[SE2-GB-1] Japan's Nuclear Program after Fukushima

Yuma Kuwata
Keio University

Full Summary

Ms. Ahn Chak-hee, Deputy General Manager of jTBC, did the opening remark for "Japan's Nuclear Program After Fukushima" discussion panel. She first showed her condolences to the victims of March 11th earthquake and hoped everything would go back to normal as soon as possible for the people who are still suffering. Nuclear accident in Fukushima Daiichi Nuclear Power Plant gave grave impact on Nuclear power policy all over the world. Ms. Ahn Chak-hee asked each panelist, in their view, what the lesson that we have learned from this disaster were. Each panelist gave different and unique answers according to their field of study. Dr. Shuichi Iwata, professor of University of Tokyo, said that the nuclear disaster taught us the vital importance of organizing massive amount of data that we have collected from this incident for the people of next generation to use. Dr. Furukawa Katsu from Research Institute of Science and Technology for Society pointed out, lesson learned from this is that the manuals that we have created for emergency situation only looked good on paper, but flawed in reality. Dr. Hwang Il Soon, professor of Seoul National University, focused on the lessons which the developing countries such as Republic of Korea learned from the nuclear accident. Dr. Suzuki Tatsujiro, vice chairman of Japan Atomic Energy Commission, gave his analysis on the short term and long term challenges that Japan will face.

Dr. Iwata first started his speech by showing his gratitude toward every country and organization that gave support to Japan in the time of crisis. He claimed that disaster like this should never be repeated again; and if we were to gain sustainability through nuclear energy, we must organize the massive amount of data that we have collected from this disaster, especially the accident in the Fukushima nuclear power plant, and share them with the world. Dr. Iwata suggested that it is also important to classify the data collected to 6 categories. Those categories are: observation science, experimental science, theoretical science, data science, societal science, and commune science.

He also pointed out several reasons why we were not able to contain the nuclear disaster. One of those reasons was nuclear power plant's lack of capability to cope with several threats simultaneously. Fukushima nuclear power plant was able to stop the nuclear reaction inside the reactor right after the earthquake, but it was not able to cope with simultaneous threats such as the tsunami, power failure and ventilation malfunction. This also shows our incapability to think outside the box and our tendency to focus on one theory and one situation rather than looking at multiple theory and multiple situations. Another reason why we were not able to contain the damage of nuclear disaster was our incapability to analyze and process the vast amount of information and data. The amount of data and varieties of data coming in to the command center was too enormous for the command center to go through it all. Dr. Iwata hoped all the data gathered will be organized, be shared, and used by everyone and the generations to come.

Dr. Furukawa first stated that the earthquake that Japan suffered on March 11th was a "black swan". Earthquake of this magnitude comes only once in 1,200 years. This means that Tokyo Energy Power Company is being criticized for not preparing for something that could happen once in 1,200 years. The most important lesson that we have learned from this nuclear power plant disaster, Dr. Furukawa claimed, is that the manuals that we have created and prepared only looked good on paper and not on real occasions.

The local government, national government and Tokyo Energy Power Company have upgraded their emergency manual each year but all the training and the risk assessment have been done assuming the disaster size of Three Mile Island. Furthermore, the manual was not able to respond to multiple reactor problems, and all the planned countermeasures were based on the premise that power plant won't lose power. Also, the manual said to make a command center near the disaster site and the information released to public will be unified to prevent public panic, but Prime Minister Kan decided to override the manual and made the command center in Tokyo, and both the government and Tokyo Energy Power Company gave out separate press conference which made the public panic. So not only was the manual flawed because it underestimated the size of the disaster and fail to react to unexpected situations, but also because there were people who didn't follow the manual properly. The situation would have been contained better if we were able to dispatch Japan Self Defense Force and Unmanned Aerial Vehicle sooner, but since they were not incorporated into the manual, their dispatch were significantly slowed.

Dr. Iwata suggested that we must cooperate internationally and share what we have learned from this nuclear power plant disaster. He presented his idea of creating a new international organization which specialized in nuclear power safety regulation to overlook world's nuclear power plant comprehensively.

Dr. Hwang Il Soon spoke from the view of Republic of Korea and other developing nations that already has nuclear power plant or planning to construct one. Republic of Korea is giving close attention to the nuclear accident in Fukushima not only because Republic of Korea is geographically close to Japan but because Republic of Korea has similar nuclear energy policy to Japan. Republic of Korea, like Japan, has the issue of energy shortage, heavy reliance on nuclear power, and government is very supportive of nuclear power industry. Not only is the government policy similar but also the government characteristics such as bureaucracy's strong power and government's lack of clarity are similar too. Dr. Soon said the Korean people are concerned because the nuclear accident like the one in Japan can very well happen in their country as well. Japan and Republic of Korea chose to rely on nuclear power for same reason, but the incident of Fukushima proved the grave risk of over confidence on technology. Many countries including the Republic of Korea look up to Japan, Dr. Soon believes that Japan should take the lead to fix this problem.

There are many lessons that Republic of Korea learned from Japan's nuclear accident. Out of various lessons, Dr. Soon pointed out five. Those lessons are: government must be open and clear with its information, government must be humble, we must use this event to revitalize the nuclear safety and morality in nuclear industry, we must share the lessons learned with other developing countries, and NGO and multiple countries should cooperate and must meet in timely basis to remind ourselves of this incident.

Dr. Suzuki Tatsujiro, the vice chairman of Cabinet Office's Atomic Energy Commission, briefly explained the present situation of the Fukushima nuclear power plant, and challenges that Japan will be expecting in the short term and long term. He first stated that the incident of Fukushima nuclear power plant is not completely over and the containment process still needs highest attention.

Dr. Suzuki claimed that the most significant short term challenge that Japan will face is going to be the power shortage from shut down of multiple nuclear power plants all across Japan. This shut down of nuclear power plants is due to emergency inspection and maintenance after Fukushima nuclear power plant accident. 35 nuclear power plants have been shut down recently, and only 19 out of 54 power plants is in operation. If the public and the local government does not accept the safety standard of current power plants, all the nuclear power plants will be shut down by next year. That's 30% of all electricity generation gone from the grid. The government is currently finding a way to insure the safety of present nuclear power plant that would satisfy over cautious public.

The long term challenge that Japan will face will be the change of energy security policy. Kan administration put nuclear power as one of the key industry for the growth of Japan before

the earthquake; the administration even planned to increase Japan's dependency on nuclear power. But with the disaster of March 11th, the expansion plan of nuclear power plant is back to square one and Kan administration made a dramatic change in its energy security policy. Prime Minister Kan presented his idea of three new pillars for energy: High nuclear safety standard, renewable energy, and energy/fuel efficient society. The drastic change of government policy will sure to give great impact to Japan's economy in the future.

There are many lessons to be learned from the disaster of Fukushima nuclear power plant. Every panelist presented different analysis of the lessons learned from Fukushima disaster, but all the panelists agreed that Japan must share what they have learned both with public and the world to regain the trust of nuclear power and for upgrading the safety of their nuclear power plants.