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Relaying support in disaster-affected areas: the social implications of a 'pay-it-forward' network

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When a disaster strikes a country, a temporary so-called post-disaster utopia emerges in which local residents help each other and outsiders support survivors and victims. However, this utopia does not last. Survivors are likely to have no chance to pay people back for the help they have received and thus return to their daily lives with a sense of debt. After the Great East Japan Earthquake the author motivated survivors of other disasters to help survivors in the Tohoku region in eastern Japan in return for the support they had received in the past. Two findings are revealed: firstly, this pay-it-forward support among disaster-affected areas allows for intermittent rebuilding of the post-disaster utopia. Secondly, a theoretical examination of the network theory also suggests that the pay-it-forward network is likely to expand and cover the whole of society very quickly. The psychological and sociological implications of these findings are also discussed.

Keywords: disaster utopia, pay-it-forward, 2011 Japanese earthquake and tsunami, psychology, sociology

Introduction

> *When we are able to support survivors of future disasters, it is the time of our recovery.*
>
> Community leader, Minami-Sanriku Town,
> Miyagi Prefecture, after the 2011 tsunami

When a natural disaster occurs, many survivors help each other, and professional supporters and volunteers outside the affected area join in to help victims and survivors there. Disaster researchers have labelled this high level of mutual aid in various ways, e.g. 'post-disaster utopia', 'altruistic community', 'heroic and honeymoon phases', and 'stage of euphoria' in such classic studies as Wolfenstein (1957) and Fritz (1961); see Kaniasty and Norris (2004) for a review of the concept. In 2009 journalist Rebecca Solnit published a book entitled *A Paradise Built in Hell,* resulting in these phrases becoming well known to the public. This book was translated into Japanese and was published only a few months before the Great East Japan Earthquake and the subsequent tsunami. One of the phrases above, 'post-disaster utopia', which formed the Japanese title of the book, has also become popular in Japan, and a number of critics, media, and researchers have referred to this book. Obviously, after disasters many survivors live not in paradise, but in a hellish situation, and the word 'paradise' should be used with caution, even if it has appeared in previous studies.

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Hence, the term as it is used in the following section indicates only the situation where after disasters people behave collectively in altruistic ways toward one another without much emphasis on ordinal norms in society.

As Solnit (2009, p. 97) notes, however, 'the real question is not why this brief paradise of mutual aid and altruism appears but rather why it is ordinarily overwhelmed by another world order'. The unique feature of her perspective is to show the ordinary world against that pursued by an anarchist such as Kropotkin—i.e. the world of mutual aid. In other words, the paradise of mutual aid arises, but, realistically, eventually diminishes. To look at the matter from a different angle, this up-and-down trend is not limited to a recent academic finding, but had been described in one of Japan's classic literary masterpieces, *Hojoki*, which was written in 1212. Therefore, it was already common knowledge that people help each other immediately after disasters, but that this 'paradise' eventually disappears.

Demonstrably, this process occurred after the Great East Japan Earthquake. For instance, the number of disaster volunteers registered at disaster volunteer centres in the Tohoku region, which was the main region affected by the 11 March 2011 earthquake and tsunami, increased until July, but steeply decreased after several months (Japan National Council of Social Welfare, 2012). It is true that people helped each other and enjoyed being in 'paradise' when Japan, even though it was a modern, industrialised society, experienced a sense of helplessness. However, this paradise dissipated within a matter of months. Therefore, it is reasonable to assume that, if we could find a way to open a permanent door to this paradise, a breakthrough could occur in Japanese society. The most real and practical problem is, hence, how to maintain or resume this state of paradise in society.

The present study attempts to solve these problems using action research and focusing on disaster volunteers. It first introduces the outline of the author's own longitudinal fieldwork after the Great East Japan Earthquake. Secondly, based on this fieldwork, it describes action research in terms of which previous disaster survivors who received support were motivated to assist survivors in the disaster-affected area of eastern Japan. Finally, it discusses the psychological and sociological implications of this process not only for disaster-affected areas, but also for the whole of Japanese society.

