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Im Fokus

The Crucial Role of Civil Society in Disaster Recovery and Japan's Preparedness for Emergencies

Die zentrale Rolle der Zivilgesellschaft bei der Bearbeitung von Katastrophen und die Katastrophenbereitschaft Japans

Daniel P. Aldrich

Abstract

This article is concerned with the empirical puzzle of why certain neighborhoods and localities recover more quickly than others following disasters. It illuminates four mainstream theories of rehabilitation and resilience, and then investigates a neglected factor, namely the role of social networks and civil society. Initial analyses underscore the important role of trust and connectivity among local residents in the process of rebuilding. After examining the role of civil society in Japan's preparedness for emergencies, the article concludes with some policy recommendations for governments and nongovernmental actors involved in disaster relief.¹

Keywords: Japan, post-disaster recovery, earthquake, tsunami, civil society

1 Introduction

May 2008 brought a large-scale typhoon and a 7.8 magnitude earthquake which devastated communities in Myanmar and China respectively. These all too common tragedies should remind us of the rising cost of disasters, both in terms of life and property damage across the globe. Located in the "Ring of Fire,"

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Japan frequently experiences tsunamis, volcanoes, and earthquakes, including the 1923 Kanto earthquake, the 1959 Nagoya typhoon, and the 1995 Kobe earthquake. Experts regularly predict that the “Big One” — a massive earthquake which will cause untoward damage in the Kanto region where Tokyo is located — is overdue. Despite the importance of this topic, social science has only just begun to move beyond the headlines to investigate these phenomena in more depth.

Most social science analyses of disasters focus on organizational and communications failures (Comfort 2005), the interaction between central and local governments (Rubin / Barbee 1985; Schneider 1990), and “best practices” regarding the distribution of grants, aid, and foodstuffs through disaster relief policy (May 1985; Anderson / Woodrow 1998; Gilbert / Kreimer 1999). Other research estimates the long-range economic (Okuyama 2003; Benson / Clay 2004) or psycho-social (Golec 1980; Shrubsole 1999; Hutton 2001; Foner 2005) impacts of disasters on communities. We spend a great deal of time figuring out where things went wrong, but still do not understand why things sometimes go right. As a result, the critical question of which factors facilitate or impede reconstruction after floods, hurricanes, earthquakes, and similar events remains largely unanswered. For Japan, this question is clearly more than an academic one: Given the high probability of future disasters, rapid and efficient recovery will be crucial.

This study begins with the observation that certain cities and neighborhoods recover more quickly than their counterparts. Although super-catastrophes struck the coastal cities of Kobe, Japan, New Orleans in the United States, and Tamil Nadu in India, Kobe and Tamil Nadu seem to have bounced back, while “The Crescent City,” now three years after floodwaters filled homes, schools, and businesses up to their second floors, is suffering from depopulation and a lack of schools, businesses, and health care providers. Even within slow-recovering New Orleans, certain neighborhoods, such as Lakeview and Village de L’est, show more resilience than Gentilly and the Lower Ninth Ward. So far, studies have highlighted several factors which might contribute to quick disaster recovery. This article is part of an ongoing research project focusing on the role of civil society, which has thus far been sidelined as an explanatory factor, in disaster recovery. Preliminary findings of the project suggest that civil society actually plays a crucial role in disaster recovery.

This article proceeds as follows: Firstly, I will briefly discuss different possible

factors that may promote quick disaster recovery, such as living and business conditions, damage levels and socioeconomic conditions (section 2.1). Then I will turn to civil society, a neglected aspect (section 2.2). In the subsequent section (2.3), I present a model for the test of the different theories of disaster recovery. The article concludes with the presentation of preliminary findings and some policy recommendations for governments and nongovernmental actors.

2 Why Do Certain Areas Recover Quicker than Others?

2.1 Factors that May Promote a Quick Recovery

Observers offer several reasons as to why certain areas displayed more resilience following crises: living conditions, business conditions, damage levels, socioeconomic conditions, and civil society (see table 1 below).

Table 1 Theories Linking Recovery Speed to Local Conditions

Theory	Logic
Living conditions	Less dense, crime-free areas will recover quickly
Business conditions	Areas with more healthy businesses will be more resilient
Damage levels	Areas with less damage will recover more rapidly
Socioeconomic conditions	Wealthier neighborhoods will recover more rapidly following disaster
Civil society	Better connected communities and neighborhoods will recover faster

Source: The author.

