What Did the World Learn from Fukushima?


I would like to express my thanks to Helen and the New York Academy of Medicine for organizing this timely event.

I’d also like to take this opportunity to express my appreciation to the many participants who have worked so hard to increase the public awareness of the risks of Fukushima. In the realm of nuclear power, science must be linked to political action. And so we are here today.

I have worked at the United Nations and other international organizations in London and New York for 40 years, and I have organized and attended many international conferences, starting with the UN Population Conference in Bucharest, Romania, in 1974. Over the years we’ve discussed in public and private what you might consider the defining issues of the 20th century: population, environment, social economic issues, disarmament, women, children, and democracy.

But we never discussed how one accident in a nuclear power plant could affect our lives for several hundred years, or how we lack a permanent nuclear waste repository, one that could store our spent fuel rods for one hundred thousand years. Discussions of political systems and human rights now seem shortsighted when compared to a potential nuclear disaster that could affect our descendants for perhaps twenty thousand years. Twenty thousand years. Twenty thousand years ago humans were building tools in the Stone Age. Can you imagine?

Politics in Japan

I worry about the growing risk to children who are being continually exposed to radiation. Many of these children will suffer from infectious diseases, and many will develop thyroid, lung, or breast cancers sometime in their lives. According to Helen, over one million people have died of these diseases as a result of the Chernobyl accident. Others here have said that Fukushima so far has emitted more radiation than Chernobyl.

In my two visits to Japan last year, I asked the party leaders I met their thoughts on the unstable state of the reactors and the thyroid cancer risks in children. Few had any idea of the spent fuel rods, or of their high levels of radiation, or that they sat one hundred feet up in a damaged structure. Fewer still were thinking about public health.

Undoubtedly, some politicians are aware of the potential catastrophe of Reactor 4. However, they showed their surprise when I told them that Reactor 4 has ten times more Cesium 137 than Chernobyl released, and 5000 times what the Hiroshima bomb released seven decades ago. They couldn’t hide their shock when I told them that all of the spent fuel assemblies at Fukushima Daiichi contain 85 times more Cesium than Chernobyl, and 50,000 to 100,000 times what was
released on Hiroshima. I thank Bob Alvarez for making these important calculations. I knew we had found the right message when we shared the article on our blog and it was read more than 1 million times in just a few days. These same political leaders wondered why they had heard none of this from TEPCO.

Last April Ambassador Murata and I met with Osamu Fujimura, who held the powerful position of Chief Cabinet Secretary. He assured us he would convey our message to Prime Minister Noda before he met with President Obama on April 30. Both leaders might have discussed Fukushima at their private meeting, but the idea for an independent assessment team and international help for the disaster were not mentioned publicly.

This was a mistake. The government’s first responsibility is the security of its citizens. But instead of reaching out to independent scientists they only consulted TEPCO, focusing on minimizing the public relations fallout instead of the nuclear radiation fallout. In any country, governments and industry will keep sensitive information close after a disaster, but Japan’s actions have been near autocratic.

**Mixed Messages**

Because of the government’s unwillingness to share accurate information, Japanese citizens must rely on a scrutinizing press corps for any useful information about the accident. Unfortunately, as with the politicians, I found the journalists in Japan to be complacent and clueless. There is an amazing disconnect in Japan between the reality of Fukushima and the fictional image that the public has in mind. The press has failed in their job to close this gap. Japanese reporters, with several exceptions, have refused to investigate or ask the hard questions about Fukushima. The New York Times’ Tokyo Bureau Chief, Martin Fackler, provides a thorough look at the media’s club mentality and aversion to investigation in his excellent book Credibility Lost: The Crisis in Japanese Newspaper Journalism after Fukushima.

To be sure, the government has not made their job easy. TEPCO says when and what information will be released, like when the site would open to the press and when the long video of the accident would be released. The accuracy of government medical reports is in question. But without anyone to ask those questions, the public is left behind a smokescreen, operating on half-truths.

The public has lost sight of the most urgent needs with regard to Fukushima. Its efforts to end nuclear power in Japan are inspiring but miss the mark; the protests are the result of fear, frustration, and uncertainty. Prime Minister Abe will guide Japan forward with a continuing dependence on nuclear energy. He will continue to restart Japan’s nuclear reactors. Of all the politicians I spoke with, he was the least receptive to my message of the danger for the country’s children or of Reactor 4’s spent fuel rods. I feel sad that we must wait for the sacrifice of tens of thousands of children to come to light for the public to realize the disaster at hand.

I am surprised that one group has not taken forceful action. The spiritual roots of Japan sit firmly with respect for the natural environment. The Shinto and Buddhist influences in Japanese life have bestowed a sacred importance on the country’s natural beauty and resources. Japan’s
environment has not known a bigger threat than that presented by the four damaged reactors at Fukushima. The country’s spiritual leaders should be active in refocusing the country’s concern toward the ongoing risks.