Method

For the present study, action research was conducted using group dynamics. Atsumi (2007) locates social psychology in a two-by-two (nomothetic vs. narrative/epistemic vs. design) paradigm of the sciences and separates group dynamics as narrative-design science from so-called mainstream social psychology, which is categorised as nomothetic and epistemic. Action research is a design science because it not only records the issues pertaining in a situation, but also attempts to change them. Simultaneously it is a narrative science because it does not try to find any laws stating what is claimed to be the 'truth', but rather to make use of the narratives of persons in the field, regardless of whether quantitative or qualitative methods are used. Therefore, action research

has been a traditional approach in narrative-design science—i.e. group dynamics (Lewin, 1946). Nowadays it is conducted in various fields of research (e.g. community-based participative research; see Israel et al. 2005). Although it usually frames itself within pre- and post-event examinations, typically with questionnaire surveys, it does not limit itself to quantitative methods. In this regard, the present study used participatory observation and also collected narratives of people in the field.

Methodologically, action research should be preceded by collaborative practice (Atsumi, 2009; 2011). Collaborative practice is carried out for the betterment of local people without any specific research purpose, whereas action research is conducted for the betterment of local people, but in terms of a research plan. During collaborative practice a researcher takes notes and reports his/her practices on, for example, the blog of a non-profit organisation. When he/she starts action research, his/her notes become the 'fieldnotes' of his/her fieldwork (Emerson, Fretz, and Shaw, 1995) and the blog serves as a record of such research activities as interviews. Researchers must first have gained the trust of the local people, otherwise any research is likely to lose any meaningful significance for them (Atsumi, 2009). Although not often emphasised in current psychological research in general, the importance of first gaining local people's trust is traditionally common among researchers and practitioners working in developing countries (Chambers, 1997) and among community psychologists (Reason and Bradbury, 2001).

The author started to carry out collaborative practice in Noda Village, Iwate Prefecture 11 days after the Great East Japan Earthquake. He visited Noda 33 times from March 2011 to May 2012 and stayed 177 days in total (5.5 days per visit on average) in the village. Resources were also used from the author's longitudinal fieldwork in previous disaster fields (Atsumi and Goltz, in press). The next section describes his collaborative practice in Noda Village, followed by a section on action research.

Fieldwork: collaborative practice

When the Great East Japan Earthquake occurred on 11 March 2011 many disaster non-profit organisations (NPOs) in Japan responded, one of which was the Nippon Volunteer Network Active in Disasters (NVNAD). This organisation was established after the 1995 Kobe earthquake in Nishinomiya City, Hyogo Prefecture, and the author has been involved in it ever since. As the current president of the NVNAD and a researcher at Osaka University, he held an emergency meeting of the board members of the NVNAD to discuss what it should do, how and where. Members at the meeting consensually agreed to pursue the following three projects. Firstly, the organisation dispatched an advance party to the Tohoku region to identify a community needing volunteer work. Secondly, it communicated with key persons in Niigata Prefecture to confirm whether they were willing to accept refugees from the neighbouring prefecture, Fukushima, where many residents were forced to evacuate their radiation-contaminated homes. The NVNAD had maintained close relationships with former survivors in Ojiya City who were affected by the 2004 Niigata Chuetsu earthquake and those in Kariwa Village affected by the 2007 Niigata

Chuetsu-Oki earthquake. Thirdly, it started fundraising at both the local and national levels to make long-term assistance possible.

Helping survivors in Noda Village

The advance team, consisting of four researchers, including two from the NVNAD, flew into Aomori airport in the north of the disaster-affected region. They selected this airport because many disaster NPOs and volunteers had gathered in Tokyo, which was to the south of the disaster-affected region, and started to moved northwards through the tsunami-affected area. In other words, the team expected that relatively fewer volunteers would be found in the north and that more were needed in this area. They started to collect information starting in the north and moving southwards: Hachinohe City in Aomori Prefecture; Kuji City; Noda Village; Fudai Village; Tanohata Village; and Miyako City in Iwate Prefecture. They finally identified a small village, Noda, as the NVNAD's focal point of service due to the extent of the damage there and the few volunteers present. Noda's central area was completely swept away, while 28 of the 4,632 residents were killed by the tsunami and more than 300 houses had completely collapsed. Since it is located far to the north of the disaster region without easy access from the prefecture's capital city, there were relatively few volunteers in mid-March. Based on the report of its advance team, the NVNAD decided to support this village intensively. The first year's activities are summarised in Table 1.

