

Interview with Satoshi Fujii, Professor, Engineering Department, Kyoto University

National Resilience — A New Public Policy Goal of “Abenomics”

By Japan SPOTLIGHT

Introduction

Prof. Satoshi Fujii is a leading thinker on disaster mitigation in Japan. His advice to the Japanese government is reflected in the government's Fundamental Plan for National Resilience adopted in June 2014 and its Action Plan issued in June 2015. *Japan SPOTLIGHT* was honored to talk with him about the fundamental philosophy of this new policy adopted after the disaster in the Tohoku region in northeastern Japan in 2011.

What Is “National Resilience”?

JS: It is said that we will need national resilience in order to create a strong and flexible country. But to be specific, what does “to create a strong and flexible country” mean?

Fujii: We have many earthquakes in Japan. Many typhoons also hit Japan every summer or autumn. We suffer from damage caused by such natural disasters more than any other nation. Such a severe natural environment seems to speed up the aging of the country's infrastructure. If we have no policy to deal with such disasters and stop the infrastructure from becoming rapidly obsolete, it will not be possible to sustain our economy and society as they are. Even culture will not flourish. Japan should never give in to this risk. Building national resilience means enabling the whole country to defeat such a risk.

Importance of “Software”

JS: Does “building national resilience” mean not only strengthening the capacity of the facilities to withstand natural disasters, as well as other social



Satoshi Fujii, Professor, Engineering Department, Kyoto University

infrastructures, but also improving the “software” of disaster mitigation — such as people's attitudes towards such risks and their preparedness?

Fujii: Yes, that's right. Improved risk management in Japan would be the core of the program for building national resilience.

JS: Since the nuclear crisis erupted at the Fukushima Dai-ichi power station after the Great East Japan Earthquake in 2011, many people around the world have become concerned about the weakness of Japanese risk management. How do you think this weakness would be improved by this new initiative to build national resilience?

Fujii: I believe the most important point of risk management is to enhance “a sense of crisis”, meaning we should be intensely aware of the fact that “risk” exists. If people were right in saying that Japanese risk management has not been full-fledged, I am sure that comes from a low level of this “sense of crisis or risk”.

When you plan or devise anything, you have to think about possible hazards that could prevent its completion. You have to assume some possible force that would not be considered in normal planning but could come about in reality. When you assume it, you would then have to assess how much your plan or device could withstand it. With countermeasures prepared to respond to such extreme cases, many people tend to believe that disaster mitigation measures are complete. These extreme cases are also only assumed provisionally and there could in fact be an even worse scenario than these cases. However, in Japan, nobody has ever tried to think about the risk of even greater damage than these assumed extreme cases.

I guess that is the most serious weakness of our risk management in Japan.

We should do our best to manage risks by being well prepared for any risk that goes beyond our normal assumptions of an extreme case, so that nothing would ever be destroyed. This must be the essence of our national resilience program. In the case of the Great East Japan Earthquake and tsunami, the size of the quake was unimaginable. We have to be well prepared for such unimaginable events and ready to deal with the possible damage caused by them for our survival. Our awareness of such serious risks could improve our weakness in risk management, and national resilience must be built upon such an awareness.

JS: It is certainly true that we have many natural disasters in Japan such as earthquakes, tsunami and typhoons. Would a terrorist attack be considered one of the risks to be covered by a national resilience program?

Fujii: Certainly. A terrorist attack, pandemics or global economic risks due to globalization or some other global risks are all to be covered by the concept of national resilience. Any risk that could threaten the survival of the nation must be covered by it. Among such risks, the Japanese government is now paying particular attention to natural disasters. While the Ministry of Defense is in charge of risk management for national security and the Office for Pandemic Influenza and New Infectious Diseases Preparedness and Response is in charge of risk management for pandemics, we at the National Resilience Promotion Office are principally dealing with the risks of natural disasters. But we need to be always in collaboration with various risk management offices and departments, as national resilience covers all risks in general.

JS: In order to enhance awareness of risk among people in Japan, we would have to think about including risk communication in the education system. What specific policies for this are you particularly considering?

Fujii: Since last September when Ms. Eriko Yamatani was inaugurated as minister of disaster management, she has been engaged in promoting knowledge of disaster mitigation for children at elementary schools, middle schools and high schools. Her ministry is now trying to implement school classes using supplementary texts.