Firstly, many observers argue that poor living conditions in the city or the neighborhood may slow down the progress of short- and long-term recovery. Overcrowding makes finding shelter after a disaster more difficult. Despite attempts to widen roads and increase fire breaks between houses, certain areas of Tokyo, such as Sangenjaya in Setagaya-ku and Kyōjima in Sumida-ku, remain vulnerable to fire and disaster. Along with high population density as an impediment to recovery, critics have pointed out that a lack of available health care stalled the recovery process following Hurricane Katrina, to the degree that the president of the Metropolitan Hospital Council of New Orleans said: “We have to find a way to survive to that point, to provide care, or our city will collapse” (Eaton 2007). Finally, communities plagued by crime and drug abuse

may find it difficult to mobilize their resources effectively (Heath 2006).

Secondly, scholars and government administrators alike have pointed to business conditions as a critical factor in recovery. Hagiwara and Junishi (2005) argue that following the 1995 Kobe earthquake, areas with more middle-sized businesses showed greater ability to recover. In another study of post-Kobe recovery, Tatsuki and Hayashi (2002) used survey data to show that business owners who had damaged houses were the group most likely to display vulnerability after a disaster. These observations have been supported abroad. Soon after Hurricane Katrina, the United States Small Business Administration office held a conference focusing on rebuilding businesses along the Gulf Coast. It argued that entrepreneurship will prove to be the “foundation for economic renewal in the Gulf Coast region” (US SBA 2006). Empirical studies have supported the argument that enterprise and commerce play a role in rebuilding.

Not all social scientists have seen business or living conditions as the most significant in forecasting post-crisis recovery. Instead, they point to a third factor, the amount of damage suffered by a community, which could determine the pace of recovery. In his analysis of the 1923 Kanto earthquake, which devastated nearly half of Tokyo, Tanaka (2006) argued that the “Shitamachi” downtown districts recovered more slowly than their uptown counterparts, namely the Yamanote district, because these districts were more devastated by fire and quake damage. Using the 1964 Alaskan earthquake as the basis for a far-ranging investigation of the role of federal policy in disaster recovery, Dacy and Kunreuther (1969: 72) argue that “[i]t just seems reasonable to assume that the speed of recovery following a disaster will be determined primarily by the magnitude of the physical damage.”

Another common argument in the literature on recovery is that, fourthly, socioeconomic conditions and demographics best predict how quickly areas are likely to rebuild (Wright et al. 1979; Rossi 1993; Berke et al. 1993). Ramakumar (2008) posited that the economic state of a household before a disaster may be the most important factor in determining its status days, weeks, and years after the event. Alternatively, poorer households with less education and fewer job skills will have more difficulty securing new livelihoods and face the most difficulty in extracting resources from the state and NGOs (Kamel / Loukaitou-Sideris 2004).

2.2 The Neglected Factor: Empirical Support for the Importance of Civil Society

Beyond these standard approaches to recovery, new studies have illuminated the potential role of social networks and civil society in explaining the speed of post-crisis recovery (Nakagawa / Shaw 2004). Social ties can serve as “informal insurance” mechanisms allowing victims to draw upon ready-made support networks for financial, physical, and logistic guidance (Beggs et al. 1996). Furthermore, more politically active and integrated communities can better present their demands to and extract resources from authorities. A brief look at the recovery of New Orleans after Hurricane Katrina drives home this point.

Two years after Katrina, although less than half of New Orleans' residents had returned, one neighborhood, Village de L'est, boasted nearly a 90 percent return rate and a 90 percent business reopening rate. Surveys conducted by the city government supported that claim, showing that this neighborhood was the only one in which people were staying over night so soon after the disaster (LaRose 2006). Why was this particular neighborhood so successful while others failed? The community, composed mostly of Vietnamese Americans under the leadership of Father Vien Nguyen, pastor of Mary, Queen of Vietnam Parish, worked together during and after the storm to sustain their community.