Following the initial phase (Phase 1), the NVNAD office in Nishinomiya began to send volunteers by buses that took 18 hours to reach Noda Village. Mostly university students responded to the NVNAD's appeal and joined its volunteer programmes.

Table 1. NVNAD activities during the first year after the earthquake and tsunami

Phase	Date	Activities
Initial	11–28 March 2011	Advance team focuses on Noda Village
Relief	29 March–29 April 2011	First 'volunteer bus' from Nishinomiya to Noda containing more than 20 volunteers and NVNAD staff members
Network formation	May 2011	'Team North Rias' (TNR) established
Stabilisation	June–July 2011	NVNAD sends a bus with 20 volunteers every month
Local office	August 2011	Local TNR office opens where volunteers can stay and prepare for activities
Using local office	September–November 2011	Volunteers at local office visit survivors frequently
Exchange	December 2011–January 2012	Relay (case 1) and exchange of support in Kobe on the 17th anniversary of the Kobe earthquake
Anniversary of tsunami	February–March 2012	Start to facilitate residents' attempts to recover through discussions, etc.
Ongoing	April–June 2012	Stay with survivors and help them recover on their own

Source: author.

The first volunteer bus with 20 volunteers was sent on 29 March (Phase 2); thereafter a bus was sent every month. Staff members, including the researcher, made efforts to establish a local network of volunteers working in Noda Village. Concurrently, Hirosaki University, the Hachinohe College of Engineering and Technology in Aomori Prefecture, and universities in the Kansai region (i.e. Osaka University and Kwansei Gakuin University) were all sending student volunteers to Noda Village. In Phase 3 the NVNAD attempted to link all the organisations that participated in Phase 2 and established a network of volunteers for the village called 'Team North Rias' (TNR) (e.g. see Nagata, 2012). During the summer and fall (Phases 4–6) disaster volunteers used TNR's local office in Noda Village and regularly visited people living in temporary housing. Before the first anniversary of the disaster the NVNAD invited key persons from Noda Village to Kobe to attend the 17th anniversary of the 1995 Great Hanshin-Awaji (Kobe) earthquake (Phase 7) and observed the first anniversary of the Great East Japan Earthquake in Noda Village (Phase 8). The NVNAD is currently a core member of the TNR and still sends a volunteer bus almost monthly (Phase 9).

Helping Niigata support evacuees from Fukushima

Although many cities and villages were damaged by the 2004 Chuetsu earthquake and the 2007 Chuetsu-Oki earthquake in Niigata Prefecture, the NVNAD, as usual, focused on one city/village for each earthquake, i.e. Ojiya City after the Chuetsu and Kariwa Village after Chuetsu-Oki, respectively. Hence, it was natural for the NVNAD to make contact with Ojiya and Kariwa to obtain support for evacuees from Fukushima.

When an NVNAD staff member telephoned Kariwa Village on 12 March 2011 its local Social Welfare Council was about to receive a large number of refugees from Fukushima Prefecture. However, local staff members were not sure how many refugees would come to their village, what they would bring with them, and how much the staff members could spend on refugee care. Therefore, the NVNAD donated JPY 500,000 yen (about USD 5,000) to the council and prepared mattresses and other materials for refugees. The village government opened five shelters scattered around the village and received 307 refugees on 21 April. Social Welfare Council staff members and local residents voluntarily took care of the refugees. The NVNAD supported activities such as pizza cooking, which were led by a women's refugee group. When the author asked why local social welfare personnel and volunteers worked so hard for the refugees, they unanimously told him that they wanted to return what they had received from Nishinomiya and other places all over Japan during their own disaster in 2007.

