Emergency Management in Japan: Prospects for U.S.-Japan Cooperation
IIGR and Stimson Center Joint Seminar
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TRANSCRIPT

Panelists:
Masako Mori (Keynote Speaker)
W. Craig Fugate
Ellis M. Stanley
Maki Fukami (Moderator)

Yuki Tatsumi: I think people may be trickling in later on, but let me – let us get started. Good afternoon, everyone. Thank you for coming to Stimson and I hope everyone in this room enjoyed the three day weekend, for those of us who live in the U.S. So, as we all know, winter Olympics in Pyeongchang is starting in a few weeks. And after the Olympics in Pyeongchang, Tokyo will then be up next, hosting the summer Olympics in the year 2020. As we all know, Olympics brings all of us great excitement, but also, together with that, it also brings tremendous concerns for national security. Because, for the short period of time, for those cities and countries that host this great event, they get an influx of a great number of athletes, coaches, their families, spectators, and tourists who try to be in that country during the Olympics to feel the excitement. They all are coming in, in a very short period of time and in such a concentrated manner that triggers concerns for a variety of the security risks. And that is why the host nations and cities that host these great events need to be prepared for a wide range of disasters. And it just makes sense that countries that have hosted a number of these great events, big events, and the countries that have a rich experience in handling a wide variety of disasters and hazards, both man-made and natural, to try to learn lessons learned from each other, and perhaps having a conversation about how they can cooperate to be more effectively prepared for those – all kinds of what-ifs that can happen in such a great event. And that is the topic that we will be spending the next ninety minutes exploring. Today's seminar is – consists of two parts. First we will hear from Honorable Masako Mori, the member of the House of Councillors in Japan, who actually just came from the Philippines this morning, and – but the way that she's speaking, you can't really tell. She's really refreshed and energized. And then following her remarks, we will quickly transition into a panel discussion amongst Honorable Mori and Mr. Ellis Stanley and Honorable Craig Fugate, moderated by Dr. Maki Fukami from the Institute of International – International Institute for Global Resilience. So I'm sure you will have many questions after Mori-*sensei*'s remarks, but I do ask that please hold those questions, as we will have time for questions and answer toward the end of the panel discussion that follows. And before we start, before I introduce Mori-*sensei*, one administrative announcement: many of you have a simultaneous translation equipment right at your hand. Those equipment are very expensive. We are renting them. We don't want to be penalized for any lost equipment, so after the event, please do return your headset to the designated area on the table on the left side – right side of this room as you exit. So without further ado, let me quickly introduce Mori-*sensei*. Her entire – full bio is with you in the program that you all have, so I don't go into too much of the detail, but I would just – would like to stress that she is – Mori-*sensei* is a lawyer by training, but being from Fukushima Prefecture herself, she has worked tirelessly for the reconstruction of the Prefecture following the

nuclear accident in – back in 2011 in March, at the time of the triple disaster that has struck Japan. In her keynote, she will talk about the lesson the Japanese government has learned from this tragic accident and also introduce to us the new initiatives that the Japanese government is contemplating that leverages the state-of-the-art technology to more effectively respond to future such accidents. So following the keynote from her, we will, like I said, transition into a panel discussion, but I will reintroduce the panel to you after her remarks. So without further ado, Mori-*sensei*.

Masako Mori: Good afternoon, ladies and gentlemen. My name is Masako Mori. I'm honored to have this opportunity to speak to you today. I was born in, and am a member of Japan's Upper House representing the constituency of, Fukushima. As you know, it is the area severely affected by the earthquake, tsunami, and nuclear accident in 2011. I want to express a sincere appreciation – appreciation for the support and help from the American people, including Operation Tomodachi. Fukushima has been making a steady comeback thanks to you. After that, Japan has had major earthquake in Kumamoto. We have come a long way with disaster preparedness and crisis management, but we need to go farther. We need to change our approach from one of dealing with crisis as they occur to one that mainstreams preparedness and makes it part of our daily lives.

[Referring to a picture in the slideshow]

Mori: In this picture, I was cleanup radioactive materials at a schoolground in Fukushima. And I inspected a nuclear plant after the accident with protective clothing. After a minister's term, I work on a number of major policy areas for the Liberal Democratic Party. First, I chaired a committee on anti-terrorism and security. I prepared the G-8 Summit security and now prepare the Olympics in 2020. Second, I lead the environmental committee. In this capacity, I work on policies that deal with cleanup efforts related to the nuclear accident in Fukushima. In 2015, the Third UN World Conference on Disaster Risk Reduction in Sendai – a record number of people joined the conference to study from the Tohoku disaster.

[*Translated*] Well, I think I'll show you the video of the nuclear site here.

[Mori shows a video by TEPCO discussing the Fukushima accident and facility decommissioning process]

Video Narrator: A severe accident occurred at the Fukushima Daiichi Nuclear Power Station on March 11, 2011. Thanks to the support of numerous partners, we have been making progress toward completion of its decommissioning. We would like to show you what the power station looks like now, while looking back to the time of the accident. Units One through Three were in operation at the time of the accident. They lost all power and the reactors could not be cooled. As a result, the fuel melted and a large amount of hydrogen gas was generated. This led to hydrogen explosions in Units One, Three, as well as Four, which was connected to Unit Three. Currently, all units have been brought under control and are being stably cooled. This is the Unit One building at the time of the accident. At Unit One, all panels of the cover over the reactor building which were constructed to prevent the dispersion of radioactive materials were removed in November 2016. Preparations for fuel removal are underway. At Unit Two, the impact of the

