Learning from Japan: Megacrisis

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On the Likelihood of the Four Scenarios

Self-fulfilling prophesy explains one truth about a prediction. If you keep paying attention to a certain condition of something in the future, the chance of its becoming true increases regardless of whether the condition is good or bad. Referring to the condition of the future, Bell states that the purpose of futures studies is to make a better future (1997, p.73). I fully agree with this and I would like to contribute my effort in the futures field to achieve the goal. Given the perspective of self-fulfilling prophesy and the purpose of futures studies, I am reluctant to estimate probabilities for negative scenarios. Although I don't avoid imagining negative futures in addition to positive futures, I can't see any merit of assigning some probabilities to negative futures. Doing so might even make self-fulfilling prophesy work in a negative way.

Furthermore, I think that the estimation of a probability for a negative future generally does not have much impact on people. If the object of such estimation is something common, like weather forecast that has had proven evidence, people may react to the estimated probability. If the object is something new or unusual, however, most people would not react to the estimation. For instance, if a man who lives next to a highway were warned that a big truck might hit his house in the future with the probability of 60 %, would he move out from the place? Probably, he would not. I suspect that presenting the likelihood for any future scenario has a significant impact on thinking and actions of many people.

On Development of Crisis

I see that a crisis is a threatening condition that could lead to a disaster at any moment. In Japan, a crisis in earthquake and a crisis in nuclear power plants were silently progressing. On March 11, 2011, they led to two major disasters; a huge tsunami and explosions of Fukushima nuclear power plants. More than 20,000 lives of families, friends, colleagues and neighbors were taken and hundreds of towns were destroyed by the tsunami in several minutes. Hundreds of thousands of people were evacuated from their homes and their towns due to contamination by radioactive materials emitted from the Fukushima plants. The present generation of Japanese has faced the reality of the disaster since then.

From the incident in the nuclear plants, I consider it more crucial to grasp how some condition is becoming closer to a crisis than to identify existing crises and to examine their likelihood. If we

don't want to see a human-induced disaster like the explosion in Fukushima in the future, I argue that we seriously need to understand why a human-induced crisis emerges in the first place. In other words, we need to understand in depth the mechanisms by which a crisis develops. Halal and Marien states that a complex interplay of destructive forces is straining old systems to the breaking point. As long as we focus on developing solutions to counteract those forces, we will never come to a happy end. In order to address any crisis, the impact of policy, planning and strategy is secondary. What is primary is a better understanding of the internal nature of humans. I argue that what strain any system to a breaking point is not necessarily external forces but some crucial internal problems of human beings. I briefly discuss three of those internal problems.

The first one is a tendency of policy makers and planners to set up some key functional assumptions of the system based on fragile or artificial foundations. For instance, an earthquake resistance of each nuclear power plant in Japan was determined by assuming a maximum scale of earthquake in the respective area. And the very reason why a specific scale rather than any other higher scales was selected to be as a maximum was to keep the cost of building the system at a certain level. Thus, from the outset, the system was fated to be very fragile as the initial assumption was very artificial, and thus, unsound.

The second problem is obsession with carrying a system forward. We are always motivated to develop a new system, whereas we are extremely reluctant to stop it later. When the system begins to bring about problems that the decision makers and planners did not foresee at the outset, and even when it seems likely that those problems might exceed the expected benefits, the system is rarely halted. People and organizations that run and benefit from the system ignore all information that warns an expected risk of the system. They sometimes even attack those who provide such information and those who act to try to lower the risk. They can sense the presence of a crisis, but ignore it. As a result, the crisis intensifies.

The third internal problem is impersonal self-centeredness of stakeholders of a powerful system. Slaughter (2010) discusses about this problem by referring to the China earthquake in 2006, which killed some 69,000 people, including thousands of children whose schools collapsed. He writes:

> ...after the event, instead of acknowledging the oversight and correcting the process that enabled it, the Chinese government chose to close ranks, protect itself and, in so doing, avoided learning from the tragedy (p.30).

Since Fukushima nuclear power plants exploded in the middle of March, 2011, both the Japanese government and the Tokyo Electric Power Company have protected themselves and have not acknowledged the presence of crises in the other nuclear power plants in Japan. Unfortunately, the longer they exert an effort to protect themselves, the farther the crucial opportunity to learn important lessons from the disaster moves away. Slaughter (2010) wrote about nuclear power plants in the world as follows:

> The meltdown of the nuclear reactor at Chernobyl did not lead to the winding down and eventual abandonment of that technology. Rather, it led to industrial

and technical fixes that, even now, allow authorities all over the world to conclude that nuclear reactors are 'safe' (p.31).

In this context, Fukushima nuclear explosions happened. We can't help acknowledging the fact that there are people and authorities who won't change even after a crisis led to a disaster.

What underlies the above three internal problems is weakness of those who succumb to short-term temptations. They become unable to consider others once they see a personal stake in front of them. None of the real solutions to prevent crises and disasters can be successfully discussed as long as we continue to focus on external events, trends and forces without looking into these internal problems of human beings. I hope that Halal and Marien's paper be useful in provoking readers to give attention to these internal issues.

Notes

A couple of trends driving the Megacrisis in Box 2 regards CO2 and methane as two major causes to global warming. Such a causal relationship may not be established with, at least, two reasons. Firstly, not only CO2 and methane but also many other factors such as sunspots, moisture of the earth, El Nino, magma movement and heat-island phenomenon must have impact on the measured temperatures (Hirose, 2010). Secondly, it is hardly possible to state even a vague causal relationship between any chemical substance and the natural phenomenon (i.e., global warming) as no experiment can be carried out. As a result, it may not be appropriate to include in Box 2 any trend of global warming associated with specific kinds of substance.

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