The mayor of Ojiya City, which was affected by the Chuetsu earthquake in 2004, held an emergency meeting with executive officers at the city hall on the day of the earthquake and decided to receive refugees at the homes of local residents for one week (Ojiya City, 2012). More than 200 Ojiya City families agreed to provide beds and meals for the refugees for a week while the city prepared shelters.

Since 2006 the author had conducted field research in Shiodani, a mountainous community in Ojiya City, where three small children had been killed by the 2004 earthquake, as well as in Kariwa Village after its earthquake in 2007 (Atsumi, 2009; Atsumi and Goltz, in press). Although he did not conduct any formal interviews after the Great East Japan Earthquake, he visited these communities once a month and listened to residents' everyday conversation by participating in their agricultural work and cultural events. Below are some examples of conversations recorded in his field-notes indicating residents' impressions and motivation to volunteer to assist refugees from Fukushima. When the earthquake and tsunami occurred, they agreed to receive refugees from Fukushima in their village, but none came because of deep snow. However, the community later invited five refugees from shelters in the downtown Ojiya area to participate in rice planting in the spring and brought summer vegetables to their shelters. One of the residents of Shiodani said to the author:

> *I'm finally relieved. I've felt that I should return something to people in trouble because our community was helped by many disaster volunteers. Today, I brought my vegetables to people from Fukushima and they received them with smile. I became a volunteer, didn't I?*[1]

In a second example, a volunteer, a former community leader in Kariwa, said to the author:

> *I didn't understand what a disaster volunteer was at that time, but they helped me when I had to remove debris from my house. They worked so hard for me, even though I did not know them. I was so impressed with them. I wanted to give something to them in return, but have had no chance to do so yet. It's a good opportunity. The least I can do now is help these refugees.*[2]

Finally, a lady in Ojiya City took care of individual refugees each day. When the author asked her why she was so eager to help them, she responded without hesitation:

> *My father and our small retail shop were helped by disaster volunteers at the time of the 2004 earthquake. I don't know who they were and I can't give anything back to them. Thanks to them the shop is okay now, and I would like to help these refugees this time in return.*[3]

Action research

The research question for the present study is as follows: How can we maintain the post-disaster 'paradise' or re-establish it in society if it diminishes almost immediately after a disaster? As described in the last section, previous survivors from the 2004 and 2007 earthquakes in Niigata Prefecture remembered that they had been helped by disaster volunteers and wanted to give something back in return, which is why they supported refugees from Fukushima Prefecture with great hospitality. The three interviewees all said that it was a good opportunity for them to pay back their debt. In other words, past survivors in Niigata experienced the moment of 'paradise'

after their own disaster and looked for an opportunity to rebuild it for current survivors of the Great East Japan Earthquake. Perhaps here we can detect a clue for the answer to the research question, i.e. it can be hypothesised that the state of 'paradise' can be re-established even years later if the survivors of previous disasters find an opportunity to help current survivors. In other words, the state of 'paradise' can be rebuilt not by a process of paying it back, but by paying it forward. The present action research attempts to examine this hypothesis.

From Kariwa Village in Niigata to Noda Village in Iwate

The author contacted staff members of the Kariwa Social Welfare Council in summer 2011 and asked if they could visit Noda Village in Iwate and support local survivors there. He expected that they would hesitate to do so because they were busy with the refugees in their own villages. However, they thanked him for motivating them to visit the disaster-affected area and indicated that they would like to help survivors there. One Social Welfare Council staff member said, 'It's actually a great opportunity for us to give something to the survivors in return for what we received from Nishinomiya and other places in 2007'.[4] Accordingly, the author coordinated their schedules with those of the NVNAD's volunteer bus. He also made arrangements with TNR in Noda Village to receive volunteers and link them with local survivors.

