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Can Japan Respond Better to its Next Large Disaster?

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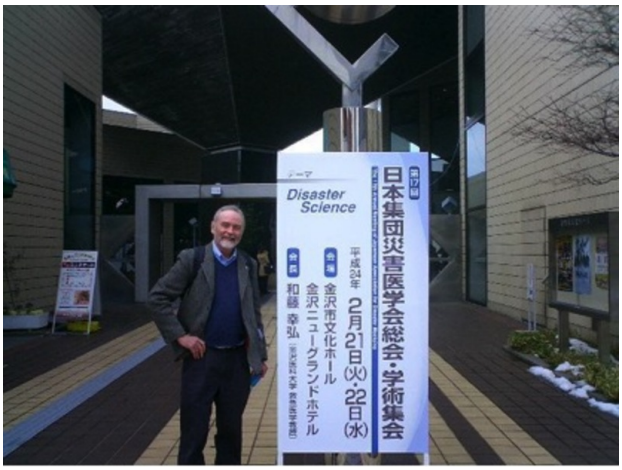
From January 9 until February 23, 2012, I was in Japan on an invitational fellowship from the Japan Society for the Promotion of Science (JSPS). My host institution was Kanagawa University and my host researcher was Prof. Mutai Shunsuke.

Having worked for the U.S. Federal Emergency Management Agency (FEMA) for nearly thirty years, the subject of my fellowship was Japan's response to a large-scale disaster, and whether it could be improved. Under it, I interviewed individuals who were involved in or were familiar with the response to the March 11, 2011 earthquake/tsunami disaster in eastern Japan and lectured on local-level disaster response planning.

My experience is mainly in the area of disaster response planning, not nuclear safety, so I did not attempt to analyze issues pertaining to the damaged nuclear power plant at Fukushima. Instead, I focused on the overall response to the earthquake/tsunami.

In the course of this project, I conducted 28 interviews, gave 20 lectures, and attended two national disaster conferences. I traveled across Japan from Tohoku in the northeast to Kyushu in the southwest and many points in between. I also visited disaster sites in Iwate and Miyagi Prefectures, and spoke with numerous responders who had served on the front line in the disaster.



The author at annual conference of Japanese Association for Disaster Medicine, Kanazawa, Japan, February, 2012.

From everything I saw and heard, the tragic events of March 11 brought out the very best in the Japanese people's willingness to help others. Neighbors rescued neighbors, government agencies mobilized quickly, and volunteers came forward in record numbers. Even today, more than a year later, countless individuals are working to help alleviate the suffering of the disaster survivors.

Japan Self Defense Force (JSDF) providing relief for disaster survivors, Miyagi Prefecture, Japan, July, 2012

But in the course of my visit and interviews, it was impossible to avoid noting numerous shortfalls in the disaster response.

First and foremost, it was clear to me that the Government of Japan simply does not have a comprehensive, realistic plan for responding to large disasters. Rather, the Japan Government's disaster response plan seems to consist of numerous government agency plans that are unrelated to each other. In many cases these plans failed to address or even acknowledge problems that were occurring in the field. In part, this is because the government lacks trained, experienced disaster response professionals. As a result, the government's response to the March 11 disaster was poorly managed and coordinated, and many people suffered needlessly. I was told of numerous problems in this regard, for example:

- Valuable commodities such as food and medicine were often delivered to locations where they were not needed, while survivors at other locations suffered shortages.
- In some cases, much-needed donations were turned away due to the government's inability to receive and manage donations.
- Requests from medical staff in the field for urgently needed help went unanswered.

Second, the Japan Government's lack of effective disaster response planning extends to many Japanese cities and prefectures. Prefectural and municipal officials in Japan are expected to be the first line of defense in dealing with disasters, but they receive almost no training in disaster response from the Japan Government. Prefectural staff were often described by responders as "doing their best," but not being very effective due to their lack of disaster knowledge or training.

Third, the lack of a uniform incident management system added to the confusion and poor use of resources. Large-scale disaster response is a complex endeavor that requires extensive management. Many of the responders I spoke with told of having to invent their own management systems in the midst of the disaster to try to coordinate the activities of multiple

jurisdictions that were delivering services to a huge and diverse group of survivors who were themselves widely scattered in shelters across the disaster-stricken area. The responders are to be commended for devising management systems in the midst of disaster, but this is not the best way to run a disaster response.

Fourth, the government did not fully utilize the potential of volunteers, donations, and Non-Profit Organizations (NPOs). The government did not appear to have a plan for incorporating NPOs or donations management into the disaster response. As a result, NPOs received little or no advice from the government as to what was needed or where, and were left to their own devices (and personal connections) to send aid into the disaster area. Donations of critical items such as food were turned away by the government at the very time when many survivors were desperately in need. On the other hand, unneeded donations poured into some areas, resulting in oversupplies of food and medicine in some locales while others faced severe shortages.