hydrogen explosion forced the upper side panel of the reactor building to open, and as a result the hydrogen was released outside. This panel is now closed to prevent dispersal of radioactive materials. In addition, preparation for fuel removal is underway by dismantling the building top. At Unit Three, the largest piece of rubble in the spent fuel pool was removed for fuel removal. Now, preparation is underway for installation of the building cover and fuel handling machine. At Unit Four, all fuel was removed from the spent fuel poo. With completion, safety was ensured and potential risks were eliminated. At Units One through Three, investigations inside the PCVs are being conducted using robots for fuel debris removal, which will be an important process in the decommissioning work. The seaside area was affected the most by the tsunami and hydrogen explosions, and there was rubble scattered everywhere. For the decommissioning work, highly radioactive rubble was removed, and the radiation level was lowered as a result. The rubble is being gathered and stored on the premises. Most of the ground surfaces on the premises were paved. This paving prevents rainwater from penetrating into the ground, which helps to lower the radiation levels. Water treatment and storage measures are progressing. Treatment of highly contaminated water stored in tanks was carried out by multiple approaches to extract radioactive materials. With the exception of some residual water, it has been completed. In the tank area, bolted-type tanks were used at the time of the accident. Now they are being replaced by more reliable welded-type tanks to prevent leakage. The bolted tanks are being dismantled one by one, and now welded-type tanks are being constructed. With the measures and efforts made so far, the work environment in the power station has significantly improved. At the time of the accident, workers had to wear protective clothing and full face masks in every area of the power station. Now as you can see, the areas where work can be done in a regular uniform and simple mask have been expanded. When workers need to work in high radiation areas around the reactor and turbine buildings, they first go to a separate changing room in their regular uniforms, and then get changed into protective clothing. Measures for handling ground water are also making progress. Construction of the seaside impermeable wall was completed to stop groundwater from flowing into the ocean. It was constructed by driving steel pipe sheet piles deep into the bedrock across the width of about 800 meters in the seaside areas of Units One through Four. With this, the port area environment has become much safer. In October 2016, freezing of the seaside part of the landside impermeable wall was completed. Areas around the reactor and turbine buildings are surrounded with this frozen soil wall, which prevents groundwater from flowing into those buildings. Currently, freezing of the landside has also started, and its impermeability will be continuously monitored. The work environment has significantly improved. A large rest house was constructed where workers can take a break and have meetings in an air-conditioned, comfortable environment. They can also eat hot meals which are cooked at a meal center in the local town of Okuma using food grown and raised in Fukushima. A convenience store was also opened. In the entrance control building next to it, an emergency care facility is in place in case of accidents. The seismic isolation building, which was in a state of extreme confusion at the time of the accident, has become a place where workers can concentrate on their duties. A new administration building was constructed to replace the original building which became unusable due to explosions. More than a thousand employees are engaged in decommissioning work there. It also allows TEPCO’s employees to be close to workers from partner companies in the adjacent office. This facilitates onsite communication. Decommissioning will proceed through closer cooperation. This is J-Village, which was frontline operation base at the time of the accident. Here, all the workers changed into protective clothing before going inside the site. Now its role is complete, and it will again become a national training center for soccer in 2018. We’ll continue

to work safely and steadily on the decommissioning work, which is expected to take 30 or 40 years in collaboration with multiple domestic and international partners.

Mori: [*Translated*] How was that? I am a Japanese senator living in the nearest location to the disaster site, and I go to observe it regularly, as I believe it is my responsibility as a senator in the district. To successfully report the dismantling processes of the nuclear reactors, nuclear containment, and reactor decommissioning, I think it is critical to reduce the risk level at every stage of emergency management. Therefore, I am traveling around the world to learn from comparison and consultation. I even visited Three Mile Island and go to Chernobyl every year. With the support of IAEM, I also went to the Hanford Site last year. At this site, an underground wall was made with a glass material to prevent a river from being contaminated by harmful substances coming out from the remnants of nuclear production in the past. While this technology is similar to that of Fukushima, Fukushima uses an ice wall instead of a glass wall to enclose the nuclear site. Actually, I visited the site and inspected it just before my departure for this lecture, last Friday, to provide the most recent and helpful information. We will meet with the secretary of the NRC tomorrow, and NRC and DOE among other American institutions pointed out the highest risk areas – and as you saw in the video just now, among Units One, Two, Three, and Four, number Four's spent fuel has been successfully removed. Currently, we are constructing a scaffold for construction for removing spent fuel from Unit Three. To remove the fuel debris, many robots have been used, including Manbo, a robot that swam underwater and just succeeded in taking pictures of what seem to be fuel debris. This year, we succeeded in taking pictures of the inside of the nuclear reactor by using a camera on a stick, and now we're narrowing down methods to remove fuel debris from the reactor next year. The world's first debris removal will require state-of-the-art technology bringing together the world's expertise. Prime Minister Abe presented a policy to invest a large amount of the budget in the coastal areas of Fukushima Prefecture that suffered the most damage from the tsunami and nuclear accident. This is the concept of "Innovation Coast." It was made law and has become a national project. We have been creating several international and national research institutes and organizations related to developing decommissioning technologies, robots, artificial intelligence, automatic driving, etc., as a center of research and technology development. Also, the government has been assisting and supporting Japanese companies entering this field with reasonable subsidies. Numerous companies have responded to this request, and land is even running out, as Iwaki City is building a new industrial park. I would like to introduce some examples of what I have said. This is a robot test field, the first part of the Innovation Coast policy. We are in the middle of building the world's largest robot test field. Among these, a part is a drone testing field. In the world's first autonomous drone flight, a drone delivered warm soup to a surfer, flying twelve kilometers, the longest flight time for a drone. We think people, disaster victims, can be efficient in some areas of a disaster. Again, we are building disaster training facilities. That's what this is. Just now, it's a small part in the robot test field. To simulate the impact on the population of tsunamis and flooding of dams and so on, unlike training at a mere pool, I think we can make the facilities generate a flow with a strong power similar to a real disaster, to facilitate training firefighters and such in locating and rescuing victims underwater. The risk is never zero. We have no choice but to choose a method with the least level of risk. In order to reduce risk, we will strive for disaster prevention policies. In the unlikely event that a disaster occurs, we will minimize damage and improve the situation speedily. To achieve this, we need to learn from the past, inspect diverse emergencies, and repeat our trainings over and over again. The government

is not a panacea, and cooperation and understanding of private organizations, companies, and citizens are critical. In a town called Hirono, the closest place to the nuclear plant, we plan to start evacuation drills to improve crisis management abilities of the children. Next is the International Decommissioning Research Center, including researchers from America. This center creates a scene of melting nuclear debris after a disaster, facilitating disaster prevention and support the work of decommissioning nuclear reactors in a simulation in which the reactor is realistically falling apart. IAEA and other nuclear institutions in various countries are collaborating. Different from this center is a Mock-up Center. This is useful for training workers and developing robots by reconstructing the full-sized interior of a nuclear reactor with a virtual reality system. We had the world's first compound disasters: tsunami, earthquake, and nuclear accident. A total of 18,000 people are missing along with the dead. Even when we heard the voices calling for help, we had to evacuate from the nuclear accident. We experienced ultimate grief – evacuating while leaving behind a mother who could not go, carrying the bodies of our children to the morgue. But we will move forward. To not let these sacrifices be in vain, we are burning with energy to create new things in this land of sorrow. Because it comes from people who overcame the ultimate grief, it is explosive energy. Further, we do not want any other countries in the world to taste the same grief and sadness , so I am hoping to deliver our experiences around the world.

