang, W., and Inaba, K (2019). Creative Improvisation in Disaster Response: The case of practice in the area affected by the Kumamoto earthquake. *Disaster and Kyosei* 3(1), 57-69(in Japanese)”. The publication of its English translation has been permitted by the Association of Disaster and Kyosei.

* Graduate School of Human Sciences, Osaka University, 1-2, Yamadaoka, Suita, Osaka 565-0871, Japan.

1. Introduction

Engeström (2005) and Yamazumi (2008) have referred to the trend of diversifying actors transcending borders and solving complex social issues within loose connections and equal dialogical relationships as “knotworking activities.” A process is observed where numerous “agents”¹⁾ form knots to “conduct communal generation of meaning from the bottom up through collaborative conversations of sharing experiences with each other and responding to the diverse ‘voices’ (perspectives, positions, lifestyles) of people dispersed in the spaces where life is actually lived” (Yamazumi & Engeström, 2008: 50). In particular, knots merging spontaneously and fluidly as well as new values being created from the intentions of various agents clashing and resonating in polyphonic spaces converge in the work of “improvisation.”

Various social issues today give rise to knotworking activities. When the Kumamoto earthquake struck in mid-April 2016, various citizen agents of differing scales, purposes, and character gathered in one community, and acted based on the shared goal of disaster support. Even when faced with new needs emerging during the disasters, did this gathering of agents maintain relationships of dialog and improvise diverse support activities? In the present paper, we focus on polyphonic spaces after the Kumamoto earthquakes, which were like a chaotic whirlpool of information and sensations from civil agents, and clarifies the contents and conditions for the occurrence of improvisation for support. The next section emphasizes two points, namely that a discussion on bricolage is missing and that in studies on improvisation during disasters, surveys are limited to the emergency support phase. We then introduce an improvisation theory perspective to resolve these two issues. The third section is based on our fieldwork after the Kumamoto earthquakes. We divide cases of creative improvisation into two types, the contents and conditions for occurrence of which we discuss using the improvisation theory perspective introduced in the second section. In the fourth section, we look back on the discussion until that point, and talk about the challenges of improvisation by agents jumbled together.

2. Improvisation during disasters

2.1. Previous studies and issues

Recent improvisation research has been conducted empirically and theoretically in the arts fields of dance, music, and fine art as well as fields of organizational theory, social psychology, and emergency system theory (e.g., Weick, 1993, 1998; Moorman & Miner, 1998; Zack, 2000; Wachtendorf, 2004; Wachtendorf & Kendra, 2005). Since the 1990s, Weick (1993) and other social scientists have studied human activities from the vantage point of

1) Yamazumi and Engeström (2008: 11) use agency to mean “agency and ability to act.” In this paper, we use agent to mean “actor who possesses agency and ability.”

“improvisation” to gain many insights from the performance techniques of jazz and other styles, allowing research on “improvisation” to take on a striking interdisciplinary character. Daimon and Atsumi’s (2019) review of American disaster research emphasizes “a trend of studying improvisation and other strongly artistic questions that are seemingly incompatible with the reproducibility and verifiability of science.” Among these studies, some consider “improvisation” a form/format, framing it as a characteristic/attribute of an activity. Moorman and Miner (1998: 698) defines improvisation as “the degree to which composition and execution converge in time.” Subsequently, an explanation of “improvisation” was widely used meaning “continuously renewing methods and expressions of new responses to changing circumstances” (Cunha, Cunha, & Kamoche, 1999; Atsumi, 2001; etc.). In other words, “improvisation” refers to ad hoc and ready-witted responses to the circumstances you are faced with. Moreover, individual improvisers paint, compose, and do solo performances as well as improvisation in “interactions between solo improvisers and spectators.” However, this paper analyzes “collective improvisation” between multiple improvisers (agents).

Disasters are events that cause damages that far exceed expectations, and “If the normative framework does not provide an adequate guide for concerted action, the people involved in the situation must work together to improvise some way of coping with it” (Shibutani, 1986: 269). However, the work that improvisation refers to precedes its conceptualization as “improvisation.” We have seen the need and potential for organizations/groups to respond to emergency needs in an adaptable, supplementary, and emergent way while depending on existing plans, such as in disaster adaptation (Stallings, 1970), the DTRA (domains [D], tasks [T], resources [R], activities [A]) model of organizational response processes (Kreps, 1983; Noda, 1997), and emergent groups (Stallings & Quarantelli, 1985). Moorman and Miner (1998) take a similar perspective, showing that the shapes of improvisation range from loose adjustments to abandoning all existing plans and conventions. Wachtendorf (2004) divides improvisation activities during disasters into “reproductive improvisation,” “adaptive improvisation,” and “creative improvisation.” Subsequently, based on the question in Zack (2000: 230), “While improvisation is grounded in forms and memory (Weick, 1998), each improviser must determine to what extent they want to improvise – within those forms, with those forms, or outside those forms?,” Wachtendorf (2012) positioned each of these three types as “reproductive improvisation – within those forms,” “adaptive improvisation – with those forms,” and “creative improvisation – outside those forms.” Compared to the other two types, creative improvisation takes on the least “model” or “form,” and is not significantly influenced by the organization or plans from before the disaster.

However, compared to reproductive and adaptive improvisation, there are few studies on creative improvisation. This limitation can be explained in terms of the following two points.

2.1.1. *Lack of discussion about the bricolage aspect*

As Weick (1998: 551) argued, “Improvisation is a mixture of the pre-composed and the spontaneous.” Regarding this, many researchers have discussed one dimension of improvisation with reference to the concept of “bricolage” (Moorman & Miner, 1998; Weick, 1998; Cunha, Kamoche, & Cunha, 2003; Zheng, Venters, & Cornford, 2011, etc.). The repertoire mobilized in the bricolage process always exists from the outset and is characterized as a “heterogeneous but finite store” (Innes & Booher, 1999: 15). That is, rather than selecting things and people optimal for new or urgent needs from a finite repertoire, the precondition is the use of things and people that (seemingly) do not meet these needs. Instead of trying to prepare optimal things and people from the outset, one dimension of improvisation is expected that needs are “somehow” met by familiar things and the people who happen to be there.

The improvisation success stories introduced by Yamazumi and Engeström (2008) tend to involve recipients who belong to a single community or who have a single need (e.g., patients with a single chronic disease), and highly specialized service providers. Multiple conditions are also needed for this “high specialization.” For example, there is little overlap of domains with the same specialization or the people are able to adjust the range of their own activities with an eye to supply in the system as a whole. Because of this, there is little overlap of activities and the system as a whole is the smallest possible size to meet needs. This is called “minimal structures.”²⁾ If a jazz band were to be the size of a symphony orchestra, it probably would not be able to achieve harmonious improvisation.

Japanese debaters who consider collective action following the loss of stable norms during a disaster from an improvisation perspective include Atsumi (2001, 2008, 2012, 2014) and Sakamoto (2016). Atsumi (2008) introduced cases of improvisation where persons decided to take solo action to rush to victims and quickly provide support. However, in addition to the appearance of multi-layered and complex needs during disasters, the supporters are not always veterans of disaster support, but include those with no experience of support at a disaster site. Cooperation between civil agents during disasters is not a minimal network created according to the needs. Rather, it includes numerous civil agents who make up a single community. Moreover, although not an improvisation perspective, Honma (2014), Sugano (2015), Tatsuki (2016), Suga (2016), and others use Japanese cases to study phenomena that adapt and emerge in response to new needs. However, these studies focus on semi-public organizations like the Japan National Council of Social Welfare and organizations that coordinate individual volunteers. As such, they do not clarify through what interactions civil agents conducting bricolage-like activities during disasters provide support or what the processes for this are.