A volunteer holds up a flag found in the rubble of Kamaishi City. Photograph © 2011 by Vince Ng

Fifth, communication between the government and the field responders seemed to go in one direction only, from the top down. Field responders such as medical doctors, pharmacists, and public health specialists at the disaster sites had no effective means to notify the government of their requirements. Instead, the government appears to have relied in large part on the news media for information regarding the disaster conditions. This result was that the government was often completely unaware and/or misinformed as to what was needed in the field, leading to a misallocation of resources such as food and medicine as cited above.

Sixth, shelter management in the disaster-stricken areas was weak and inconsistent, and in some cases appeared to be nearly nonexistent. Many shelters were described as either being "self-managed" or having "no management." Local residents did their best to manage local shelters in the absence of any government presence or any guidance on shelter management. The result was a very uneven level of management where some shelters very well run and others were not.

Volunteer response teams enter a small town in Iwate Prefecture (Photo © 2011 by Vince Ng)

Seventh, nutritional needs of the disaster survivors were met very poorly, often consisting only of some rice, bread, and water daily in the early stages following the disasters. This poor nutrition, when combined with the already-weakened condition of many of the survivors, resulted in additional illnesses and medical needs among the survivors that in all likelihood could have been avoided by simple nutritional planning. Some doctors feel that this nutritional deficit may have contributed to fatalities among the survivors, especially the elderly. There did not appear to be any effective plan for meeting the nutritional needs of the disaster survivors.

Eighth, the government may be overly relying on the Self Defense Force (SDF) for disaster relief. The SDF was quickly mobilized and dispatched in large numbers on March 11 and in the days that followed. This willingness to utilize SDF, and SDF's ability to respond quickly, is an enormous benefit to Japan's disaster response capability. However, it also carries the risk of over-reliance on SDF to the detriment of broader government-wide disaster response planning. It is also questionable as to whether the SDF itself has sufficient resources to address the full range of disaster response planning in such areas as nutritional planning, shelter management, public health, communications, and others listed in the recommendations below.

Ninth, as a result of the above issues, many individual groups in Japan are now developing their own disaster response plans independent of the Japan Government. Many of the responders and organizations I spoke with are tired of waiting for the government to address their concerns, and are beginning to develop their own independent plans for future disasters. While this is fully understandable given the problems that occurred in last year's disaster response, it would also seem likely that a proliferation of separate and unrelated disaster response plans will add to the confusion in future disasters. On the other hand, if the government can reach out and include these groups in developing a comprehensive response plan, the result could be a greatly strengthened disaster response system.

Tenth, Japan has a wealth of skilled disaster response professionals, but nearly all of this skill lies outside of either the Cabinet Secretariat or the Cabinet Office for Disaster Management, the two Japan Government offices nominally in charge of managing the response to large disasters. Staff who I met from the Cabinet Secretariat and the Cabinet Office for Disaster Management were uniformly bright, dedicated, and hard-working people, but rarely did either they or their leaders appear to have much experience with disasters, and those staff members who gained experience in last year's disaster will soon rotate away to other jobs.

Prime Minister Kan Naoto speaks to an employee of TEPCO at Naraha town, Fukushima Prefecture, Saturday, April 2, 2011. (AP)

One box on the Cabinet Secretariat's organization chart is labeled "Expert Committee for Responses to Situations." In fact, however, it appears to consist not of "experts" but just high-ranking political officials. Most true disaster experts I met were either in the SDF, the fire service, the health and medical professions, or non-profit organizations, but the Japanese Government did not appear to be drawing upon this expertise to strengthen its disaster response plans.

Eleventh, Finally, and perhaps most discouraging of all, there does not seem to be any feedback mechanism to use lessons learned from this disaster to improve preparedness for future such events, which unfortunately are likely to occur given Japan's level of risk to disaster. While the Japanese Government may tinker with some of the details, I neither saw nor heard of any effort to comprehensively address the issues outlined above.

Based on my research, **I would make seven recommendations to the Japanese Government:**

1. *Learn from the experience of the disaster responders and experts*. During my 46-day visit to Japan under the JSPS Fellowship, I spoke with numerous disaster responders and disaster experts and heard many stories of the successes and failures of the earthquake/tsunami response. However, in the course of 20 lectures and 28 interviews, I cannot recall anyone telling me that the Japanese Government had asked for their opinions or inputs as to how to strengthen the response for future disasters.

I strongly recommend that the Japanese Government make an intensive effort to reach out to the many disaster responders and experts and learn from them what needs to be done to strengthen Japan's ability to respond effectively to future disasters.