[*In English*] Finally, I want to talk to you – the citizens in Fukushima, including me, learned a great deal from the disaster. We learned that anything could happen, the unthinkable could happen. We learned that tomorrow can be completely different from today. We learned the door can be shut any time, and the future we envisioned would never come. But most important of all, however, we learned we could survive and overcome any disaster. Thank you very much.

Tatsumi: Mori-*sensei*, thank you so much for this enlightening remarks and the lessons learned from what Japan is learning from Fukushima's disaster. We will now transition very quickly into the panel discussion portion of this program. Discussion will be moderated by Dr. Maki Fukami, who sits closest to me. She is the founder, president, and CEO of the International Institute for Global – Institute for International Global Resilience. Since she established this institution she has led a very innovative program that tries to connect the emergency managers and first responders in Japan with their counterparts in the U.S. and across the globe. She has led the training program for Japan Coast Guard Academy, amongst other places. And she will be moderating the three-people panel. And you have already heard from Mori-*sensei*. I would – for the purpose of this panel, I would be remiss if I don't add that she actually is one of the first people who completed the – who received the certificate after completing the executive training program that's been offered by the International Association of Emergency Managers. And joining her is two gentlemen. Between the two of them has, literally speaking, decades of experience, of rich experience, in responding to all kinds of national disasters – both, and preparing for such scenarios. Sitting next to Maki is the Honorable Craig Fugate. He is best known as the Administrator of the Federal Emergency Management Agency between 2009 through 2017, and who just retired from the FEMA Administrator position at the change of the administration. To the far right of the podium is Mr. Ellis Stanley. He also has a wealth of experience in being responsible for planning for the national event, including the Democratic National Conventions and the Olympics – the Olympic Games in Atlanta. So without further ado, I'll hand over the moderator job to Maki.

Maki Fukami: Thank you, thank you very much, Yuki-*san*, and the Stimson Center for providing such a great opportunity. Originally, emergency management has been considered as a domestic issue, and it's not so international area except for the humanitarian assistance. However, even in a developed country, government fails when a large and complex disaster occurred. As Senator Mori reported Japanese lessons from March 2011, that's why it is getting more critical to prepare for the case when government fails and to procure resources even from outside of the country. Craig, would you share your thought regarding this concern?

W. Craig Fugate: Yeah. In the United States, we look at disasters as always a local response, going to the next level of government, going to the states, going to the federal government, and that – through that response, we can manage most of our disasters. Part of that is effective mutual aid between states. After Hurricane Andrew, it was found that there were quite a bit of resources that weren't effectively deployed or there wasn't a lot of coordination. So the United States had developed the Emergency Management Assistance Compact, a mutual aid agreement between states. It doesn't require the federal government to intervene; it's done between states. And it means that a lot of resources that are available at the local and state level are made available in national emergencies. This was effectively used this hurricane season, in both Hurricanes Harvey and Irma, as well as Maria in the V.I. [Virgin Islands] and Puerto Rico. However, we began looking at disasters in light of the experiences of 3/11 in Japan that – when will the United States run out of resources? We began looking at natural hazards, one of which was the Cascadia subductions off the northwest coast of the U.S. To give you an example, while the movies like to make the San Andreas fault our biggest earthquake risk, the largest potential impact earthquake in the United States is actually Cascadia. There's actually more energy, more potential there. And because it's a subduction zone, it would not only be an earthquake, it would also be a near-shore tsunami event. When you looked at that event, when you built an exercise around it, it quickly became apparent we'd run out of search-and-rescue teams. And we began looking at where we would get those teams and how we would get those teams. And I think one of the challenges for both Japan and the U.S. is almost all our international response is based upon humanitarian aid models. And really we see is a greater need internationally is for mutual aid models where it is peer-to-peer support, not – we're having to go in and support a country managing a response, it is – we need resources, we don't need the management, we need resources. And the United States was actually exercising with Cascadia with both New Zealand and Australian urban search-and-rescue teams how you'd actually request and deploy them to the United States, looking at a mutual aid model, not a humanitarian aid model. And I think the experiences of our planning, the experiences of Japan, the experience of other G-20 nations has been the humanitarian aid model does not work in international disaster response between us. And I think that's one of the lessons we've learned in the U.S., is we have got to move towards a mutual aid system that's not based upon – we've had a total failure before help comes. It is – we've identified key resources as we continue to see more disasters, more complexity in disasters, it's increasingly apparent no one nation can ever have all the resources that they're going to need for all the hazards, and being able to share and rapidly deploy resources across international boundaries will be one of the ways that we can mitigate what we continue to see is increasing numbers, frequency, but also the intensity of the disasters.

Fukami: Yeah, I think that international mutual aid is a brilliant idea. And I visited Australia a while ago, and they already advanced, so I believe they are going to be the great resource for the Cascadia. I believe. Another thing that I'm sure your whole-of-community initiative –

Fugate: Yep.

Fukami: – led this whole teamwork in the United States too. I think these American emergency managers know teamwork very well. It's very impressive.