Early on the cold morning of 10 December 2011 two buses arrived at Noda, one from Kariwa and the other from Nishinomiya. The former survivors of Kariwa could not wait to set up their activities (e.g. pounding steamed rice into cakes). When they visited families at temporary housing they delivered rice cakes and talked with them. I helped with these activities and at the same time took notes if I heard any noteworthy conversation. After handing a souvenir from Niigata to a resident in temporary housing in Noda, a volunteer from Kariwa said to the author with tears in his eyes, 'Now I was able to repay my debt and I realised that it is extraordinarily important to help people in trouble'.[5] His wife, another volunteer, after her activities at other temporary housing also said, 'I became friends with an old lady living in temporary housing because we had the same hobby. I would like to visit her again. It's so good to help each other'.[6] The old lady later wrote a letter to this volunteer and the two women have maintained a friendship ever since. Volunteers from Kariwa and Nishinomiya held a party in the evening at the community centre of the temporary housing. The former leader of the Kariwa Social Welfare Council, who was participating as a volunteer this time, suggested, 'Let's compare the taste of *sake* from Iwate with that from Niigata'. This demonstrates that they really enjoyed helping each other and that a genuine sense of comradeship had been created.[7]

Note that these events took place in December 2011, nine months after the earthquake, after the initial state of post-disaster 'paradise' had already been lost. However, volunteers from a former disaster area, Kariwa, helped the current survivors and re-established the post-disaster utopia in Noda Village. A few months later the current leader of the Social Welfare Council told the author that he had budgeted for a visit to Noda Village four more times in the next fiscal year.

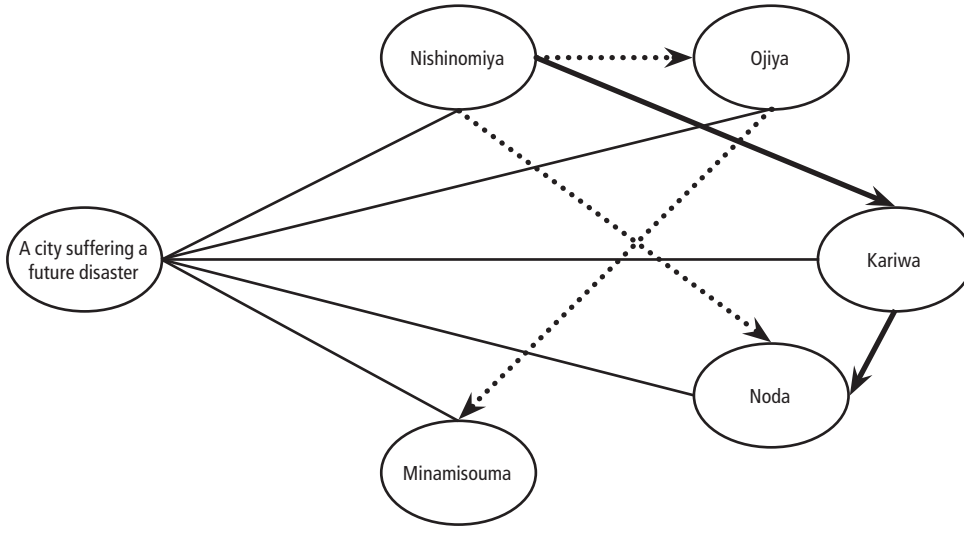
From Ojiya City in Niigata to Minamisoma City in Fukushima

In Ojiya City the author made contact with the mountain village of Shiodani in summer 2011 and asked whether the residents had continued to help people in Fukushima. Some refugees had returned to temporary housing built in safer areas of Minamisoma City in Fukushima Prefecture and had exchanged phone calls and letters with the residents of Shiodani. The community leader responded to the author without hesitation and said, 'When spring comes, we have many edible wild plants in the mountains. We would like to visit the former refugees in Minamisoma and serve dishes prepared from the plants'.[8] The author made financial arrangements with the NVNAD office and supported this movement.

On 20 May 2012 a bus from Ojiya City arrived at the parking lot of the temporary housing settlement in Minamisoma. Former refugees and volunteers from Shiodani hugged one another. The volunteers enjoyed serving the dishes and the conversations. A volunteer said, 'If we try, we can do it! Now, we're disaster volunteers to help survivors. I'm relieved finally because I've paid back my debt'.[9] The community leader reported to the author later, saying, 'All of us on the bus on our way back were so excited. We were so happy to help the current survivors in Fukushima. Let's repeat this'.[10]

Note again that this was May 2012, more than a year after the earthquake. Obviously, the 'post-disaster utopia' was over; however, volunteers from a former disaster area, Ojiya, helped the current survivors and reintroduced the post-disaster 'paradise' in Fukushima. They were planning to do this again in the fall.