2. *Put someone in charge of disaster response planning and the response itself*. As it now stands, no one person or agency in the Japanese Government is really in charge of disaster response planning. Responsibility is dispersed among numerous staff and officials who continuously come and go. With no one person in charge of disaster response planning, no one person is credibly in charge of disaster response either, and we are left with the Prime Minister of Japan himself shouting orders into a phone during the disaster. Whatever qualities the Prime Minister may have, it is unlikely that he will be a professional disaster response manager, nor should he be. The government needs to have a full-time disaster manager (with staff) who is knowledgeable in the field of disaster management and who is empowered to develop a strong national disaster response system.

3. *Move away from hazard-specific planning toward all-hazard planning*. The Japanese Government uses "hazard-specific" disaster planning, that is, one plan for an earthquake, another for a tsunami, another for a terrorist incident, and so forth. From my experience, that approach is badly outmoded and leads to confusing and impractical plans as well as numerous gaps in response.

I recommend the "all-hazard" approach, whereby plans are categorized not by type of disaster but by mechanism of the disaster response, for example*:

1. Transportation
2. Communications
3. Public Works and Engineering
4. Firefighting
5. Emergency Management
6. Mass Care, Emergency Assistance, Housing, and Human Services
7. Logistics Management and Resource Support
8. Public Health and Medical Services
9. Search and Rescue
10. Oil and Hazardous Materials Response
11. Agriculture and Natural Resources
12. Energy
13. Public Safety and Security
14. Long-Term Community Recovery
15. External Affairs

* Source: National Response Framework, US Dept. of Homeland Security/FEMA

Each of these 15 categories (called "emergency support functions") is then assigned to the government agency or NPO most suited to that particular function.

Take #8 "Public Health and Medical Services" as an example of the difference.

Using the "hazard-specific" approach, the Government several years ago developed Japan Disaster Medical Assistance Teams (JDMAT's) to train and prepare exclusively for a scenario similar to the 1995 Hanshin Earthquake. This overly-narrow training focus left the JDMAT's ready to treat trauma injuries from an earthquake but poorly prepared and equipped for the many health and medical problems that occurred after the tsunami.

In contrast, an "all-hazard" approach would place the Health Ministry in charge of developing a comprehensive approach to dealing with health and medical problems that could arise in a full range of disaster scenarios, including, for example:

- traumatic injury,
- hypothermia,
- public health,
- environmental health,
- mental health,
- pharmaceutical needs,

- special needs/disabilities.

This same all-hazard approach could be applied to each of the 15 disaster response categories shown above. No planning approach is perfect, but the all-hazard approach would go a long way toward ensuring that a full range of disaster-related problems are planned for ahead of time.

4. *Develop a comprehensive and realistic national disaster response plan*. As noted above, the Japanese Government's disaster response plan seems to consist of numerous government agency plans that are unrelated to each other. In many cases these plans fail badly to address the actual problems that occur in disasters.

For example, one physician in Tohoku told me of his attempts to deal with a serious health problem involving disaster survivors who may have ingested dangerous chemicals from the tsunami waters. But when the physician tried to get help or advice from the government, he learned that three separate offices of the Health Ministry (in Tokyo) had jurisdiction over the problem…and that it would be up to him to try to get an answer out of the three separate offices in the midst of his own disaster relief work!

A comprehensive and realistic plan would implement all of the disaster-related issues listed in Recommendation #3, above in all relevant government agencies and NPO's. It would address the types of problems that occur in disasters and propose realistic solutions.

5. ***Implement a national incident management system such as the National Incident Management System (NIMS) that is used in the U.S.*** *"Incident management" sounds like an abstract concept, but it is a very real problem in a disaster*. Large-scale disaster response is a complex endeavor that requires extensive management capability. A lack of systematic management can mean, for example, that some stricken towns will be deluged with food supplies while others are neglected. March 11 responders told of having to invent their own management systems in the midst of the disaster to try to coordinate the activities of multiple jurisdictions who were delivering multiple services to a huge and diverse group of survivors who were themselves widely scattered in shelters across the disaster-stricken area. How to prioritize needs? How to ensure that all geographic locations have been reached? How to avoid duplication of effort and misallocation of resources? The middle of a disaster is not the time and place to try to invent a system to address these and other crucial questions. I believe that a nationally-accepted incident management system is badly needed in Japan, and I suggest as a starting point to consider existing systems such as the U.S. NIMS.

6. *Train and professionalize emergency managers at all levels in Japan*. Under the current system, many Japanese "emergency managers" have little or no experience or training in emergency management! They are assigned to emergency management offices only temporarily, rotating in and out of their jobs every two years or so.

It is baffling to me that a modern country like Japan would fail to develop professionalism and training in such a crucial area. If I were going to a hospital for life-saving surgery, I would not want the surgeons to be a group of individuals with no training or experience in surgery, so why should such a lack of training and experience be applied to a critical field like disaster management?