Fugate: Yeah, the thing is, we tend to look at government as the solution in a crisis, and the bigger the disaster the more likely government is not enough nor can it get there fast enough. In the United States, we did what I call government-centric planning. We didn't really incorporate where a lot of the resources were, like in the private sector. And as we saw for 3/11 in Japan, again, much of the community – the country's resources were actually in the private sector, and the impacts that had in being able to coordinate that. So we look at the private sector. We've always looked at our volunteer organizations like Red Cross and Salvation Army and others as key players. But increasingly what came out of FEMA and the idea of whole-of-community is the fastest responder in almost any disaster is a bystander or a neighbor, and we weren't really engaging them. And if you go back to 3/11, you go back to the U.S. disasters, most of the rescues were actually done by family members, bystanders, and neighbors. You've heard the stories about how, you know, tragic decisions had to be made about not being able to save loved ones, but the other reality was those that were saved were often by the person next to them. And the bigger the disaster, the more we have to realize that the public's a resource, not a liability, and reengage the public as part of the solution. It isn't about we're abandoning them, but in too many circumstances, I think we've always looked at a government-based solution and not looked at the fastest response in literally, in most any disaster I've seen, has been a bystander, a neighbor, or a family member that's been willing to act. I think with guidance and training we can actually improve outcomes of disasters.

Fukami: So, now let's talk about Olympics. Tokyo hosted Olympics in 1964 but the environment is totally different from fifty years ago. Our hazard threats in the nature type of disasters are not the same, and the question is whether the community fundamentals catch up those changes enough or not. If not, how can we overcome the vulnerability with our system? U.S. employs all-hazard approach, which enables you to expect unexpected, and eliminates the vulnerabilities as much as you can. Today the vulnerability of our major city are getting more complicated, and I guess the agencies face the boundary challenges under the all-hazard approach. Ellis, you have three Olympics experiences and you know what it is. So do you believe the all-hazard approach, or do you think one system is the best system to deliver Olympics safely?

Ellis M. Stanley: Okay, first of all, Maki, let me thank you and the Stimson Center for having this dialogue. Part of what's going to change the culture of emergency management is having dialogue, establishing relationships amongst different countries, amongst the different organizations, and until that happened, these tools that we use, whether we call them all-hazards, whether we call them ICS, that's not going to make any difference if you haven't made that connection and had those relationships. One of the things that happened when I was in

California, we developed something called the Standardized Emergency Management System – great system, but it didn't come out of people sitting around tables saying we need a system. It came out of a major disaster that actually burned down a senator's house. And out of that came new legislation. Now, I'm not suggesting that for good legislation you burn down your elected representative's house, but the same thing, now you've created a champion. What's happening in Japan is you have another champion with Senator Mori because she was impacted in that area and now she's leading the charge to help change the culture. Now these tools that we use, all-hazards, well, Japan since the 50s have had a lot of disasters, earthquakes, one of the high seismic zones in the world. They've had a lot. Earthquakes don't just shake. You may have gas explosions, you may have tsunamis, you may have nuclear power plants, you may have a lot of things. So your earthquake plan has to take in place those cascading events that's going to result as a matter of that. Your first responder typically doesn't care how that building got down, whether it was blown up by terrorists, whether it was felled by the earthquake, whether it was felled by a typhoon. They need those skillsets to know how to get in there and do urban search-and-rescue and help get those people out, have the requisite equipment that can be used for multiple incidents. So in the planning phases, that's why all-hazard is good. Yes, it would be ridiculous not to have an earthquake plan. It would be ridiculous not to have a fixed nuclear facility plan. It would be ridiculous not to have a typhoon plan. But at the same time we have to recognize that these are tools to get us started to look at the unique elements of those particular plans. Now, when we talk about ICS in the United States – Incident Command System – again, it's a tool. Now the question you ask is should you switch from this to that for the Olympics? My answer, or I suggest to you, that you probably don't have the time to do that now. You got an Olympics that has to be put on in two years. When I was looking at legislation in Japan, I think 2004 was the last significant piece of disaster management legislation I saw. So what I suggest can be done now is look at those plans, make sure those plans are updated, but more importantly, exercise those plans. Can we actually do what we say we can do? Now, don't exercise them the way we do here in the United States. Exercise the plans to the point of failure. You want that exercise to show gaps, not how good you are. You want it to show gaps. You want to find out what's missing, what do I have to go back to Senator Mori and say, "We need more training in this, we need more equipment like this, we need this, we need that." We need to plug in the private sector. We need to, as she was just sharing with us, we need to tap in research folks to come to the table to help us be better prepared. So it's not an either-or. It's how do we take the systems we have in place in two years and establish relationships. I'm sure you all have some folks in South Korea for the Winter Games. I'm hoping you will invite folks from LA, has the 2028 games, I hope they can come out and see what's taking place. But that relationship as far as tools is right now use what you have that's been successful and exercise it, and if you find those gaps, now you do have time to complete that process of getting people up to speed and making sure you've closed the gaps. And partner, bring in other folks. I like the idea that you started off with, Maki, about how can we be better international collaborators. Let's start that process and see if you can't do that.

Fukami: I understand the time to develop training exercises is critical, and we don't have enough time to develop this for the Tokyo Olympics right at this moment, as I understand it. But like U.S. history shows, even at the informal level, you know, then ICS will be helpful.

Stanley: Yes, ICS, we use it here in the United States simply because it works.

Fukami: Yeah.

Stanley: It's a system whereby we can have a process for responding to disaster, and as we bring in additional resources, whether those resources are other services or whether it's private sector or even politicians coming out to the scene, we have a mechanism and a process, a tool that's worked effectively here in the United States for a long time.

Fukami: Yeah, so I know some communities in Japan try ICS already, and I would like to say: Don't give up! So even partial application would be helpful and useful.

Stanley: Right, and I'm – I do think there's elements that can be utilized. You have a very strong top-down system in Japan. The United States – bottom-up, top-down; bottom-up, top-down, top-down, bottom-up – because as Administrator Fugate – former Administrator Fugate said, you all – disasters are local here. Disasters happen to the people in the streets, and then the system starts working and through Emergency Management Assistance Compact, a great example to do international assistance compact, you start pulling in those things that you need to respond effectively. And ICS is that tool that can make sure that you don't create gaps, and, as importantly, that you don't create duplication.