2) The notion of “minimal structures” can be understood in at least two ways. One is that improvisation takes a small-scale group as the most appropriate scale. However, it is necessary to vary the structure and not only stick to the same thing (Barrett, 1998). Yet another is “common sense.” According to Weick (1998), an organization’s motto, story, myth, slogan, explanation of objectives, logo, and so forth can play a role in “minimal structures,” and these signify the common sense of an organizational culture.

2.1.2. *Survey durations are limited to the emergency support phase*

Although emergency needs such as lifesaving operations decrease with the shift from the emergency support phase to the life rebuilding phase during disasters, new needs caused by the disaster still emerge, such as community and livelihood support for those living in temporary housing. Agents without specialization and plans need time to use past experiences and form their own roles. However, Wachtendorf (2004, 2005, 2012), who proposed creative improvisation, does not analyze data on the emergency support phase, which is limited to “750 hours after 2 days following the disaster.” Since there are many emergency needs immediately after the disaster that require high specialization regarding efficiency and aid (examples given by Wachtendorf & Kendra (2005) are “recovering bodies from reclaimed land, forensic pathology surveys, fragment cleaning, etc.”), there are few situations in this limited period in which agents with creative improvisation can act.

Moreover, acts conducted out of the goodwill of “wanting to help someone” by individuals and groups with little experience of working in disaster areas can sometimes cause disorder on the site instead³⁾. Atsumi (2008) says that one reason for the “performance of splendid improvisation” is “because local NPOs with much experience of disaster relief made themselves heard.” As such, individuals and groups who get involved in disaster support for the first time have different specializations, experiences, and sizes; thus, it is difficult for them to improvise well in a short period.

It is thought that people with different attributes gather in different “places” during a disaster and that they naturally divide tasks in their respective places. That is, while emergent knots do function at “the smallest level” to provide support promptly and efficiently, there are also emergent knots that take over from groups that can help with support despite differences in specializations, experiences, and sizes. Of course, these knots with differing characteristics also have different conditions for inducing improvisation. The emergency support and restoration phases often require efficiency and the promotion of convergent ideas and reasoning. However, the livelihood reconstruction and rebuilding phases require time for divergent ideas to think about how support is best conducted and create links with potential supporters. When the restoration phase becomes longer, more supporters get involved (or the awareness of support increases), which requires activities that bring out agency and facilitate interactions with victims. It is first then that groups in a disaster area for the first time, groups with knowhow, and other civil agents are able to explore how they should relate to each other and how to conduct effective interactions and support activities through repeated trial and

3) As individuals and groups who deal with disaster support for the first time have little knowhow about collecting information about victims’ needs and how to avoid support overlap, they will sometimes bring further disorder to a situation that is already disordered immediately after the disaster (e.g., pileup of provisions and the spreading of false information; for more about this, see Nihei (2012) and Honma (2014)). A challenge in volunteering is that “as a result of wanting to be useful too (...), disorder can come about due to good intentions that have nowhere to go” (Nihei, 2012: 165).

error. This suggests why we should not limit ourselves to the emergency support phase but study a longer period.

2.2. Points of view that perceive improvisation between assembled agents

Previous empirical studies have tended to understand improvisation as a form of tacit knowledge that cannot be verbalized. It is assumed that the main causes of improvisation differ according to the episodes analyzed (Wachtendorf & Kendra, 2005). Under such circumstances, improvisation is seen as a form of tacit knowledge. However, we have clarified a number of causes that lead to improvisation. For example, Atsumi (2008, 2012) identifies the lack of a fixed scenario, use of existing knowledge and techniques, and collaboration with victims. Moreover, the main causes identified thus far can broadly be categorized as tools (calling out to conferences, intermediate organizations, key persons, and central groups, situations that promote interactions, etc.), rules (a sense of regulation through leadership, promises, mood, etc.), and roles (roles spontaneously sought or given by those who come together).

Considering the two limitations of previous studies already discussed, this paper looks at cases of creative improvisation by focusing on the actor property of bricolage. Furthermore, it examines this over the long term, including the livelihood reconstruction and restoration phases. Moreover, to identify the contents and conditions for occurrence of creative improvisation, we adopted the perspectives for understanding creative improvisation clarified in past empirical studies and adjusted them to accommodate the two limitations of previous research.

This point of view, which perceives creative improvisation in places where assembled agents exchange the information they have gathered, responds to the two limitations of previous work that have already been identified as follows: 2.2.1 responds to the problem of the discussion of bricolage, whereas 2.2.2 and 2.2.3 respond to the problem of being limited to the emergency relief period.

2.2.1. The existence of key places

Rather than a deliberate selection of participants by an organizer, creative improvisation is predicated on spontaneous participation. However, spontaneous participation also does not happen without a trigger. Reportedly, creating knots using certain tools is a condition for the occurrence of improvisation. For example, there could be a “mediatory artifact” such as a cooperation manual or disaster agreement (Yamazumi & Engeström, 2008), or a coordinator in the form of a “Boundary Spanner” who ensures the smooth exchange of information and resources (Tatsuki, 2016).

Among the supporters who make up the emergent knots, there is no work to collaboratively build trust or guidelines, and there is insufficient careful preparation to make improvised

decisions during the disaster. Thus, local persons and groups with experience working in disaster areas or locally rooted activities often become key persons or central groups. We refer to the site in the disaster area that makes up these key persons and central groups (facilities, community, etc.) as a “disaster key place.” People with a desire to provide support gather in this disaster key place from within and outside the area. They get involved through their networks and personal contacts from before the disaster, as seen in statements like “someone happened to invite me,” “XX brought me/I went along with XX,” and “I was dragged into it.” Since their participation is encouraged and experience is lacking, they are aware that “it is easy to accommodate fluctuations in fluid membership” and “I have to work with others because I am anxious.” Of course, this gathering of participants is not “as small as possible.” These people have no existing guidelines and no choice but to use the limited experience and knowledge of those that come together. They respond to the situation with “a disaster response manual naturally acquired through experience, meaning intellectually, physically, and emotionally” (Park, Wang, Sun, & Inaba, 2018).

2.2.2. The process of role formation

Weick, Wachtendorf, and others repeatedly emphasize the need to thoroughly consider plans and roles in advance to respond to disaster needs. According to Kendra and Wachtendorf (2003), “The category of helper has proved to be particularly troublesome in disaster response, because helpers seek not just to enter the response milieu but to take on roles that will have a constitutive effect as well.” (2003: 107). That is, as already mentioned, one-off support action that ignores overall support is frequently treated as “troublesome” by risk managers as well as other groups and individuals providing support in the disaster area. Moreover, they continued to mention that “the most successful helpers” were those who were able to respond to needs with “minimal supervision” from the supervisors at public organizations. You could say that the kind of agent most needed on-site is someone who is aware that desire is not always enough to provide support to victims and the disaster area, who can find a role in the situation they find themselves in, and who can reflect on the legitimacy of their role through interactions with others. We frequently see agents who provide support in the way they see fit without sharing information with others, despite a lack of overall awareness. However, agents who try to find their own role in polyphonic spaces also exist.