Father Nguyen and other parish representatives drove to temporary evacuation shelters in Texas, Arkansas, and Louisiana to meet with parishioners during the evacuation. While other communities often found their residents alone and isolated in temporary locations in Houston, Texas, or other far-flung cities, members of this community did everything they could to maintain their connections. Church and community members kept in touch with refugees so that when New Orleans reopened in October, its small businesses did so en masse. Mary, Queen of Vietnam Parish acted as a core supplier of necessities ranging from bleach and food to building supplies and support for returning residents. When 500 signatures were needed to prompt Entergy — the local utility — to restore electrical power, they provided more than 1,000 signatures by the end of the day. When the city issued emergency orders to reopen the Chef Menteur landfill to allow the disposal of post-Katrina debris, the parish led the opposition movement. This relatively homogenous neighborhood displayed high levels of social capital and networks, factors which no doubt facilitated the residents' return and allowed them to organize successfully.

Their success strongly resembles the findings of sociologist S. N. Eisenstadt (1951) regarding the successful integration of immigrants into Israeli society in the late 1940s. He argued that Jewish refugees and immigrants arriving in the newly formed democracy as part of a pre-existing integrated community led by a community or religious leader such as a rabbi were better able to integrate than “anomic” Jewish refugees. These successful immigrants integrated into Israel not only because of the social and psychological support provided by extant social networks but also because, due to their better organization and leadership, they could more efficiently extract resources from the government.

In one of the earliest studies of resident networks and disasters, Stallings and Quarantelli (1985) detail how grassroots political organizations emerged spontaneously during and after disasters. These “emergent groups” were likely to be homogenous in terms of age, gender, and race (*ibid.*: 96); their study demonstrated that individuals who had worked or played together previously were likely to organize without formal planning to assist with recovery efforts. Shaw and Goda (2004) documented how the Kobe earthquake helped mobilize and organize nongovernmental organizations (NGOs) into more active participants in public policy. Other research documents the “informal insurance” function provided by these citizen networks, which increase the community’s solidarity and resiliency. Buckland and Rahman’s (1999) research on the 1997 Red River Flood in rural Manitoba shows that communities with dense social networks were better able to respond than comparable areas with fewer connections.

In a survey of disaster survivors, Hurlbert, Haines, and Beggs (2000: 599) report that core networks with “strong and homophilous ties” which exhibited “high density and low diversity” affected the support individuals sought and received after natural disasters. Respondents used fellow network members “to reach support providers outside the core network” (*ibid.*: 615), that is, they found help through friends and colleagues of their friends. Since many members of their immediate social networks were clustered geographically in the town which had been hit by the flooding, survivors relying only on local help received less assistance than those able to reach beyond the community for assistance. Hence, social ties provided job search information, financial and administrative support, and guidance through weak, as opposed to strong, ties (Granovetter 1973).

Another way in which dense civil society and high levels of social capital assist recovery is through information diffusion and the overcoming of barriers

to collective action (Olson 1965). Neighbors with greater levels of social trust and “bridging” social capital share information about bureaucratic procedures and upcoming deadlines, monitor public space to prevent dumping, and deter looting in their community. In Kobe, for example, even as city officials sought to clarify rebuilding plans, local residents organized to plan the layout of their block (Olshansky, forthcoming). In their comparative study of post-disaster rebuilding in tsunami-affected India and Kobe, Japan, Nakagawa and Shaw (2004: 17) demonstrated that individuals living in areas with higher levels of social capital were more satisfied with the process of town planning.

Albert Hirschman (1970) described a similar phenomenon in his work *Exit, Voice, and Loyalty*. While his research centered on formal organizations, such as firms and governments, more than communities, the logic — that the high cost of exit raises the barrier to flight — applies to post-disaster situations as well. In an area with high levels of social capital and social networks, local residents are more embedded in the locality and have more at stake should the neighborhood not recover successfully. Hence, social ties raise the costs of “exiting” — one of the potential responses to a crisis, as Hirschman points out — and make it more likely that residents will work for a political solution. This is the “voice” mentioned in the title of his book, and areas with softer voices which are plagued by low involvement in planning and the lack of a unified political voice will rebuild more slowly, if they rebuild at all (Kamel / Loukaitou-Sideris 2004; Nakagawa / Shaw 2004). Finally, citizens bound by fewer ties to their neighbors are more likely to engage in illegal and disruptive acts which impede recovery efforts (Varshney 2001; Lee / Bartkowski 2004).