Fukami: So, I would like to discuss about a new, urgent – no, emerging new type of risk now. In a major city there are many foreign people ready. So nowadays, tourists should care about emergency management, I think. So the other day, a famous American Youtuber harassed the people and got in trouble in Tokyo. Then – he did it as his job, and he's making money by posting crazy video like that, but the real problem is not him. The problem is people like him are coming to Tokyo Olympics to capture the standout moment, and everywhere, multiple locations, and of course the terrorism can be blended in those people and even the harassment itself can be a hazard. So, Craig, do you think all-hazard emergency management or incident command system will be helpful for this type of crowd control? If you could share with us any good idea to respond to this type of dangerous but not illegal behavior.

Fugate: That's always a challenge. We use our – we call it the National Incident Management System, which incident command is part of that – we've managed presidential inaugurations, we managed the Pope's visit, we manage large sporting events, Olympics, the Super Bowl. And it's always the balance between providing security and safety but also we have also almost an equal if not higher responsibility to provide for peaceful demonstration. Freedom of speech is one of our Constitutionally-protected rights. So it's that balance between maintaining security and safety, but allowing peaceful demonstration. And yes, people will exploit that, and what is easy to secure sometimes does not provide for freedom of speech. And I think that's one of the challenges that we'll have in the Olympics. And think back to the last Olympics: we didn't have personal drones, you didn't have the social media phenomenon, and you did not have the world environment that we are seeing now. Terrorism has been around, but it has changed dramatically since the last Olympics and the types of threats continue. And I think, as Ellis was pointing out, the incident command system – we throw that out like everybody should know what it means, but it's really something that a lot of people if you talk about what it does, they understand. It's management by objectives. Everybody knows what the mission is. They know what their role in

that is. And there's a feedback loop. And I think that's going to be the key thing to manage for multiple venues across a very population, with lots of tourists and agitators, using something where all the different agencies and ministries, each level of government, the Olympic Committee and all the venues, they know what the mission is. They know what the focus will be on security and safety. They know they're going to have demonstrations, they know they're going to have people that will be seeking this out, and they have the communication and feedback loops to manage that. It doesn't mean things don't go wrong. But it means that you have a system to rapidly adapt and respond to that changing situation. I think Ellis would tell you through his three Olympics – he actually had the terrorist attack at the Atlanta Olympics in 1996. And as much as you plan for it, it's hard to say you always stopped it. But having an effective response was the key, and it was going back to – everybody knew what the mission was. Everybody knew what their roles and responsibilities were. There was a communication system. And when it happened, the response wasn't just created. It was built upon exercises and training. And I think that is how you have to approach this as we continue to see evolving social media actors, as we continue to see the ability now to use even increasingly high tech with high consequence events, the use of drones. All of these will give the security folks major challenges, but at the same time, we also have to protect our freedoms and not give up our freedoms in the name of total security. That's always the challenge. You can be totally secure and nobody enjoys the Olympics, or we have security that's adapted to our threats but continues to allow for the primary mission – here is a safe Olympics, not just a safe environment.

Stanley: If I could add one point, Craig made a point earlier about public-private partnerships, and when we usually throw that word around we think everybody understands what it means, but public-private partnership in action is when you have an Olympics or you're having a convention, you have tapped into every building in your city and their security force becomes your security force, their cameras become your cameras. And you have to do this upfront. You don't just go in and take it over. You bring them in, you sit down, you tell them what the objectives are, and this is how we can best support one another. So instead of having ten thousand cops now, you've got ninety thousand security folks because you've got the private sector that's feeding into that process. So that's an ongoing working relationship to get the public and the private part of that process of planning and preparing.

Fukami: So, at the Pope's visit in 2015, so you applied this Special Events Contingency Planning for Public Safety Agency. Could you tell us about it?

Fugate: Yeah, one of the things we did at FEMA was we were seeing much of almost – we would start from scratch when we started planning for the events. We actually developed a course – it's an online, you can go to fema.gov and look up – it's an online course to actually teach local officials and public safety how to do mass gatherings and large events. Many characteristics – and again, a lot of this was lessons we learned as Ellis went through these Olympics, as we've gone through numerous Super Bowls – and it is again taking those lessons learned to prepare for the obvious security issues but also issues like crowd control. Bathrooms: you know, when you bring large numbers of people together, you got to have bathrooms. You have to have toilets. Those kind of planning scenarios that you just don't think about, of all the things you need to do – how to create safe areas if you're going to have demonstrations, how do you set that up in a way that allows the peaceful demonstrations yet doesn't compromise your

security. But just numerous lessons – that FEMA created the course and it was again to take these lessons learned and provide them to public safety agencies. And it's a free course. You can go online, you can look it up, but it was really designed to take these lessons learned – we use this term "lessons learned," I said; well, too often it was lessons observed. Whoever did it, learned it. The next person learned it all over again. So we were trying to provide – move from lessons observed to actually take those lessons, put it back into training for people to actually have, to use to start the process of planning for mass gatherings.

Fukami: So, Senator, Japan does not have all-hazard approach yet and ICS yet. So, would you mind to share with us the current Japan's plan for Olympics?

Mori: [*Translated*] Regarding the 2020 Tokyo Olympics, as it is a symbol of world peace, the Japanese government is doing its best to prevent any kind of emergency. The government has placed several emergency centers in each department and paid attention to safety, terrorism, and emergency management. Also, the government has created an information center and utilization center under each emergency center to gather and utilize diverse information regarding the Olympics and safety. As the other panelists mentioned, it is critical to learn from the past and history. Therefore, we are training people and communities based on the lessons learned from the past Olympics. I have served as the chief of the anti-terror committee for four years under the Abe administration and during the Ise-shima summit, inviting peoples and leaders from the G8 countries. Many guests came to Japan, and Japan did its best to provide the best security system and emergency management system, assuming diverse emergency situations. As a result of our preparation, there were no crimes, terrorism, or even minor offenses during the summit. Therefore, for the 2020 Tokyo Olympics, I will assume diverse emergency situations and do my best to protect safety and train people as the chief of anti-terror committee of the Olympics. To achieve this goal, support from not only the government but also from citizens, NGOs, communities, and companies are needed. Therefore, we are doing our best to educate our citizens and communities about emergency management. Even though Japan does not use the all-hazard program or other emergency management programs that other panelists mentioned, Japan is adopting its best system by itself and will utilize lessons learned from all around the world as well.