Figure 1. Network of relaying support in disaster-affected areas



Note: the relay from Nishinomiya to Noda via Kariwa is indicated by a thick line, while the other relay from Nishinomiya to Minamisouma via Ojiya is indicated by a dotted line. Current connections, including another dotted line from Nishinomoya to Noda, may be relayed to survivors in future disasters, indicated by five thin lines pointing to 'A city suffering a future disaster'.

Source: author.

Discussion

In this study we found that the state of post-disaster 'paradise' can be maintained, at least intermittently. That is to say, even if this state diminishes with time after a disaster, it is possible for previous survivors to revive it. Both cases described here are examples of relays of support among disaster-affected areas: the NVNAD supported Ojiya City in 2004 and Kariwa Village in 2007, while residents in Ojiya supported former refugees from Minamisoma City, Fukushima, and volunteers from Kariwa helped survivors in Noda Village, Iwate. This relay is shown as a network in Figure 1.

All of the interviews indicated that rebuilding the post-disaster 'paradise' was an opportunity to allow the survivors of previous disasters to repay their debts not backward, but forward. Thus, this network can be called the pay-it-forward network (PFN). A recent study by Dass-Brailsford, Thomley, and De Mendoza (2011) focuses on the transformative experiences of individual volunteers after Hurricane Katrina in the USA. It reveals that the experience of volunteering was transformative and beneficial to the community from which the volunteers came.

At least two issues regarding the nature of the PFN can be examined here. Firstly, we should try to discover why this state of 'paradise' can be resumed after a fairly lengthy period of time. Secondly, although the two cases investigated above were examples of the extension of this state after an interval, what about the possibility of expanding this state of 'paradise'? This section explores these questions from psychological and sociological perspectives.

Psychological implications: motives and shared emotions of unshared pain

Why can a state of 'paradise' be resumed intermittently? According to the interviews, the motive behind the PFN was a feeling of indebtedness. In fact, previous survivors in both Kariwa and Ojiya had often thought about how to pay back the help they had received, and this is why they seemed to be relieved after they had volunteered to assist the Fukushima survivors. Thus a feeling of being in debt is a key motivation of the PFN.

One might say that repaying one's debt to current survivors is a very simple matter psychologically. In other words, because the former survivors shared the emotions of surviving a disaster with current survivors, this gave the former the same feelings of kindness and compassion that they had received in the past. However, this approach is not entirely true, simply because each experience of a disaster is unique and it is simply impossible to understand others' experiences fully. For instance, a person who has experienced an earthquake does not necessarily understand the emotional reactions of another person who lost everything in a tsunami. Therefore, previous and current survivors do not necessarily have common emotions with each other.

What, then, is shared between past and present survivors? It is suggested that they actually share the emotion that nobody can understand their experiences; in other words, they share the feeling of unshared pain. Jensen et al. (2011) indicate that a

sufferer's pain is more likely to be relieved when another person offers support without attempting to relate to that pain than when someone provides supports as if he/she understands the pain; i.e. it is suggested that the shared emotion of unshared pain facilitates relief activities. The psychological implication, therefore, is that the state of post-disaster 'paradise' can be rebuilt intermittently because it provides a good opportunity for former survivors to pay their debt not back but forward to current survivors via the unshared emotion of pain.

Sociological implications: expansion of the PFN and its impact on Japanese society

What about the possible expansion of the PFN? It is obvious that the rebuilt post-disaster 'paradise' will also diminish eventually. Is there any social impact if this state is intermittently rebuilt? Let us consider the PFN from a network analysis perspective. A classic work in social psychology gives us a crucial insight for this examination. According to Milgram (1967), a person is only six steps away from any stranger through shared acquaintances, so it is a very small world. This notion was elaborated on mathematically by Watts and Strogatz (1998), who found that a random connection of any two sites facilitates the connecting ties of the whole. The PFN is a set of random connections in this paradigm. It is implied that the ties of a PFN may lead society to a new era of human bonds. Modern developed societies are too institutionalised and its members have no opportunity to move like nomads to contact other people directly. The PFN may therefore be a means that can lead to a new society of human relationships.