Are We Doing Enough?

We can see that Japan is ill-equipped to handle the ongoing problems of Fukushima. But this is more than a Japanese problem. It has and will affect all of us.

Are we doing enough?

For the past two years I have been warning of the potential catastrophe of Reactor 4 and the cancer crisis awaiting our children. There are four major areas of concern that could cause a bigger disaster:

1. In reactors 1, 2 and 3, complete core meltdowns have occurred. Japanese authorities have admitted the possibility that the fuel may have melted through the bottom of the reactor core vessels. It is speculated that this might lead to unintended criticality (resumption of the chain reaction) or a powerful steam explosion – either event could lead to major new releases of radioactivity into the environment.

2. Reactors 1 and 3 are sites of particularly intense radiation, making those areas unapproachable. As a result, reinforcement repairs have not yet been done since the Fukushima accident. The ability of these structures to withstand a strong aftershock earthquake is uncertain.

3. The temporary cooling pipes installed in each of the crippled reactors pass through rubble and debris. They are unprotected and highly vulnerable to damage. This could lead to a failure of some cooling systems, causing overheating of the fuel, further fuel damage with radioactive releases, additional hydrogen gas explosions, possibly even a zirconium fire and fuel melting within the spent fuel pools.

4. Reactor No. 4 building and its frame are seriously damaged. The spent fuel pool in Unit 4, with a total weight of 1,670 tons, is suspended 100 feet (30 meters) above ground. TEPCO plans to remove the spent fuel rods in the coming years, but if there is another massive earthquake nearby, this may not be fast enough. If this pool collapses or drains, the resulting blast of penetrating radiation will shut down the entire area.

These plants represent unprecedented international security risks. I view this as a problem for human civilization.

Have I been overestimating the potential catastrophe? Your calculations tell me there is a much higher probability of another disaster than one might think. So why are we allowing ourselves to take such a large risk – allowing our future to depend solely on chance and the goodwill of TEPCO and the Japanese government?
And if another earthquake and further meltdown are indeed possible at Fukushima, I must ask what so many Japanese leaders have asked me: why does the United States stand by silently?

It’s in the United States interest to take public action to prevent future disasters. High quantities of radiation reaching the West Coast would ruin our food crops. The geopolitical tension that would arise after such a disaster and ensuing evacuation would strain already difficult relationships in East Asia. And, finally, we are vulnerable to similar threats at home: a similar disaster could happen in the U.S. or elsewhere in the world with a nuclear reactor or temporary spent-fuel storage facility.

There are more than four hundred nuclear power plants online today, more than one hundred of which are in the United States. Several sit near fault lines. Others are old. And then there are the twenty three temporary spent-fuel storage facilities, holding rods like those suspended above Reactor 4. Many are only warehouses. Building a nuclear power plant might be rocket science, but maintaining the function of cooling system is not. Yet these systems are so delicate and prone to failure. As we’ve seen in the last months at Fukushima, something as simple as the corrosion of pipelines can set off a meltdown. It’s time we regard nuclear power plants and storage facilities as security risks. Nuclear security is not an issue where the president should lead from behind.

**Steps for International Action**

In the case of a nuclear accident here or in any other country, you can be sure the government and nuclear power industry’s reactions will mirror Japan’s. They will control all information and access to the nuclear site, claiming national security concerns.

The right to keep information from the public after a disaster must be a privilege for the government, not an expectation. We need to establish now what level of access is necessary for scientists and reporters and what level of government discretion is necessary for national security. We need a framework for this agreement.

For now, this burden lies with the investigators. And we are not well organized. Even outside of a disaster scenario, there is no link between scientists and politicians – this is true here in the United States too! I was shocked to learn in the past two years how much trouble our top scientists have when contacting senators and congressmen. I didn’t find this to be the case twenty years ago.

A continuous and open line of communication between independent scientists, engineers, journalists, and politicians is essential to handling another nuclear disaster effectively.

I would like to ask all of you to persuade your government to share with the Japanese government your concern with the potential catastrophe and its international security and health issues.

I conclude with three proposals for international action:
1. A fact finding mission to Fukushima made up of a select group of lawmakers from the United States, Russia, Ukraine, Germany, England, France and Canada;

2. A special program established by UNICEF and the WHO to take extra measures to save the children who are being continually exposed to radiation in coming decades;

3. A mechanism for nuclear scientists and medical doctors to collaborate and develop new technologies and medicines to treat the illnesses associated with radiation exposure.

When Prince Charles of England spoke last year at the Rio +20 Conference he said with regard to climate change, “It is, perhaps, a trait of human nature to act only when the worst happens, but that is not a trait we can afford to rely on here.” He could have been speaking about Fukushima.

I again praise Helen and the New York Academy of Medicine for coordinating this event.

I thank you very much for your attention.