Fukami: So, Senator, you experienced much in your hometown Fukushima and realized the importance of the all-hazard approach well. Would you tell us the current all-hazard approach you lead in Japan?

Mori: [*Translated*] Regarding small emergencies, the Japanese government and each department hold individual trainings and prevention systems, staying alert against possible emergencies. However, what if deadly emergencies happen at the same time? This is what Japan experienced during 3/11. After experiencing the disaster, Japan has created new acts and legislations and built new training systems and centers I mentioned just a moment ago. Likewise, every department in Japan cooperates with each other and tries to draw out the best emergency management system.

Fukami: So the Innovation Coast will be a hub for everybody in Japan?

Mori: [*Translated*] The Innovation Coast will be a hub for emergency management. After 3/11, the sea line of Fukushima was devastated due to the tsunami and flood. We cleaned the areas around the sea line and discarded devastated ground and earth. Now, we are planning to build new emergency research and management centers in the area, which we call the "Innovation Coast." The Japanese government will build some new research centers and training facilities there and bring companies and institutes related to emergency management. We aim to facilitate new technologies, ideas, and innovation in the area. Through this project, we are hoping to contribute to the world which saved our lives after 3/11.

Fukami: I hope U.S. and Japan can collaborate to create more effective and efficient program and exchange the knowledge and lessons of each other. So, in the ending, Ellis, would you tell us the international collaborations for the future, not only the U.S. and Japan but also other countries, as well as IAEM effort.

Stanley: What we're looking at from the International Association of Emergency Managers is having a more resilient world, period. That's kind of simple, I believe, but to do that, we have to discuss what's going on, we have to share lessons learned. We do, I think, a poor job in the United States on doing after-action reports. Our after-action reports are a kind of pat-on-back on how great we were, when the best after-action report is: what did we learn? What have we – where did we find that we have gaps and we need to close it? I hope I didn't lead you to believe that ICS can't be done in Japan now. It can be. I think it would be more effective right now from about a month. What we're trying to do is get to the emergency managers, boots on the ground, where the disasters occur, get them trained, so that when they have disasters, as resources come in from outside, that mechanism is in place. That's what Tokyo can start doing now, I believe. And with strong leadership from the national level, I think it's plenty of time to look at the training, look at doing exercises, look at updating the plans, etc. So on a global perspective, we want to be able to create, as you were talking with Craig about, how do we create these collaborative efforts so that when we have disasters our recovery efforts can be seamless. That – this is not politics. This is just response. How do we create a seamless mechanism to get resources into a country that people can utilize? It's not just an aspirin. If you've got ten countries putting in ten different aspirins, you've got ten different languages you've got to translate them into. So how do we develop a system, whether it's color-coded or whatever? You do that by having that collaboration, having a sit-down, and making it a process that will work in a seamless manner.

Fukami: Thank you very much. So, let's have our Q&A.

Elizabeth Biermann de Lancie: Thank you very much for all this. My name is Elizabeth Biermann de Lancie from the State Department. I was hoping, Mr. Fugate, you might elaborate a little bit on your earlier statement that for international disaster response the humanitarian aid system doesn't work. I definitely take your point that no one country has all the resources, but I'm curious how you see the role of the multilateral organizations that –

Fugate: Well, let's talk about our system right now. For FEMA to get federal from international assistance, we have to notify the State Department. State Department then has to notify ambassadors. The ambassadors put out a country call that the U.S. needs resources. Then that

would come back up to the State Department, then it would come back to FEMA. We have a process, actually an MoU, with State Department. This process takes several days and is totally useless. I know where the international search-and-rescue teams that needs to interact are currently at. I need dispatchable resources. When I'm FEMA Administrator, I don't need to be going through three days of negotiation. I need country clearance. I need to know how I'm going to provide indemnity to medical personnel coming across. That does not work under the current aid model. These need to be bilaterals or others that are set up to where – we know where the resources are, this is not a broadcast and "send help." This is you've got specific resources to specific countries. Why can I not have that pre-negotiated so that it is dispatchable. And I'll tell you what I was doing before I left, and we were working with State Department on this, and we had gotten a lot of these issues resolved. But I was working with my counterpart in Australia. And we said, if we had a triggering event at Cascadia, well, we knew we were going to make the request to the teams. The FEMA operations center would notify his operations center that the event had occurred and the request was coming. So as his Foreign Affairs folks would be meeting with our ambassador, as it was coming from State Department, they would already be sending it up. What I wanted was his team's wheels up in twelve hours. That's doable. We actually exercised that. They've sent their observers over. We've worked with numerous of those teams, and it was the idea that the traditional "I broadcast I need help" isn't working. I need to be more specific. That means I have to look at where my shortfalls are and my catastrophic plans and go what nations most realistically can provide that resource. And then move this from the first time I asked is the first time they know I may ever need it, and I think that's the difference between the humanitarian model. We never know until we have a humanitarian crisis, although we know the areas most likely. But in an international response, we know what our hazards aren't, we know what our vulnerabilities are, and we generally know at what point we would have to ask for assistance. Why can't we not now progress to the point of who would we be asking what priority and go ahead and work out those arrangements so that just like we have under the Emergency Management Assistance Compact, it is what we call dispatchable assets. It's a very short timeframe to ask and get resources moving. The current system takes too long.

Jessica London: Hi there, my name is Jessica London. I'm from Georgetown's grad program on emergency and disaster management. Thanks so much for hosting this. It was a real honor to hear you guys talk. I have a two-part question about the use of virtual reality and emergency management. So the first part is – I know that the Senator mentioned actually using it in a nuclear sense – I was wondering if virtual reality is being employed at all during the Olympic planning and emergency management and that. The second part is if virtual reality is being used in the U.S. emergency management and where we see the future of that.