2.2.3. Improved sensemaking

Weick (1993: 635) writes that “the basic idea of sense-making is that reality is an ongoing accomplishment that emerges from efforts to create order and make retrospective sense of what occurs.” He highlights that organizations are not decision-making systems but sensemaking ones. We discern a circular process where those improvising create order through their understanding of interactions with other members and their own position, and change

the shape of that order. It is stressed that this process promotes the ability of agents engaged in bricolage-like actions to adapt to their unstable circumstances (Wachtendorf, 2004). This sensemaking is particularly important in understanding creative improvisation (Weick, 1998; Wachtendorf & Kendra, 2005; Atsumi, 2012).

Moreover, improvisation in an unfamiliar environment is always fraught with failure and risk. However, discovering order from disorder and chaos, and improving insufficiencies through concerted efforts can be considered the driving force of improvisation. Weick, Sutcliffe, and Obstfeld (1999) call this the “aesthetic of imperfection.” Weick criticizes improvisation research emphasizing the “aesthetic of imperfection” that focuses solely on spontaneity and intuition. However, we argue that it is precisely this “imperfection” that is the motive force of the improvisation of agents engaged in bricolage-like action. The reason we find “beauty” in imperfection is that persons with imperfections complement each other’s deficiencies with utmost effort. Although far from smooth, the fact that you thoroughly reflect and discuss things before reaching a conclusion everyone can agree on gives rise to the “aesthetic of imperfection” of improvisation. This process by which agents make sense is always a repetition of trial and error, thorough discussion, and reflection. In this, it is important to create an atmosphere that can tolerate heterogeneous beings and different opinions. Nemeth and Wachtler (1983) point out that a group’s overall performance is improved by responses to opposite views. Agreeing with the majority shortens the decision-making process, but respecting minority views can lead to the discovery of creative problem-solving methods. Crossan and Hurst (2006) write that the most important component of collaboration between members of a jazz band is “Yes-anding” (first affirming and then improving). That is, you do not reject views that come about, but refine them by taking them in an even better direction. To create an environment where opposing views are “affirmed and then improved” requires communication between members and a fluid “servant leader” (Yoshida, 1999). Thus, there is a demand for skills to support these kinds of “places.”

3. “Places” for information exchange and idea sharing after the Kumamoto earthquakes

The series of earthquakes that hit Kumamoto and Oita Prefectures from the night of April 14, 2016 are referred to as the “Kumamoto earthquakes.” At 21:26 on April 14, an earthquake with a magnitude of 6.5 and epicenter in the Kumamoto region of Kumamoto Prefecture was observed, and about 28 hours later at 1:25 on April 16, a magnitude 7.3 earthquake also with epicenter in the Kumamoto region was observed. From April 14 when the foreshocks started, until a week later, 2,471 quakes with a magnitude of 1 or higher were recorded. Massive damage was caused by the two magnitude 7 earthquakes and aftershocks. Inside Kumamoto City, 8,651 houses were completely destroyed, 33,179 semi-destroyed, and 42,907 partly

destroyed (as of February 28, 2017). More than 110,000 evacuees were counted by Kumamoto City, including those having to move into their cars. Casualties including related deaths were 204 dead and 2,671 injured (as of February 28, 2017)⁴. By the end of September 2018, almost 2.5 years after the earthquakes, 24,580 people were living in temporary housing in Kumamoto City, still exceeding half the peak number of 47,800. Of these, 6,439 were living in newly constructed temporary housing and 18,141 were living in rental-type temporary housing (temporary housing in practice)⁵ or public housing⁶.

Twenty-four years after the Great Hanshin-Awaji earthquake, the lack of information networks remains a challenge. Looking back on the situation immediately after the earthquakes, staff at facilities for the disabled in Kumamoto note that mass media reporting focused on the week immediately after and they did “not at all know what is missing right now and what the circumstances are in Kumamoto.” Back then, the effectiveness of Facebook for information sharing during the disaster was praised, with people saying that “Facebook helped the most. People were increasingly posting about the situation.” However, since there are issues like not being able to limit false information, it has been emphasized that using information from Facebook requires care⁷. As such, “places” for information sharing where people can collect and communicate information during disasters are important. For example, a place of conversation allows people to share information and importantly, consider its veracity while being a space that limits anonymous communication and showing people’s faces and affiliations. Ikeda stated, “Just interacting with mass media does not increase social participation or social capital” (2015: 284), so simply reading the newspaper or watching the news is not enough for people to participate in disaster support. However, getting involved with other people through social networks helps sharing the reality of the situation. Furthermore, such “places of information sharing” stimulate supporters’ awareness and sense of mission to continue activities, and where people discuss how to provide support. In addition, things like “thoughts,” “goals,” and “ideals” that cannot be fully shared in places of information sharing are shared in informal places like dinner parties and local events.

In summary, this point of view perceives creative improvisation based on 2.2.1 the existence of key places, 2.2.2 the process of role formation, and 2.2.3 improved sense-making.

4) Until here, the discussion of the Kumamoto earthquakes has been based on “Chapter 3. Overview of the earthquakes and damages” in 2016 Kumamoto Earthquakes Kumamoto City Disaster Record, which was published by Kumamoto City in March 2018.

5) In this system, disaster victims find private rental accommodation and the local government pays the rent (also known as “temporary housing in practice”). It is “provided to the disaster victim for a maximum of two years after moving in with the aim of securing and providing housing at the earliest” (Kumamoto City, 2018: 384). However, the condition is that “(the city’s rent payment) should not exceed 60,000 yen per month (for up to 4 persons). If the household has 5 or more members (excluding infants), it should not exceed 90,000 yen” (Kumamoto City, 2018: 385).

6) Sankei Shimbun, October 17, 2018. Karizumai, nao 24,580-nin Kumamoto jishin, saiken e shien kyōka (With 24,580 people in Kumamoto earthquakes temporary housing, support strengthens for reconstruction). <http://www.sankei.com/region/news/181017/rgn1810170004-n1.html> (2019-06-25).

7) Contents based on an interview with staff from Kumamoto independent support NPO on December 24, 2016.

Below, 2.2.1 the existence of key places is examined in 3.1 “Place-making,” and 2.2.2 the process of role formation as well as 2.2.3 improved sense-making are examined in 3.2 “Agents’ cooperative formation.”

3.1. *Place-making*

By communicating activities and receiving inquiries from other supporters in “places of information sharing,” you gain an awareness of being a supporter and a sense of mission. However, physical and mental energy can be drained as fatigue builds from everyday work and disaster support. There were supporters who were apologetically saying, “It has become difficult for me to go to the place of information exchange. It would be great if I could keep going, but...” It is also difficult for disaster victims to take the step to make contact, which is why the feeling of “having to be accepted” that emerges when they open up to “supporters” about their troubles weighs heavy on their minds. Dealing with this mental burden, approaches like “the ~ that we don’t call ~” (for example, “the disaster prevention that we don’t call disaster prevention”) can make it easier to participate in solutions to social issues. As a result, this raises awareness of unknown new participants, and there are innumerable examples that have brought about unexpected results.