Given the high risk that Japan faces from earthquakes, tsunamis, volcanoes, and a host of other hazards, it seems to me that Japan needs to build a cadre of trained, experienced emergency managers at the national, prefectural, and municipal levels, as well as in the non-government sectors, to face the next crisis. As noted above, Japan actually has a large body of disaster experts that could provide the leadership and knowledge required to accomplish this goal.

7. *Plan for the role of NPOs, volunteers, and donations in disaster response*. Voluntary support and donations for disaster survivors can be a major contribution to disaster relief if planned for ahead of time. But if not planned for, then volunteers and donations are instead often seen by government agencies as a burden or a distraction to be turned away, as so often happened in 2011.

In the wake of the March 11 disaster, NPOs received little or no advice from the government as to what was needed or where, and were left to their own devices (and personal connections) to send aid into the disaster area. Donations of critical items such as food were turned away by the government at the very time when many of the survivors were desperately in need. On the other hand, unneeded donations poured into some areas, resulting in oversupplies in some areas while other areas faced shortages.

Instead of turning away these important resources, or using them haphazardly with no plan, I recommend that government agencies at all levels begin now to plan how to incorporate and utilize NPOs, volunteers, and donations more effectively in future disasters.

In considering these findings and recommendations, two large questions loom:

First, why should an American like myself try to tell the Japanese how to run things in their own country?

And second, given FEMA's catastrophic failure in Hurricane Katrina, should FEMA's disaster response system be promoted?

I fully appreciate the fine line I walk as a foreign consultant visiting Japan and investigating disaster operations. I would not presume to recommend acceptance of a carbon-copy of any American management model. But neither would I hold back on offering advice if I thought it could do some good. The observations in this report are based on interviews I conducted in Japan, held up against the mirror of our successes and failures in disaster response in the United States. My hope is that the Japanese can learn from our American experience, including our mistakes, and choose whatever elements or ideas they think will work best in Japan.

Concerning the second question, FEMA's system didn't "fail" during Hurricane Katrina…it didn't even exist any more! When George W. Bush took office in 2001, the dissolution of FEMA began almost immediately. Experienced disaster managers at FEMA were replaced by political hangers-on. Training was cut back. Emergency teams were eliminated. FEMA staff positions were left empty, their funding handed over either to Homeland Security or to private contractors. FEMA itself ceased to exist as an independent agency and was folded into the Department of Homeland Security, where the first three priorities were terrorism, terrorism, and terrorism. For awhile, even the name "FEMA" was abolished and the agency was called the "Emergency Preparedness and Response Directorate" of Homeland Security.

By the time Katrina struck in 2005, FEMA was a shadow of its former self. The agency that sent search and rescue teams to Oklahoma City within two hours after the 1995 terrorist bombing now could not get its act together for Hurricane Katrina despite having two days warning before the hurricane hit the Gulf Coast. Those of us who were still with the agency did our best, but our leaders from the 1990's were gone, and our orders now came from the disaster amateurs at Homeland Security. It was like trying to run a foot race while wearing a ball and chain.

What can we conclude from all this?

Japan is a country that is at risk from numerous natural hazards such as earthquakes, tsunamis, volcanoes, and others. In addition to natural disasters, Japan also faces the risk of technological and industrial disasters such as chemical spills, nuclear accidents,

The author (back row, fifth from left) with members of the Japan Task Force for Search and Rescue, Kobe, Japan, February, 2012.

large transportation accidents, and others. And like many other countries today, Japan faces the constant risk of terrorist incident or enemy attack.

Fortunately, Japan also has a wide range of resources to deal with disasters. Specifically:

It is a wealthy, modern industrial country that can afford to protect itself from disasters, and to respond should a disaster occur.
It is a democracy whose government is ultimately accountable to the people.
It has numerous and highly experienced disaster experts who could contribute to building a stronger disaster response system.
Perhaps most importantly, it is a strong society whose members are willing to help each other in time of emergency.

The March 2011 disaster was a catastrophic event that would challenge even the best-planned response system. But saying that a disaster is catastrophic should not be an excuse to neglect disaster response planning; rather, it should be an incentive to make such planning as realistic and effective as possible to deal with future disasters.

My hope is that the Japanese can learn from our American experience, including our mistakes, and choose whatever elements or ideas they think will work best in Japan.

Leo Bosner served with the US Government's Federal Emergency Management Agency (FEMA) in Washington, DC from 1979 until his retirement in 2008. In 2000-2001, he lived and worked in Tokyo under the Mike Mansfield Fellowship Program studying Japanese emergency management systems. He has been a frequent lecturer and writer in Japan, and in 2011 he was awarded an Invitational Fellowship for Research in Japan by the Japan Society for the Promotion of Science (JSPS). The preceding article expresses the author's personal views only. Comments and questions may be sent to the author at Leobosner@hotmail.com.

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