Stanley: If you want me to start, in 1996, your virtual reality was cell phones. We were – I was dragging around a bag phone during the Olympics in 1996. Wasn't that long ago, but it seemed like eons ago with the things we have now. Once I moved to California, we were using some virtual reality for training – quote, some military tools that had been converted for emergency management use, and we would use that to bring our first responders to the table to do training and exercises and things like that. And I – what you saw here is eons beyond that. And I retired from LA in '07, so we're talking about ten years and in the IT – in the technology world, that's eons. So I can see advantages in having that tool there, but it's – at the same time, being aware of how to implement it. Right after 9/11, I got my first responders together. We brought in robotics

because they used them in 9/11 and it was going to be a new tool. And although we couldn't afford to buy robotics, it was important that folks recognize what the capabilities were and had some sense of when they asked for them, and things like that. So I can see that robotics or the robotics and the virtual reality can be tremendous tools.

Fukami: All right, move to –

Fugate: Yeah, like most new toys that come along, we still have to figure out what we would do differently. Virtual reality still doesn't stop bleeding. So it is, how do we get quicker to the decisions we need to make and get the resources where we need to get them to change the outcome. This kind of trickles into all of the technologies. One of the – in dealing with Fukushima, one of the advantages of virtual reality is by being able to use remote sensing and create the environment, and then be able to create a virtual world to try scenarios and test things that you could not do in the actual reactor. Those kind of applications have really taken off. You're seeing this in surgery, in other words, a very specific application where we can test different things in a way that minimizes risk in a virtual environment before we move it back into the real world. But I also think that there's this tendency to think it can solve all problems, and again, a virtual reality does not stop bleeding. There has to be something actually happens. But a virtual world allows us to test things in ways we've not been able to before – new techniques, new practice, and particularly with the reactors, these are very complex environments that a lot of our understanding of how systems work really need to be tested because we're finding that going back to Three Mile Island what we thought was going on in reactor, the equipment and sensors we set in were getting taken out by the radiation. And again, this ability to build a virtual environment to simulate what's there gives us tremendous opportunity in a non-destructive way to test things before we make the decision what's our next steps and how we go ahead. Again, think about thirty to forty years to decommission a reactor – the reason we can't go fast is the radiation levels are so lethal and most of the techniques will actually have to be developed for. Using virtual means we can test at relatively low cost a variety of things before we decide which one will most likely work best in that environment before we do the actual event.

Fukami: Thanks. Any other question?

Patrick McLaughlin: Hello, Patrick McLaughlin from RAND Corporation. Just a question about the use of the drones that was discussed. With the environment with Fukushima, were people isolated in a way that resources were not – were more limited and restricted for delivering food items and more disposable items to people in these sort of situation, and were the drones actually utilized during the emergency, or were they sort of an after – after the fact sort of development. And – and furthering that question, there's a similar situation with Puerto Rico and reaching austere situations where people would need resources, and has to your knowledge either of you heard of FEMA developing these technologies yet or discussing that? Thanks.

Fukami: First, Senator –

Mori: [*Translated*] During 3/11, Japan did not utilize drones. However, we have developed technologies to use drones in future emergencies.

Fukami: [*Translated*] So does that mean that we can use drones when people are isolated during emergencies?

Mori: [*Translated*] Yes. That way is one example of using drones in emergencies, and there are other ways of using drones as well. Also, as other panelists mentioned, virtual reality is one great way to deal with emergencies as well. While Japan utilizes virtual reality, robots, AIs, automatic driving technologies, and drones for investigating Japanese nuclear reactors after 3/11, I am sure that we can utilize them for emergency prevention processes. For example, as the chief of emergency management committee in Japan, I have utilized robots, drones, and AIs for domestic emergency trainings.

Fukami: And Craig, could you tell us about the Puerto Rico one?

Fugate: Yeah, I'm always fascinated by how everybody gets all wrapped up around the drones – a drone suddenly changing everything. It's just replacing people. We were using civil air patrol with cameras. I mean, you think about what we're going to talk about with – you're going to do two things: remote sensing and delivery supplies. As the Senator pointed out, drones make a lot of sense when there is a high risk of entering an environment where drones reduce the exposure – particularly in hazardous materials, nuclear, other things where – the remote sensing there. And then the other factor is just the size and cost being able to get in areas. But when we talk about delivering supplies. Everything's "drones are the answer." Well, I'm like, what's wrong with a helicopter? Even the military is – they're going to drones. It's really to – it's a workforce issue. And also being able to deliver in a high hazard area, reducing the exposure to personnel by going and essentially taking helicopters and making them drones by just putting in remote controls. I think probably with drones in emergency management, it's going to be what I call micro-deliveries. And really looking what the private sector is doing, where it doesn't make sense or it's not practical to get helicopters in the areas, but I'm having to deliver something very specific like, I need to get a satellite radio into an area that isn't accessible, and I don't want to tie up a helicopter, or it's not practical to get a helicopter. That makes sense. If you're thinking about – you're going to be delivering large supplies, even that's not practical using large helicopters. So I think it's always – what does the drone do best? It replaces people. So it replaces people when there's a hazard. That makes sense with remote sensing. It can replace people and equipment when it's small packages or small deliveries. But I'm not so certain that it is going to solve all the problems. And I'm not sure what FEMA is doing but I know that if you looked at what happened with Maria, but not much different than we've seen in a lot of our scenarios where you have remote areas where the roads are out, it's hard to get in. And in many cases the first thing that I lack is any communication. Using drones to get in small comm packages would probably make sense, given just a number of areas you had to get to and even if you were using helicopters, it's just hard to get everywhere. If you go back to 3/11 in Japan, everybody focuses in the U.S. about the nuclear power plant. That's not what killed people. The tsunami killed people. And the damages were over large areas that roads were totally wiped out and there was no physical way to get to those areas except by air. And I think again, those types of scenarios, the larger population you cannot – you're going to need large aviation assets. But even in smaller

pockets where it was like just getting in some medications or just getting in some communication, I think drones would be an adjunct to that process.

Fukami: Okay, any other questions?

Jiwon Yang: Hi, I'm Jiwon from Stimson, and I – actually, I'm very impressed by all four speakers. And I have one question that there might be some situations that the national decision from the government is not identical to public opinion in the moment of emergency. So in these kind of situations, do you have any idea about what to do? Because I think the government decision is very worthwhile, because it is based on professional analysis, but also the public opinion is not – it's very important too. So I want to listen to your opinion. Thank you.