There is also the existence of the “information exchange meeting,” a hideout and place where supporters and victims can relax, which is “well-known but to the few” as it is not advertised. It has facilitated information exchange as people eat and drink like friends between support work sessions. It utilizes the power contained in social networks consisting of individuals and provides an opportunity for “supporter to recipient” relationships not mediated by support to become everyday relationships. These “places” existed across the areas affected by the Kumamoto earthquakes. We now discuss a number of real examples below.

3.1. 1. *“Meeting places” scattered across the region*

a. *Konkokyo Kiyama Church*

“Something I learned through this experience (after the earthquakes) is that the religious people and religious facilities in affected areas have the potential to become ‘a support (yoridokoro) for everyone.’ What I mean by ‘everyone’ here is all people in the affected areas, such as victims, supporters, local people, and news media. This support is a place to pray, something like a rest area or café, and a local information center where you can hear information that only locals know.”⁸⁾

8) Contents based on the report minutes: “The fun café retreat in the disaster-affected church: Welcome to the secondary kitchen” by Yano, a teacher at the Konko Kiyama Church, at the 7th Symposium of the Liaison Meeting for Religious Persons’ Disaster Support “The Kumamoto Earthquakes and Religious People: Respective Ways of Coping” on May 2, 2018. [https://sites.google.com/site/syuenrenindex/home/report/symposium\(2019-06-25\)](https://sites.google.com/site/syuenrenindex/home/report/symposium(2019-06-25)).

Those were the words of Michiyo Yano, a teacher at the Konkokyo Kiyama Church, when reflecting on having made her own church and home a meeting place after the Kumamoto earthquakes.

Right after the first earthquake, Yano's home, the Kiyama Church in Mashiki Town close to the epicenter, was completely destroyed, and it was difficult to provide support by accepting evacuees as an evacuation center. However, as people running around town with supplies, children and school staff, and researchers and students conducting volunteer work and surveys came by, the secondary kitchen in her house became a place "where you show yourself at least once if you come to Mashiki." Since a church is halfway between public and private space, it is easy for random people to come and go. This is difficult for a non-everyday facility like a volunteer center or evacuation shelter, but all kinds of people were gathering in the Kiyama Church secondary kitchen to eat and drink, "exchanging information and preparing for the next step." The church was not always a place for a diverse range of people to stop by, but also a place to meet where those who were tense could relax. Yano explains that she realized she was a supporter through this.

"Casual conversation can sometimes lead to support in the disaster area as it changes from moment to moment. I realized that becoming a place supporters can depend on can also facilitate support for victims."

Yano spent time and spoke with people regularly coming by to collect local information and check how the restoration of the church is going. Through this, she found out about the volunteers continuously providing provisional support and proposed that they distribute emergency food together. Yano got on well with the volunteers and started giving provisional support. This really was "casual conversation leading to support."

b. "Tanpopo House" in Nishihara

Immediately after the Kumamoto earthquakes hit, supporters from the Japan Disability Forum, Mino, Osaka's "Kurashizukuri nettowaaku Kitashiba" (Kitashiba livelihood creation network, hereinafter "Kurashi"), and Hyogo Prefecture's denbora (volunteer group), visited "Tanpopo House," an institution supporting disabled people in Nishiharamura. One staff member of "Kurashi" had been involved in the work at "Tanpopo House" since before the earthquakes, so they checked how the facility had been affected immediately after and helped set up an environment to receive those who cannot make it to an evacuation shelter. Doing this, they noticed a shortage of manpower and went back to Osaka to ask other staff members for help. Looking back, a staff member at the facility noted that "the horizontal connections in our network spread so much."

“We set up this facility with the goal of being rooted in the local community. I think that helped us during the earthquakes. Our primary aim is to have good communication, so instead of being unsociable, we do away with distinctions between staff, persons with disabilities, and people from outside. We want it to be a place where all kinds of people are mixed together.”⁹⁾

Half a year after the Kumamoto earthquakes, products like the curry, miso chili oil, and yuzu-kosho(chili paste) produced by people with disabilities who use the facility are periodically sold in Osaka. The products are popular when sold at fairs, local drum performances, community general meetings, and morning markets. When staff members at “Tanpopo House” express their gratitude, saying “we don’t have much money, so it’s a great help that everyone in Mino sells these for us,” the staff at “Kurashi” emphasize that “people in Osaka are severe and only buy what’s good. They buy it two or three times because it really tastes good.” Whenever “Kurashi” staff members take part in support activities in Kumamoto or go there as part of a study tour, they always stop by “Tanpopo House.” Likewise, people from “Tanpopo House” visit Mino, so the two maintain regular contact.

c. Koshoji Temple in Toyonocho, Uki City

Centering on Koshoji Temple in Toyonocho with a population of 5,000 or so, a diverse range of community-building activities and restoration memorial events were organized after the Kumamoto earthquakes. Kosho Itoyama, the deputy chief priest at Koshoji Temple, built a network with other religious persons of various denominations, NPOs, and researchers in various fields through involvement in support activities and as a chaplain during the Great East Japan earthquake. As Koshoji Temple was affected by the Kumamoto earthquakes, provisions arrived from people he had gotten to know, their contacts across Japan, and even helpers coming to Kumamoto. The network he built before the earthquakes grew through these disaster support activities. In this place, Itoyama spoke about “dispersed but all together” and “everyone different, everyone great,” which provided another level of realism.

These relationships have continued after the transition from the emergency support to life rebuilding phase. As part thereof, the “Restoration Festival” was held three times between April 2017 and April 2019 (the name has changed every time to express a different meaning: “fukkou e no tsudoï (get together for reconstruction),” “fukkou matsuri (reconstruction festival),” and “bousai gensai fesuta (disaster prevention and reduction fest”). These were organized by local non-profit organization “Ukinowa,” which was founded to promote exchange between people who moved from Tohoku after the Great East Japan earthquake and local residents, and gathered about 300 people from near and far every time. Most people

9) Contents based on interview with staff from Tanpopo House on December 24, 2016.

involved in the organization say they became involved because they were “the friend of a friend of Itoyama.” Since it was held around the same date every year, some came up with their own projects in anticipation of the festival. The reconstruction festival plans to bring various ideas to life, such as a close listening volunteer café, soup kitchen, disaster hood, rosary making, and legal consultation. Even those who participate suddenly because someone invites them, “let’s go,” are involved and given tasks like preparing something. Although the majority of participants do not normally do disaster support, they have experiences from disaster areas after the Great East Japan earthquake, Niigata Prefecture Chuetsu Earthquake, and Kumamoto earthquakes. Moreover, the night before the festival, participants passionately discuss “where and what kind of support activities” they had done¹⁰. The phrase, “It’s like I came just for the pre-festival,” was more of a joke the first year, but scenes like this became more common in the second and third years.