Future research

The PFN is not only a network for disaster relief, but also a new type of human tie based on psychological motivation and emotion that has the potential to expand over the whole of Japanese society. There are at least two issues to consider for future research.

Firstly, data needs to be systematically collected. The present study is based on long-term fieldwork, but provided some anecdotal excerpts from the author's field-notes that indicate the existence of the PFN and explored its theoretical and practical potential; however, future research should provide more detailed evidence based on, for instance, a questionnaire survey. Additional factors such as distance should also be examined. The PFN presented in this article was domestic and, since Japan is a relatively small country, each place is only one or two hours' flight away from another. If one were to draw a PFN in the USA, for example, are a group of people in California likely to go and help disaster survivors in Maine? It is also interesting to explore cultural and political factors. For example, in the East Asia region, Japan, Taiwan, and China were hit by devastating earthquakes in 1995, 1999, and 2008,

respectively. They supported each other on these occasions; however, it is not clear if a PFN can overcome cultural and political obstacles. Future research should therefore attempt to determine a policy for an international and cross-cultural PFN.

Secondly, the PFN leads us to examine reciprocity in general. Besides a tradition of an anthropology and sociology of giving (e.g. Mauss, 1925), reciprocity has been examined in terms of evolutionary biology and psychology, e.g. Nowak and Sigmund (2005), who classified reciprocity into two categories, direct and indirect, and then divided the latter into 'upstream' and 'downstream'. Direct reciprocity means that person A helps person B, and B helps A in return, while indirect reciprocity includes a third person, C, in two different ways. One is upstream reciprocity (person B, who has just received help from person A, goes on to help person C), and the other is downstream reciprocity (person A has helped person B and therefore receives help from person C). The PFN corresponds to upstream reciprocity, although it puts more emphasis on collective activities than individual relationship in terms of evolutionary biology. Further theoretical investigation and data analyses by simulation would be fruitful ways of understanding human reciprocity.

Future practice

At least two aspects of the PFN's potential should be considered for future practice. Firstly, because disaster NPOs have come to play an extremely important role in Japan since the 1995 Kobe earthquake (Atsumi and Goltz, in press), it is these organisations that should make former survivors collectively remember the significance of a PFN. In fact, it was obvious that the PFN discussed in this article was motivated by a disaster NPO, the NVNAD. It helped to produce a state of post-disaster 'paradise' when the Great East Japan Earthquake occurred; it motivated the previous disaster survivors in Niigata; and it made arrangements for previous survivors to help current survivors. Hence, disaster NPOs can make it possible to resume the state of 'paradise' by forming a PFN.

Secondly, it might be a good idea to motivate 'future survivors' in Japan, which is a country that will always have to worry about earthquakes, typhoons, volcanoes, and many other natural disasters. For instance, a series of huge earthquakes are expected in the future in the metropolitan region, including Tokyo. If the Japanese can be motivated to help survivors of the Great East Japan Earthquake, for example, then they could join the PFN in advance without receiving any support immediately. This network could be called the 'pay-it-beforehand' network, which is a good candidate for expanding the PFN in that it is likely to leave a feeling of indebtedness and, accordingly, expand the PFN.

It may seem as if a disaster creates a state of hell on earth. However, with the assistance of disaster NPOs, people can build and rebuild the post-disaster 'paradise' of mutual aid through a PFN. When we are able to support disaster survivors through a PFN, then our society will change.

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Endnotes

[1] Fieldnotes, 31 July 2011.
[2] Fieldnotes, 22 April 2011.
[3] Fieldnotes, 29 May 2011.
[4] Fieldnotes, 6 September 2011.
[5] Fieldnotes, 10 December 2011.
[6] Fieldnotes, 11 December 2011.
[7] Fieldnotes, 10 December 2011.
[8] Fieldnotes, 23 September 2011.
[9] Fieldnotes, 20 May 2012.
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