2.3 Evaluating the Competing Theories: the Kanto Earthquake Example

Using data from Tokyo between 1922 and 1933, it is possible to test the validity of the five theories of recovery from disaster detailed above. Thanks to the archives of the Tokyo Metropolitan Police, I have assembled measures of a wide variety of local factors based on the Tokyo precincts centered around police boxes, or *kōban*. Collecting precinct measures from 1922 until 1933 allows me to investigate how conditions shifted in these small areas across Tokyo following the earthquake and fires of September 1923. Figure 1 below details the 15 wards in Tokyo which contained the precincts under study:

Figure 1 *The Main Wards in 1920s Tokyo*

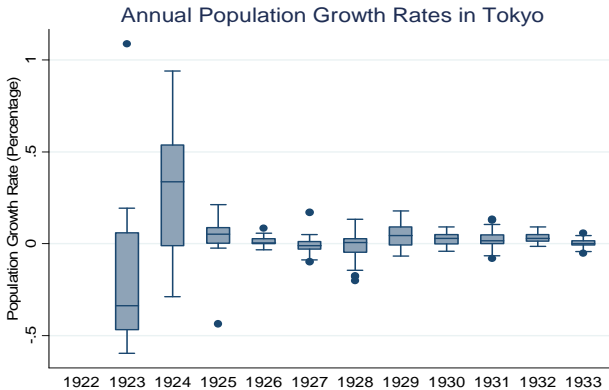


Source: *Map of Tokyo* drawn by Asuka Imaizumi; image reprinted with permission.

My dependent variable in this investigation is the annual change in the population of each precinct. The population growth rate, defined as the percentage change from one year to the next, varies tremendously across precincts. Figure 2 below displays box-and-whisker plots of the population change for these Tokyo precincts between 1922 and 1933.

Between 1922 and the end of 1923, the population of Tokyo fell dramatically due to out-migration of refugees. Over the year after the earthquake, a number of citizens and residents came into Tokyo. Then, over the next decade or so, the rate of growth stayed quite close to zero for most of the precincts in Tokyo. That is to say, on average, after the first year of recovery, few residents departed from or immigrated to these precincts in Tokyo. However, while the average growth rate hovered around zero, for some of these precincts it was as high as 2 percent and in others as low as a loss of 5 percent.

Figure 2 Variation in Population Growth Following the 1923 Earthquake



Source: Author's calculation based on data from Keishichō (Metropolitan Police Department, Tokyo) Archives, various years.

My independent variables, which I will test to see how they affect population recovery, map rather well onto the five theories describe above. For example, to test theories about living conditions, the data set has variables on the amount of crime in each precinct (murders, light crimes, crime damage) along with measures of population density (people per square kilometer). To investigate business conditions in each neighborhood, the data include the number of factory workers in each precinct along with measures of the number of commercial cars and trucks used for delivery and transportation. For damage levels, I have recorded the percentage of individuals killed in each precinct during or after the earthquake. To analyze the impact of socioeconomic conditions, there are data on pawnbroker lending levels — and indications of the size of personal financial resources in each area.

Finally, to test theories about the role of civil society and social capital, I have access to two different measures: the percentage of eligible voters who voted in the municipal and national elections, and also the number of political rallies and demonstrations held in each precinct each year (see Hamilton 1993; Aldrich / Crook, forthcoming, for a discussion of the connections between voting rates and the strength of civil society). Thanks to the variables available in this new

data set, I can keep certain factors — such as population density, and economic, business, and living conditions — constant, while investigating the weight of other factors such as political demonstrations and voter turnout. Table 2 below lays out descriptive statistics of selected variables from this new data set:

Table 2 Descriptive Statistics of Selected Variables in the Tokyo Earthquake Data Set

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Area of the Kōban precinct (square km)	468	1.97	0.93	0.76	4.34
Total population	468	52,906.60	20,514.90	3,505.00	131,439.00
Total number of factory workers	429	2,555.10	2,157.76	113.00	11,964.00
Total number of suicides	468	8.74	6.09	0.00	29.00
Pawnbroker lending (JPY)	468	548,063.40	420,112.20	0.00	3,199,961.00
Number of inns	468	43.36	47.29	0.00	357.00
Number of inn guests	468	22,366.46	36,245.29	0.00	252,117.00
Crime damage (in JPY)	468	177,400.00	862,366.80	3,422.00	16,900,000.00
Number of commercial cars and trucks	429	211.97	277.31	0.00	2,420.00
Number of political gatherings requiring permits	234	64.62	174.01	0.00	1,856.00
Population density (people/square km)	468	31,111.44	14,607.42	1,615.21	84,681.05
Voter turnout in municipal elections	78	67.65	6.88	48.70	75.50
Voter turnout in national elections	39	79.80	1.58	77.40	84.30
Number of residents killed in the earthquake	39	1,716.10	3,854.29	4.00	14,921.00
Shitamachi dummy variable	468	0.59	0.49	0.00	1.00
Population growth rate	429	0.02	0.19	-0.55	0.51
Proportional pawnbroker lending (per capita)	468	10.12	6.33	0.00	47.09