Fukami: Craig, you know –

Fugate: We saw this in 3/11, and that was even for the United States in trying to determine what protective measures we needed to give U.S. citizens, we didn't always have the full picture. And I think it's just a natural tendency for government – A) disasters move fast, decisions are being made, it's hard to keep the public fully informed. And I think this is – the lessons we've learned is you need transparency. If the public begins to doubt, or begins to think you're not telling them everything, they will start seeking information from other locations. I think the public is much more tolerant of what we do if they know why we're doing it in a way that is giving them all the information. So yes, there will be times when we have to make decisions that some people may not agree with. And if those voices are loud enough, they give the impression that's what everybody's thinking. But I think the thing that I've learned time and time again from disasters – and this goes back to our Three Mile Island – when the public hears different answers from officials about the same issue, we lose credibility. When the public finds out we've withheld information, we lose credibility. And the tendency for government officials to think we have to control the information is an illusion. We don't control information. It always gets out. And if we want to ensure that the public will responds in the best possible way, they need the information to make informed decisions. So my lesson is be totally transparent, be totally up-front. There are no secrets in a disaster. They will always get out. And yes, people may not like what we want them to do or what they may need to do, but they need to know why we're telling them that's what we have to do.

Stanley: I would use the example too of Chile and the earthquake that occurred actually six months after the Haiti earthquake. It was a much larger earthquake in Haiti, but they had very little death and very little damage, and part of their resilience came from a culture of resilience. Anybody that lived in the area that had the tsunami, no one died, because their culture said, if you shake hard enough to knock you off your feet, you go to higher ground. The government put out a warning – it first didn't work, and then it was incorrect. But they lost nobody that lived in that area because their culture says, if it shakes large – hard enough to knock you off your feet, go to higher ground. And also, they were – they all had a compulsory military training, even though they didn't consider that as emergency management training, they had training. Hospitals were evacuated in fifteen minutes. The signal was the earthquake. Those that could walk got out, those that couldn't, those helped them out. In the United States it would have taken us fifteen hours to get the attorneys out of the hospital, whether you're going to evacuate or not. But it was

a cultural shift. So the culture has its – the point is, empower your citizens to understand what their roles and responsibilities are in a disaster so they know where they are. And a lot of times we may – you know, I can't imagine any place that would ever get a warning that we're having a nuclear attack and it's not happening. Can you all? Yeah. Yeah, same thing with what happened in Hawaii this weekend. And now the opportunity here is how do you use that as a teachable moment, and as Craig indicates, that bond of providing some kind of assurance, recognition that people are doing what they're supposed to be doing, you do that by building resilient populations.

Fukami: [Inaudible]

John Cobb: Good – good afternoon. My name is John Cobb. I'm with DHS. My question is about the lessons learned that – that you discussed. How does lessons learned, whether you go from Sandy to Andrew to 3/11 to the tsunami in Banda Aceh – that all these seem like local emergencies. But how do you get the lessons learned throughout the country and throughout the international areas?

Fugate: That's the challenge. That's why I think we've – we found that the lessons we learned tend to be lessons learned by individuals and when they move up or move out, we lose it. Part of this is changing and building into our training and education the lessons. And it's – it's, again, I've basically boiled it down to the seven deadly sins of emergency management. There's natural tendencies that keep us from taking these lessons observed and making them lessons learned. It is the natural tendency – very few organizations ever want to exercise what can really happen. They want to exercise what they're capable of managing. And the natural tendency not to push systems and build these as lessons observed into lessons learned is we don't change our training, we don't change our exercising. You know, part of FEMA's role is to incorporate these into training, and I think we did a better job of making the courses less static and more adaptive. But it is still a challenge to go, what is a unique event to this one event that really doesn't factor in the future events, and what was an actual lesson we need to change what we're doing? And this – this really comes back to the bottom line. A lesson learned means we're going to change what we've been doing. Bureaucracies have a lot of inertia. They hate change. They like stability. They don't want to change. So it's that forcing mechanism of how do you take that lesson learned and change what you're doing. If you do nothing different, you'll get the same outcome. And that doesn't – what we've found is, it works. Problem is, people like me and Ellis have made a lot of mistakes to learn those lessons. Then we moved on, a whole new generation makes the same mistakes over again. How do you change that?

[Crosstalk]

Stanley: I've done about seven political conventions. Doesn't matter the variety, but there were seven different political conventions. Each one they put fifty million dollars up to put those conventions on. They put not one dime up to do a comprehensive after-action report. So that as I did this first one, if you're going to do the next one, I'll have this after-action report that I can pass on to the next person, and then they pass it on to the next person. And, you know, your best after-action report starts when the event begins, because you want people there observing. You want people there to see what's going on. And those are the things that are not funded: the

response that the planning, the preparedness, and response is covering, but to be able to glean those successful happenings out of that particular event so the next person does not have to reinvent the wheel. We treat every political convention like it's the first time we've ever done one. Now do changes – do changes take place, absolutely. Having it on the coast when – during hurricane season is a different phenomenon than having it in Colorado during the summer, a different phenomenon. But there are common things in those approaches that can be successful if you pass it on.

Mori: [*Translated*] I learned an answer for the question from IAEM and the IAEM Annual Conferences. This is a conference for people in 50 countries with specialties in emergency management, and I was able to get the qualification for participating in the conference. At the conference, all IAEM gathered and shared diverse emergencies they experienced and knowledge they learned. After this conference, IAEM members went back to their home countries and spread what they learned. This way, we can expand lessons from local disasters to the international level, and I hope we will utilize IAEM and the IAEM conference further.

Yuki: Thank you all for staying with us for the ninety minutes, and I think most of all I would like to thank Mori-sensei for traveling such a far distance for – for this occasion. And also having Honorable Fugate and Mr. Stanley, thank you so much. Also you're both out-of-towners, so thank you so much for traveling all the way to Washington. This was a fascinating conversation. If you know what I usually write, this is an unusual topic to this event. But I think – I think it was – it was just very important for me to broaden the aperture of the concept of national security and what Japan has – has some – has to look forward to as they host the Olympics in just a few years. So if you can please join me in thanking for these wonderful speakers and also Maki for moderating. And thank you again for coming and we'll see you at the next Japan Program event. Thank you.

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