Additionally, we are thinking about promoting a government-led Business Continuity Plan (BCP) for risk communication with the private sector. This is to be utilized for the benefit of municipal or local governments or government ministries, as well as for business interests. We are also engaged in producing a publication to inform the general adult population about what kind of risks exist around us.

Furthermore, as part of our software promotion policy for disaster mitigation we are encouraging the private sector to make a



significant contribution to our national resilience, by producing an insurance product, for example, or disaster-proof goods, or promoting private investment in infrastructure such as railways, electric power generation facilities or factories as an extension of their own BCP. Private businesses could also let local residents use part of their own property as a temporary evacuation shelter in the case of an emergency.

These things would be important social contributions. We will make a list of such possible contributions and recommend all corporate entities do something to contribute to national resilience.

Restoration of Tohoku as a Criterion

JS: Do you have any plan to promote the rebirth of Tohoku to the world, while you are implementing various measures to build resilience in the region?

Fujii: Yes. The third UN International Disaster Mitigation Conference in Sendai in March 2015 was aimed at doing this. From the standpoint of building national resilience, a critical point is not only to strengthen disaster mitigation policies but also to minimize the damage caused by hazards and achieve restoration as quickly as possible. Restoration is only a half the story of national resilience. If our country is more resilient, the restoration of Tohoku will be quickly promoted. In other words, you can see how resilient Japan will be by assessing the quality of reconstruction in Tohoku.

Another point is that we consider “super restoration” to be an important concept in talking about Tohoku. This means each time damage occurs to a region, that region will get stronger. We are truly eager to achieve such “super restoration” in Tohoku. A system to achieve “super restoration” would be the most resilient one.

International Expansion of National Resilience

JS: Besides the international conference in Sendai, we see a global expansion of interest in national resilience, as seen in the publication of the OECD's recommendations on national resilience or the participation of the Economic Research Institute for ASEAN and East Asia (ERIA) in the Sendai forum. What do you think about this international trend?

Fujii: Many developed nations such as the United States, European Union members and New Zealand have already started policies to pursue national resilience. However, there is something new about the Japanese process of building such resilience. The process consists of three steps: recognizing the risk and assuming the worst-case scenario as the first stage, considering ways to avoid the risk as the second, and implementing specific measures to do it each year as the third. We assume 45 different situations in advance and adopt a formulaic approach to boost national resilience. This technical formula is unique to Japan and its innovativeness could result in advancing contributions to global resilience.

JS: So Japan has already made a good contribution to worldwide disaster mitigation. I believe that without international cooperation in disaster mitigation, we would achieve much less.

Fujii: We have been discussing since last year the need to think about possible US-Japan collaboration in achieving Asia-wide disaster relief. We may have only one large earthquake in Japan every decade or two decades, but from an Asia-wide perspective there will be one every several years. It would be inefficient if each nation had its own particular way of responding to such a crisis. Instead, if we can share the means to support each other in the event of large earthquakes among the Asia-Pacific nations, it would be much more effective. We could significantly reduce each nation's costs in disaster relief and management through collaboration. In particular, we argue that US-Japan cooperation in this field would be necessary to achieve best practices in the Asia-Pacific region.

The “Hardware Perspective”

JS: Public investment to strengthen disaster relief facilities — that is, the “hardware” perspective of disaster mitigation — is as important as the software issue. Do you think that increased public investment would have a positive impact on the economy overall?

Fujii: Yes. I believe there are three routes to great economic impacts. The first is that we could minimize possible damage to the economy from a disaster by investment in disaster relief facilities. The saved

damage would be interpreted as a positive impact.

The second is the so-called multiplier effect which is the expansionary impact of public investment upon domestic demand. I think today a 10 billion yen increase in public investment would lead to a 20 billion yen increase in GDP.

The third is that we could gain benefits from the new facility stock added by such public investment even in normal circumstances. For example, we have concerns that the Tokaido Super Express railway line could be destroyed by a possible Nankai Trough earthquake. In order to be well prepared for this, we are planning to complete the Hokuriku Super Express and Central Linear Super Express lines soon. With them, the super express between Tokyo and Osaka would be a redundant network. This would be the most orthodox way to achieve redundancy in order to raise the level of resilience. With those new super express railways, accessibility to the regions surrounding them will be raised and thus local traffic will increase and domestic demand expand as well, which will lead to economic growth in those regions.

JS: Does this mean a national resilience initiative will also revitalize our local economies?