Source: Keishichō (Metropolitan Police Department, Tokyo) Archives, 1922-1933.

To examine the connection between the dependent and independent variables, the project uses a propensity score matching technique along with average treatment effect strategies to measure the relationship between these independent and dependent variables. These methods have been shown by economists and statisticians to estimate the effect of covariates more accurately than older standard approaches such as ordinary least squares regression.

3 Conclusion: What the Important Role of Civil Society in Disaster Relief Means for Japan's Emergency Preparedness and Reconstruction

The preliminary analysis indicates that civil society, more than the four other approaches identified previously, plays a key role in drawing local residents back into a disaster-ravaged city. Those areas with better connected, more active citizens brought back more residents to their neighborhoods and sped up the time required for their reconstruction. This is an important finding, because it should alter the way that we think about preparedness for and recovery from disaster.

While modern-day disaster relief involves greater sophistication than past attempts following tragedies, certain tropes remain the same. Scholars regularly divide post-disaster time into three periods: the emergency period, the restoration period, and the reconstruction period (cf. May 1985). During the emergency period, the focus is on rescue and recovery, with rescuers seeking to save the lives of those still trapped beneath buildings, or provide temporary shelters and food for survivors whose homes were damaged to the degree that these can no longer be occupied. Once the initial relief phase has been completed, the government and nongovernmental organizations seek to remove damaged infrastructure, such as collapsed roads, bridges, and the like, and begin replacing these public facilities. This is the restoration period, when gas, water, sewage, and electricity utilities are reconnected, and when temporary housing may be built nearby. The final period of reconstruction seeks to house the survivors either in their old homes which have been repaired, or in new shelters as close to their old neighborhood as possible.

Almost all of the recovery effort is concentrated on physical as opposed to social infrastructure. The focus on the reconstruction of physical capital as opposed to social capital can be found not only in Japan, but in India as well. Many critics argued that following the Indian Ocean tsunami both the

Indian government and NGOs focused solely on providing infrastructure, such as boats, nets, and engines, to fisherpeople, rather than seeking to provide new skills or repair social connections. But if findings from this study and anecdotes from recent disasters like Hurricane Katrina are accurate, simply rebuilding bridges, schools, and power lines will not be sufficient. Local communities and neighborhoods need shared trust, communication, and commitment to return and stay. As the example of the Vietnamese community in Village de L'est showed, communities with deeper connections which stay in touch during and after the disaster are more likely to work together to rebuild their neighborhoods.

Policy-planners should think carefully about the ways that they can facilitate the construction and maintenance of social networks. For example, providing communities and community groups with communications devices such as cell phones and e-mail connections can help them stay in contact during the post-disaster diaspora. Further, NGOs and the government can focus on setting up not just temporary homes for people to live in, but meeting places for local community groups. Officials can also sponsor information sessions specifically for established faith-based or neighborhood-based groups and do everything possible to house relocated communities together, as opposed to separate locations. These are simple and relatively low-cost solutions, but they may have far-reaching positive consequences for communities struck by disaster.

Building on a new wave of cross-national, comparative post-disaster empirical research (Nakagawa / Shaw 2004; Shaw / Goda 2004; Vale / Campanella 2005; Özerdem / Jacoby 2006; Savitch 2007), this article set out potential explanations of how communities and cities rebuild after crisis. Focusing on the potential of a popular (Putnam 1993, 1995, 2000; Aldrich 2008) but relatively untested theoretical approach — civil society and social networks — this article has posited that more than business and economic conditions, social infrastructure may be the core explanatory variable in understanding why communities rebuild or fail to do so. Focusing on and accepting the importance of civil society may be crucial in preparing for future disaster relief efforts.

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