3.1.2. Conditions of occurrence for improvisation as seen in the cases: “The sense of getting together that supports disaster key places”

The abovementioned cases exemplify “the sense of getting together that supports disaster key places” as a condition of occurrence for “place-making” improvisation. That is, centering on local key places in the disaster area (facilities, organizations, groups, communities), many people from near and far come together occasionally and build casual relations. Although knots can be created as people rush to help via networks that existed since before the disaster and as support is given and received after it, there is a period where an unequal relationship exists between supporter and recipient. However, victims who are experiencing a disaster for the first time but have good knowledge about the local area are valuable to agents with support needs from outside the region. They will align with the intentions of the local key person or central group and support the desire for restoration as much as possible. This may reverse the power dynamic. However, for this reversal to happen, high-quality volunteers are needed nearby. They consider what they can do for the victims, prioritizing the restoration of the local area. Rather than prioritizing efficiency and impartiality, they understand the importance of seeing to the needs of the person before them. Because they want to make these individual connections, they consciously try to interact with the local community. Even if nobody around them tells them what to do, they quickly find a role for themselves. Since they are in a position of mutual non-interference and pacifism, they rarely disagree with each other. This relationship dynamic and position can also be gleaned from the words “everyone different, everyone great” of Itoyama at Koshoji Temple, described earlier in one of the cases.

Moreover, that case and others show how various forms of support have been realized, as those affected by the disaster gained an awareness of how “providing information is an

¹⁰) Contents based on participant observation of the night before the “Disaster Prevention and Reduction Festa” in Toyonocho on April 12, 2019.

excellent way of providing support.” They sold products in Osaka and created a space with good ventilation through the Restoration Festival, while being a “mix” of all kinds of people. Places where you can casually go as if seeing a friend become places of information sharing. Without labeling it as a place of information exchange, the fluidity of people from near and far gradually changes the existing place into a “meeting place” with good communication. Conversations and ideas born from casual contacts become seeds of various support activities.

Improvisation is sometimes referred to as “bushfire-like activities.” This signifies its “unique ability to suddenly flare up after you thought it had disappeared after a long dormancy either in the same or different place” (Yamazumi & Engeström, 2008: ii). The improvisation in these meeting places, which are scattered across the region, are never large-scale, but can potentially spread by sparking something.

The abovementioned cases of creative improvisation reveal “the sense of getting together that supports disaster key places” as a condition of occurrence for 2.2.1 “The presence of key places.”

3.2. Agents' cooperative formation

After the Kumamoto earthquakes, the wide-area network Japan Voluntary Organizations Active in Disaster (JVOAD), which aims to collect information and prevent people from missing out on support, has been in the limelight. The Kumamoto Earthquakes Support Group Hinokuni Meeting (hereinafter, “Hinokuni Meeting”), hosted by JVOAD for information sharing, was attended by 128 extra-prefectural groups and 39 intra-prefectural groups between April 19 and June 21, 2016 (Suga, Higuchi, & Myojo, 2018)¹¹. Not only was information shared and work coordinated between a large number of organizations, the voices of victims were conveyed to local government. Furthermore, it contributed to large-scale support activities in collaboration with local government, for which the “Hinokuni Meeting” was praised by the Cabinet Office and so forth. However, participants who did not know the host JVOAD were “wary,” and it has been pointed out that the sheer size of the meeting “made people feel it was not worth the effort because of restrictions on speaking time and so forth” (Kurita, 2016). Furthermore, several support activity staff who participated in the Hinokuni Meeting stated, “It’s true that only highly knowledgeable people take part in the Hinokuni Meeting.” By “highly knowledgeable people,” they mean those who work with support activities professionally. These people are aware of what they and disaster victims are capable of based on their normal work. In addition, since disaster support is an extension of their normal work, they have time to attend such meetings. In addition to the Hinokuni Meeting, which valued support efficiency and participant professionalism, it is also important to

11) The Hinokuni Meeting is ongoing and had been held more than 160 times by February 2018, usually with 20–40 participants (from the JVOAD website). They are collaborating with the “Higomaru Meeting” and others, fulfilling a function of sharing information between local government and private actors.

understand the dialogs between diverse and unofficial local civil agents.

Below, We discuss the “Houdankai (free talk meetings),” a meeting organized by the “Yoka-tai Net Kumamoto,” which is a network organization established after the Kumamoto earthquakes.

3.2.1. The “Houdankai” considers how to give support

The “Yoka-tai Net Kumamoto” (hereinafter, Yoka-tai Net) is a network organization that commenced activities on April 16, two days after the foreshocks in Kumamoto, and was officially founded on April 19. It has 87 member groups in the region and outside it (68 local groups and 19 groups from outside the region)¹². It provides direct support through its secretariat and collaborative support activities through multiple groups. Their approach comprises three aspects: “conduct support especially for those who have been marginalized” (later, this was changed to “conduct support especially for those who have been marginalized the most”)¹³, “friend-of-a-friend operations”, and “working based on the activities of local groups”. The majority of active groups are unofficial organizations, and none normally conduct disaster support. Their stance is for “those who can, to do what they can, when they can”.

Numerous meetings and talks were held among the groups in Yoka-tai Net immediately after the earthquakes. As part of this, Yoka-tai Net held “Houdankai” for the first time in May 2016 as a place of dialog for member groups. Unlike the Hinokuni Meeting, Yoka-tai Net’s “Houdankai” was attended by relatively few people. In addition, as indicated by the name “Houdankai,” people were encouraged to speak freely, and since they wished to create a space for debate, there was an atmosphere of “thinking about the disaster victims together and asking questions about how to provide support together.”

Various themes have thus far been discussed by the Houdankai, including “Thinking about the housing issue,” “A roadmap to restoration,” “Compartmentalization of the activities of civil groups and local government,” and “The Kumamoto earthquakes from the viewpoint of the ‘Yukyu no kai’ (a member group of Yoka-tai Net).” The contents include discussions about temporary events, sharing experiences of support from the Great East Japan earthquake, and partner groups from outside the region introducing their regional culture. They also divide into groups and identify issues with the activities in those groups. Usually, there were 10–20

12) The number of member groups is from data as of February 2017. Various groups consistently take part in activities, including private organizations, NPOs, agricultural cooperations, social welfare committees, PC classes, bakeries, sports clubs, limited companies, and societies of architects. In this paper, we refer to these actors of different sizes and areas of activity as “activity groups” in the sense of “gatherings of three or more people with a shared goal” and “working together under the ‘Yoka-tai Net’ umbrella.”

13) Based on a sufficient understanding of the importance of government support, the founding members of Yoka-tai Net had the shared understanding of “Let’s provide balanced support by being completely unbiased” with regard to places that cannot be reached because of the wall of impartiality (e.g., evacuees living in cars, residents of temporary housing in practice). Since then, Yoka-tai Net has upheld the principle to “conduct support especially for those who have been marginalized the most.”

participants, and although there was no fixed group of participants for every meeting, some came often and others less often.

Here, we discuss the contents of our participant observation of a Houdankai on the theme “Thinking about connections” held at the Yoka-tai Net office on February 2, 2017¹⁴). The discussions at this Houdankai were like a planning meeting that would serve as the starting point of the “plaza of connections” at rental-type temporary housing (post-disaster, public-funded rental accommodation). On this day, the Houdankai was attended by 15 people with different attributes. They included a welfare NPO, consumer support NPO, an organization specializing in communications, childcare team, local bakery, university student volunteers (belonging to a NPO), construction company staff, a religious group, welfare researchers, and newspaper reporters. Five participants were there for the first time.