Fujii: Yes. A national resilience policy is aimed at strengthening not only Tokyo but also all local communities. With the three positive impacts of hardware investment in this program, the growth of local economies would be greatly encouraged. Prime Minister Shinzo Abe himself shares this view and our administration is now discussing how to achieve a synergy effect between a national resilience policy and revitalization of local economies.

JS: As we can expect a natural increase in income tax revenue from economic growth, we should not worry about an expansion of the fiscal deficit due to an increase in public investment?

Fujii: No, I do not think we should. I believe that deflation is the principal cause of our fiscal deficit. We should find the best policies to get out of deflation in this regard. The best way would be to promote all the three arrows of “Abenomics” at full speed and strength. We should continue to promote public investment in order to get our economy out of deflation. But of course, we should be as careful as possible about spending wisely in promoting public investment. Collaboration between a national resilience policy and revitalization of local economies would constitute such wise spending, since we could then achieve two policy targets with a single stone.

Effect on Supply Side of Economy

JS: Can we expect a large impact from this on the supply side of the economy as well as on the demand side? In spite of depopulation, such a positive impact on the supply side could lead to raising growth

potential in Japan, estimated today at around 0.5-0.8%, much lower than in the US at around 2%.

Fujii: Yes, of course. Supply growth would be initiated by demand growth. When the economy is in an inflationary state, the whole private sector will be given an incentive to increase supply and thus the growth potential will be raised. So demand growth is necessary in this regard as well.

What would create demand? That would be human desire. Such desire would incorporate not only the desire to live in peace but also the desire to survive big earthquakes. With a proper sense of crisis, the nation could discover the potential desire for national resilience and as such a desire expands, demand will grow and as a result of it, supply will grow as well.

JS: Concerning the cultural background of risk management, Westerners with the cultural background of hunters tend to pursue the best outcome by minimizing risks and not avoiding them, since they know they cannot win the game without managing risks. But Japanese, with a different cultural background from them, would tend to avoid the risks by giving up the game. How can we change this?

Fujii: Since Japan has been suffering for a long time from damage caused by many kinds of uncontrollable natural disasters, we Japanese may not have been well motivated to manage risks. However, we are now living in the age of modern science that can even manage the effects of natural disasters to some extent. So we should remain confident in our capacity to manage risks.

JS: Could such a need for risk management create new business opportunities to help activate the economy?

Fujii: Yes. For example, robots for disaster mitigation are becoming popular today in the business world. As long as we have a market for such new products, innovation will follow. New technology can be applied to other areas than robots, so we can enhance our technology and production capacity. We should aim to create a virtuous cycle of new products, new technology and economic growth.

JS: While existing industries in Japan like home electronics are losing competitiveness, new industries like robots are promising businesses. Do you think other new industries will emerge soon?

Fujii: Yes, I think it is possible. Having a sense of crisis would lead to a growing market, since it would make us think about the future in five or 10 years from now rather than just tomorrow. When you have a long-term vision for your business, you have to invest money for



the future. As such new investment increases, new business opportunities will be born and further innovation encouraged.

JS: National resilience is a long-term project, but people may be more interested in how safe Japan will be in 2020 when the Olympics will be held in Tokyo.

Fujii: Tokyo is expected to promote a resilience project as well towards 2020, as it has promised the public. In particular, we have to be prepared for the risk of a big earthquake in the metropolitan area. Of course, not only in Tokyo but in Japan overall we are promoting a national resilience project towards the 2020 Olympics. Last year we fixed a budget of around 3.80 trillion yen for that purpose.

JS: Finally, what do you think would be ideal for the future of the Japanese economy?

Fujii: First of all, we should bring deflation to an end. The Japanese economy should achieve steady growth in accordance with government estimates. Our nominal GDP must grow at 3-4% on average towards 2020, the year of the Tokyo Olympics, and hit around 60 trillion yen annually in nominal terms. Our GDP per capita is now less than its peak figure by 500,000 yen. This needs to be restored to the peak level through increased demand, as this will create new businesses and new goods and innovation. Innovation, including that related to disaster mitigation, would make a positive and significant contribution to the world economy. This could happen regardless of the depopulation that Japan has been seeing in recent years. This is my ideal vision of the Japanese economy. **JS**

Written with the cooperation of Naoko Sakai who works for the NPO Yokohama Community Design Lab and is also a Hama-link Project leader and writer for the Yokohama Keizai Shimbun.