They started by critically reflecting on the Akitsu provisional Christmas party previously organized by staff from Yoka-tai Net. One participating group was told “the staff members were not attentive enough,” to which they responded as follows. “Ultimately, it came down to ‘who is that person?’ ” As expressed in these words, there was not enough coordination among the groups. They called on the people there, saying, “I want us to have the kind of relationship where we greet each other and think, ‘Oh right, there was somebody like that’.”

At the Houdankai that day, many remarks expressed both the perceived limitations of their activities and a desire to provide victims with diverse options. They also acquired information about victim needs and resources to meet these diverse needs. Some remarks could only be made because the group has experience engaging in these activities daily, so it was truly suggestive. When many were saying “connections are also a type of care,” a young female participant spoke about her own struggle with “connections.”

“Honestly, I am busy with work, and connections are a pain. But although I feel like I want to be by myself, I still say, ‘I look forward to working with you’ and it makes me sick of myself.”

After this, another participant who had continuously been making home visits to temporary housing residents objected by saying, “it’s our job to connect with people who find connections a pain.” However, other participants affirmed the woman’s feeling of “not wanting to connect,” asking why she felt that way and thinking about the negative aspects of connections as a way to understand her perspective. One participant accommodated her feelings: “If you say ‘connections, too much connections,’ then it becomes an end. Connections are always just a means. I think we need something other than just connections, right?”

Furthermore, it was suggested that “just like there’s a plaza for connecting, there should be

14) Contents based on participant observation of the 6th Houdankai of Yoko-tai Net on February 1, 2017.

a plaza for not connecting.” That is because “you don’t always not want to connect, so you shouldn’t have to when you don’t want to.”

In a gathering of people who worked hard with the issue of how to connect (including her), her remark, which seemingly rejected connections, could easily have been subjected to criticism. However, unexpectedly, her viewpoint of connections highlighted a core part of connections. The point is that it is precisely her enthusiastic activities building connections on a day-to-day basis that may have made her aware of these negative aspects of connection.

Based on her remark, some participants said, “I want to make connections as a natural part of my ‘role’” and “Can the Yoka-tai Net staff think of a way to help us find our roles?”

These statements contain wishes stemming from the participants’ experiences, such as “If we had roles, wouldn’t it be possible to continuously coordinate between groups? We might have them, but I don’t know of them. We might have them, but we quarreled in the past, so I don’t want to work with them. I want Yoka-tai Net to be the kind of organization that gets rid of divides like that.”

In response to these participant remarks, the woman who first spoke further emphasized that it was not about “giving a role” but about “feeling one.” She confessed how she feels about belonging to Yoka-tai Net, saying “you feel you’re the only one who can do it because you feel your own role, but if you feel you don’t have a role here (in the Houdankai, etc.), then you wouldn’t come here. You wouldn’t come if you feel everyone else is doing it perfectly so it doesn’t have to be me. I don’t want to overdo it, but just comfortably feel it to a certain degree, like ‘I guess I gotta do it...’” Yoka-tai Net staff members and other participants responded to this with interjections.

One participant who had previously felt “I’m not being useful at work,” looked back on their experience and said the following.

“Even someone who does not want to connect cannot help but connect when someone says to him/her, ‘It won’t work if you aren’t here.’ If you are told to be given a ‘role,’ you can feel ‘help!’ It’s better to be told that you are needed....”

Prompted by these words, one participant began associating “connections with residents in the disaster area” with “connections between supporters.” It was suggested that “participants (at the next ‘connection plaza’) should speak freely about ‘what they think is needed from their connections,” and despite saying “maybe this is too soon,” this developed into a discussion about the possibility of volunteer recruitment aimed at residents of temporary housing. This suggestion attracted the sympathy of the participants who were present, and received applause.

3.2.2. Conditions of occurrence for improvisation as evident in the cases

a. “The process of being self-aware of one’s role even during prompted participation”

The Yokatai Net Houdankai is not only a place for acquiring resources such as “information, people, money,” but also a place for sharing “awareness.” Through discussion of the connections that are given and the connections that are sought, respect for “the subjectivity of the victim residents” emerges. Based on reflection on their activities, participants in the Houdankai turned their attention not to activities that entertainingly hand out supplies on impulse, but to activities that raise their awareness of victims’ subjectivity. This kind of discussion gave rise to a common understanding that participants’ plans should be centered on future activities, including the connection plaza. One specific proposal was a citizen leadership workshop for making tools in which people had a shared interest, such as miso making or recycled candles. From the perspective of the unprofessional assembled agents, the notion of “victims’ subjectivity” that is invoked by quality volunteer advocates is vague. The term “victims’ subjectivity” has multiple meanings in the Houdankai. For example, the type of “victims’ subjectivity” of participating in activities as much as one likes, even while feeling that the victims themselves need to be in that place, and saying “I guess there’s nothing to be done,” or the “victims’ subjectivity” in the sense of victims themselves planning and managing participatory events. This understanding of “victims’ subjectivity” can also be seen in the similar understanding of victim support in the past. However, through this understanding, discussion is needed between people who are engaged in support activities for the first time.

The stance of Yoka-tai Net for “those who can, to do what they can, when they can” ensures the fluidity and voluntary participation of its members. “Friend-of-a-friend operations”, which was developed within local organizations, unintentionally involved many supporters. More or less helpful or overbearing people shared the common factors necessary for building connections with victims and connections between activity groups. Additionally, although the activity groups were unprofessional, this could be seen as a strength in their mobilization. Despite having the desire to support, the imperfection in that support can conversely make people feel the support close to them, and encourage more participation.

b. “Hard work giving rise to new attitudes by jointly editing opposing opinions”

The term “houdankai” put into words the notion of a place where it would be easy to talk, and began a discussion about how to support people. Discussing what they wanted to do deepened people’s fundamental awareness in the process. Creating a plan in reflection of that awareness of the issues then allowed people to find a partial answer to questions such as “Who do you see as the target?” and “What is the goal?” Since these answers were sincere, they brought out different opinions among everyone in that space. On reflection, this increased the productivity of those conversations. What can be observed there are the generative conditions for improvisation, namely “Yes-anding” in conversation. Participants gather information based on their past experiences and observations of support, affirm (in part) what the person before them had said, and refer to it when stating their own opinions. There were also people

who critically disagreed with the opinions they had heard. In contrast, almost all participants deepened the content of the dialogue in the form of defending the woman who had voiced the oppositional opinion. When responding, the listener was observed choosing their words more carefully than the woman who made the remarks. Even the woman who had explained her oppositional opinion was able to rediscover and create a sense of the context of her words that she had not been aware of by sharing with other people in the space. Her words, quoted by multiple people and passed through group editing work, ceased to be hers alone. Those words became the shared language and knowledge of the members who had participated directly in editing them, and who indirectly witnessed them. In this way, one person's words were cited by other participants and took on a new meaning, so that this generated a scene that specific members occupied.

From the case of the Yokotai Net's Houdankai, regarding the 2.2.2 process of role formation under 2.2 "points of view that perceive improvisation between assembled agents", light was shed on "the process of being self-aware of one's role even during prompted participation"; regarding the 2.2.3 improved sensemaking, we found the generative conditions for "hard work giving rise to new attitudes by jointly editing opposing opinions."

4. Conclusion

In the present paper, we provided examples of creative improvisation from a practical point of view that has not been adequately examined, and presented the generative conditions for improvisation. Having done so, we classified the examples of creative improvisation after the Kumamoto earthquakes into "place-making" and "cooperative formation." The former is a process of deepening support through the formation of communities of victim-centered mutual aid. The agent needs "The sense of getting together that supports disaster key places." In contrast, the latter must always confirm this point within the response relations of a place for dialogue, because of a lack of key persons or focused groups positioned as the person(s) responsible for victims. For this reason, there are many scenarios where opposing opinions are expressed, and more time is taken to understand opposing opinions. When cooperation between agents is improvised as in the latter, we can point to the generative conditions of "the process of being self-aware of one's role even during prompted participation" and "hard work giving rise to new attitudes by bringing together opposing opinions." Divergent thinking in a multi-vocal space can be seen in both the former and the latter, but this is embedded in the agents' stance as expressed by the phrases "everyone different, everyone great" and "those who can, to do what they can, when they can."

The fact that each new problem gave rise to new relationships with various organizations and new methods itself can generate a motive force of improvisation. However, as the disaster fades (when the disaster loses social interest, donations such as grants for disaster support

decrease), the loose connections that emerged during the disaster become fixed, and gradual consolidation as the “minimal structures” becomes inevitable. Although this does not mean that the agents involved in it are intentionally selected, natural selection does occur. As a result, the agents participating in information exchange meetings where mutual understanding and values are created also become fixed. The decision-making process becomes shorter, and more of the work communication occurs through services such as LINE and Facebook, and face-to-face places become less important. Xin, David and Martha (2017), who analyzed the content of information exchange meetings after Hurricane Sandy in 2012, showed that whereas immediately following a disaster the number of “idea formation and termination events” are higher than the number of “decision-making formation and termination events,” as time passes the latter outnumber the former. That is to say, a trend can be observed whereby contact in organizations begins with real-life conversations, it gradually adapts, and is compromised. The Yoka-tai Net’s Houdankai was practiced for about a year, from May 2017 to August 2018, and afterwards the place of contact between groups took on the form of “individual meetings.” Within these, participants had been observed arguing intensely with the sense that “for some reason, conversations never go well even though everyone’s opinion is correct.” Unlike the “gathering places” scattered across the region, discussions at places for conversation aimed at problem solving came with a sense of frustration and restlessness as “conversations don’t go well.” Opposing views do not necessarily create value, so their proponents will sometimes, depending on the contents, be seen as “disrupters” who only think of their own benefits.

On the other hand, in the places addressed in this paper where agents assemble, it is precisely because some of the members are fixed that the special characteristics and qualities of the place can take shape. That there is almost no overlap in the agents participating in the “gathering places” scattered around Kumamoto, the National Assembly of Fire, or the Yoka-tai Net’s Houdankai is a testament to their mutual differences in properties. Atsumi (2012) has worried that improvisation becomes transient because efficient, biased models emerge. However, although seen from the state of support in disaster areas as a whole, there is organization and a movement toward attaching importance to efficiency, and despite this, various places are emerging and disappearing like a “spark.” Agents moving freely and fluidly would struggle greatly when diving into the world of “form.” The qualities and special characteristics of these places are felt as their “form” and “walls,” and agents whose improvised work does not fit well in one place may find a connection to another agent. They gain a sense of accomplishment through their participation only when they are able to improvise with agents whose specializations, sizes, and characters differ from their own, which motivates them to keep taking part. It is our task for the future to explore the principles of places where improvisation only happens from moment to moment while enduring the dangerously feeble yet fascinating uncertainty that lies there.

References

- Atsumi, T. (2001). *Volunteer no chi: jissen to shite no volunteer kenkyuu (Volunteer Knowledge: Volunteer research as practice)*. Osaka: Osaka University Press.
- Atsumi, T. (2008). Sokkyou to shite no saigai kyuuken (Disaster Relief as Improvisation). In Yamazumi, K., & Engeström, Y. *Knotworking: Musubiau ningen katsudou no souzou e (Knotworking: Towards the creation of human activities that bind together)* (pp. 207-230). Tokyo: Shin-yo-sha.
- Atsumi, T. (2012). Saigai volunteer no soshiki ron: Sokkyou no enshutsu ni mukete (tokushuu soshiki to kiki kanri) (Organization Theory of Disaster Volunteers: For creating improvisation (Special Issue: Organization and crisis management)). *Soshiki kagaku (Organization Science)*, **45** (4), 36-46.
- Atsumi, T. (2014). *Saigai volunteer: atarashii shakai e no group dynamics (Disaster Volunteers: Group dynamics for a new society)*. Tokyo: Koubundou.
- Barrett, F. J. (1998). Creativity and Improvisation in Jazz and Organizations Implications for Organizational Learning. *Organization Science*, **9**(5), 605-622.
- Crossan, M. M., & Hurst, D. K. (2006). Strategic Renewal as Improvisation: Reconciling the tension between exploration and exploitation. *Advances in Strategic Management*, **23** (23), 273-298.
- Cunha, M. P., Cunha, J. V., & Kamoche, K. (1999). Organizational Improvisation: What, when, how and why. *International Journal of Management Reviews*, **1**(3), 299-341.
- Cunha, M. P., Kamoche, K., & Cunha, R. C. (2003). An Organizational Improvisation and Leadership: A field study in two computer-mediated settings. *International Studies of Management & Organization*, **33**(1), 34-57.
- Daimon, H., & Atsumi, T. (2019). America saigai shakai kagaku no keifu to kenkyuu doukou: saigai kenkyuu sentaa DRC o chuushin to shita rekishiteki haikai kara (The Genealogy and Trends of Disaster Social Science in the United States: From the school of disaster research center). *Saigai to Kyousei*, **2**(2), 15-40.
- Engeström, Y. (2005). Development Work Research: Expanding activity theoretical reconceptualization. *Journal of Education and Work*. **14**(1), 133-156.
- Honma, T. (2014). Saigai volunteer katsudou no tenkai to aratana kadai (The Development and Issues Related to Disaster Volunteer Activities). *Shakaigaku Nenpou (The Annual Reports of the Tohoku Sociological Society)*, **43**, 49-63.
- Ikeda, K. (2015). *Shinsai kara mieru jouhou media to network (Information Media and Networks Seen Through Earthquake Disasters)*. Tokyo: Toyo Keizai Inc.
- Innes, J. E., & Booher, D. E. (1999). Consensus Building as Role Playing and Bricolage. *Journal of the American Planning Association*, **65**(1), 9-26.
- Kendra, J., & Wachtendorf, T. (2003). Reconsidering Convergence and Converger Legitimacy in

- Response to the World Trade Center Disaster. *Research in Social Problems and Public Policy*, **11**, 97-122.
- Kreps, G. A. (1983). The Organization of Disaster Response: Core concepts and processes. *International Journal of Mass Emergencies & Disaster*, **1**(3), 439-465.
- Kurita, M. (2016). Dai 4-bu volunteer no taiou Kumamoto jishin ni okeru NPO borantia no katsudou to kadai (Part 4, Volunteer Response: NPO, volunteer activities and issues during the Kumamoto earthquakes). In *Heisei 28-nen chiiki bousai date souran kumamotojishin-hen (2016 Regional Disaster Prevention Data Overview: Kumamoto earthquake edition)*(pp. 141-149).
- Kumamoto city. (2018). *Heisei 28-nen Kumamoto jishin Kumamoto-shi shinsai kiroku-shi: fukkyuu fukkou ni mukete hassai kara no 1-nenkan no kiroku (2016 Kumamoto Earthquake Kumamoto City Earthquake Record Magazine: For recovery and reconstruction. A Record One Year from the Disaster)*.
- Moorman, C., & Miner, A. S. (1998). Organizational Improvisation and Organizational Memory. *The Academy of Management Review*, **23**(4), 698-723.
- Nemeth, C., & Wachtler, J. (1983). Creative Problem Solving as a Result of Majority vs Minority Influence. *European Journal of Social Psychology*, **13**(1), 45-55.
- Nihei, N. (2012). 3. 11 volunteer no 'teitai' mondai o saikou suru: 1995-Nen no paradaimu o koete (3.11 Rethinking the Volunteer Stagnation Problem: Beyond the 1995 paradigm). In Hasebe, T., & Funabashi, H (Eds.), *Jizoku kanousei no kiki: Jishin tsunami genpatsu jiko saigai ni mukiatte (Sustainability Crisis: Facing the earthquake and tsunami disaster)*(pp. 159-184). Tokyo: Ochanomizushobo.
- Noda, T. (1997). *Saigai to shakai shisutemu (Disasters and Social Systems)*. Tokyo: Kouseisha Kouseikaku.
- Park, K., Wang, W., Sun, X., & Inaba, K. (2018). Chiiki ni okeru jiin no shakai kouken: Kumamoto ken Uki-shi Toyonocho no koshoji no bousai fukkou katsudou o jirei ni (Social Contribution Activities of a Buddhist Temple in the Community: A case study of disaster prevention and reconstruction activities of the kosho temple in Toyonocho, Uki city, Kumamoto prefecture). *Shuukyou to Shakai Kouken (Religion and Social Contribution)*, **8**(1), 101-127.
- Sakamoto, M. (2016). Saigai taiou ni okeru soshiki-kan renkei shisutemu ni tsuite: Beikoku no soshiki-kan renkei no torikumi ni motozuku kousatsu (The Study on Organizational Coordination System for Emergency Response: Focusing the organizational coordination in the United States), *Saigai fukkou kenkyuu (Studies in Disaster Recovery and Revitalization)*, **8**, 39-52.
- Sankei Shimbun.(2018). Karizumai, nao 24,580-nin Kumamoto jishin, saiken e shien kyōka (With 24,580 people in Kumamoto earthquake temporary housing, support strengthens for reconstruction) October 17, 2018. <http://www.sankei.com/region/news/181017/rgn1810170004-n1.html> (2019-06-25).
- Shibutani, T. (1986). *Social Processes: An introduction to sociology*. California: University of

California Press.

- Stallings, R.A. (1970). Hospital Adaptations to Disaster: Flow models of intensive technologies. *Human Organizations*, **29**(4), 294-302.
- Stallings, R., & Quarantelli, E. L. (1985). Emergent Citizen Groups and Emergency Management. *Public Administration Review*, **45**, 93-100.
- Suga, M. (2016). Dai jusshou saigai boranteia o meguru kadai (Chapter 10: Issues Related to Disaster Volunteers). In Kansai Daigaku Shakai Anzen Gakubu Hen (Kansai University Faculty of Societal Safety Sciences)(Eds.), *Higashi nihon daishinsai fukkou go nenme no kenshou: Fukkou no jittai to bousai, gensai, shukusai no tenbou (Studies on the Fifth Anniversary of the Great East Japan Earthquake: The actual state of reconstruction and the hopes for prevention, reduction, and protection)* (pp.209-224). Kyoto: Minerva Shobo.
- Suga, M., Higuchi, T., & Myojo, T. (2018). Tayou-na shutai no renkei kyoudou ni motozuku hisai-sha shien katsudou o kanou ni suru 'ba' no kanousei to kadai: 2016-nen Kumamoto jishin-go ni kaisetsu sa reta renkei kaigi no bunseki o tsujite (Possibilities and Problems in 'places' that Enable Victim Support Activities Based on the Cooperation of Various Actors: Analysis of a coordination meeting held after the 2016 Kumamoto earthquake) in Dai 4-kai shinsai mondai kenkyuukouryuukai (Fourth Symposium on Earthquake Disaster Research).
- Sugano, T. (2015). Shakaimondai e no taiou kara miru third sector no keitai to chiiki-teki tenkai: Higashinihon daishinsai no fukkou shien o jirei to shite (Configuration and Locality of the Third Sector Dealing with a Social Problem: A case study of the reconstruction assistance after the great east japan earthquake). *Jimibun Chiri (Japanese Journal of Human Geography)*, **67**(4), 1-24.
- Tatsuki, S. (2016). *Saigai to fukkou no shakaigaku (Sociology of Disaster and Reconstruction)*. Nara: Kizasu Shobo.
- Wachtendorf, T. (2004). *Improvising 9/11: Organizational improvisation in the World Trade Center Disaster*. Unpublished doctoral dissertation. University of Delaware.
- Wachtendorf, T., & Kendra, J. (2005). A Typology of Organizational Improvisation in Disasters. Paper presented to the annual meeting of the American Sociological Association.
- Wachtendorf, T. (2012). Reproductive Improvisation and the Virtues of Sameness: The art of reestablishing New York city's emergency operations center. *International Journal of Mass Emergencies and Disasters*, **30**(3), 249-274.
- Weick, K. E. (1993). The Collapse of Sensemaking in Organizations: The Mann Gulch Disaster. *Administrative Science Quarterly*, **38**(4), 628-652.
- Weick, K. E. (1998). Improvisation as a Mindset for Organizational Analysis. *Organization Science*, **9**(5), 543-554.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (1999). Organizing for High Reliability: Processes of collective mindfulness. *Research in Organizational Behavior*, **1**, 81-123.
- Xin, Z., David, M., & Martha, G. (2017). Improvising Organizational Structure and Process:

The case of post-disaster debris removal operations. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, **61**(1), 160-164.

Yamazumi, K., & Engeström, Y. (2008). *Knotworking: Musubiau ningen katsudou no souzou e (Knotworking: Towards the creation of human activities that bind together)*. Tokyo: Shin-yo-sha.

Yoshida, T. (1999). Soshiki riron ni okeru sokkyou no igi (The Significant Role of Improvisation in Organization Theory). *Keizai Kagaku (Economic sciences)* (Nagoya Daigaku Daigakuin Keizaigaku Kenkyuuka (Nagoya University Graduate School of Economics Research Department)), **47**(1), 141-149.

Zack, M. H. (2000). Jazz Improvisation and Organizing: Once more from the top. *Organizational Science*, **11**(2), 227-234

Zheng, Y., Venters, W., & Cornford, T. (2011). Collective Agility, Paradox and Organizational Improvisation: The development of a particle physics grid. *Information Systems Journal*, **21**(4), 303-333.