

Lessons learned from the Public's
Response and Concerns to the
accident of Fukushima Daiichi
Risk Communication

Kazuko Goto

Research Fellow,

Federation of American Scientists

- Lessons learned from the public's response and concerns to the accident
 - Lack of knowledge causes fear.
 - Fear causes people disregard consequences.
 - Risk Communication is important because it supplies the knowledge.

What happened?

- On March 11, 2011, the massive tsunami that followed the Great East Japan Earthquake caused an accident at the Fukushima Daiichi nuclear power station, which subsequently released radioactive materials.

What happened?

- Due to the tsunami that followed the earthquake, the power station lost the electric power used to cool down the cores of unit 1 through unit 3.
- This caused serious damage to the power plants, and radioactive materials were released.

How did government respond?

- Setting the evacuation area
 - Restricted area (20km radius)
 - Entry is prohibited for all except emergency response work and temporary entry which is granted (by mayors or the region's municipalities).
 - Deliberate Evacuation Area
 - Where the cumulative dose of radiation might reach 20mSv within a 1 year period after the accident, residents were requested to evacuate in a planned manner.

How did government respond?

- Radiation monitoring
 - Monitoring stations/posts
 - Workers traveled in cars with radiation meters
 - Sea area monitoring ...
- Shared the data on the Internet
 - The latest data on the Internet continues
 - Japanese/English/Chinese/Korean
- Providing consultation services

How did the government respond?

- Supporting schools
 - Testing and setting the safe rate of radiation that is considered safe for schools sites (lower than in a general area)
 - Financial support to remove or turn over the soil
- Setting the safe reference radiation levels in food and tap water
 - For Iodine 131 and Cesium 137
 - In food (meat, vegetables) and tap water
 - Inspection before food could be shipped

How did people react?

Fear created more problems

- Hotels refused to receive the evacuees because they thought there might be radioactive materials on the evacuees' bodies or clothes.
- Children who evacuated and transferred to other schools were bullied because children in their new schools believed that radiation could be transmitted to or infect them.

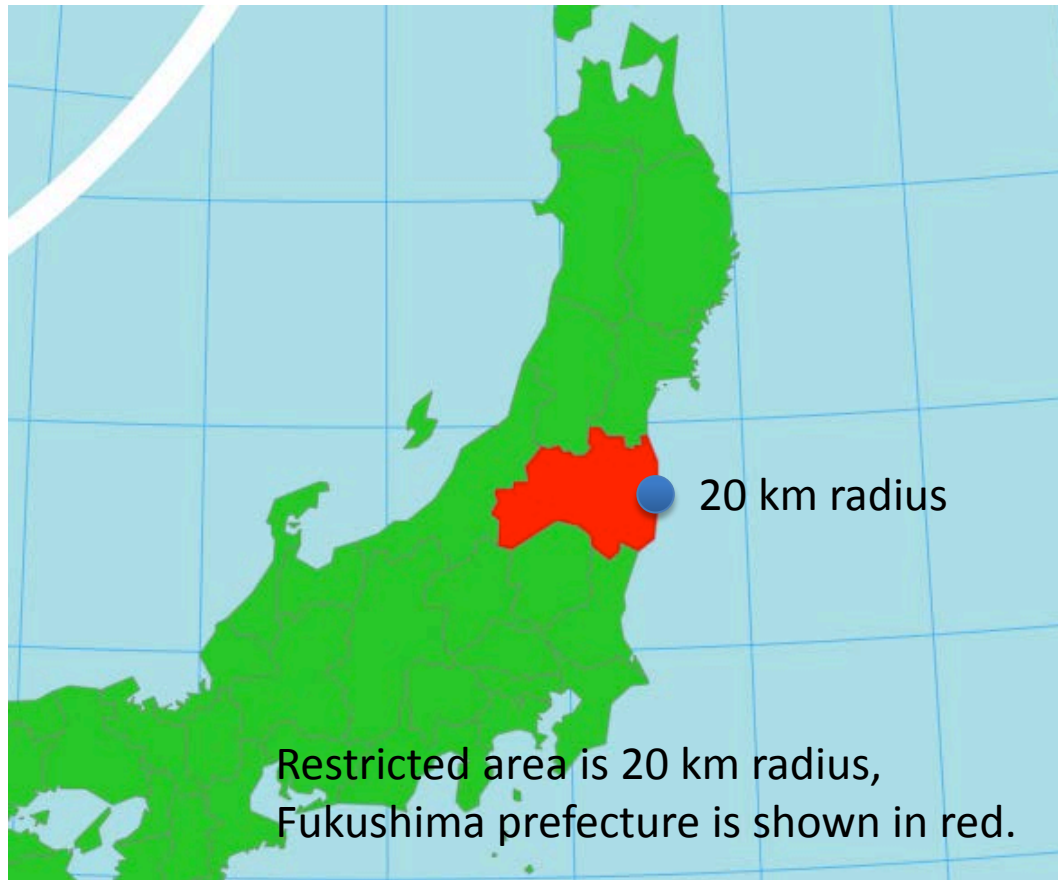
How did people react?

Overworked agencies

- The public bought radiation counters in a rush, which resulted in a shortage of counters. They measured radiation thoroughly in their surroundings and when they measured higher level than that in other areas, they raised their voices and demanded strict clarification from governmental agencies.

How did people react?

Supply lines halted



- Since truck drivers hesitated or refused to drive in the area near Fukushima Daiichi, or even the area a little further from the power station but still within Fukushima prefecture, packages, including relief aid packages, were not delivered to the affected area.

How did people react?

Fear created more problems

- Some kinds of vegetables had their shipments suspended because higher radiation rates were detected, but other kinds of vegetables that were shipped got avoided and returned to the shippers because they were also produced in or near the area.
- When Iodine 131 was detected in a reservoir in Tokyo, people bought bottled water in a rush. This caused shortages of bottled water in supermarkets.

Importance of Risk Communication

- When in an emergency, people focus on the immediate risk and not on complications that may arise from their behavior.
- Because of this narrow focus, other problems arise.
 - Shortage of necessities
 - Mental distress or anxiety
 - Inefficiency of handling or dealing with issues

Importance of Risk Communication

- In the case where unintended radiation emission occurs, the public was upset just by the presence of any, even very small, amounts of radioactive materials.
- If people focus on these materials too much, they would lose sight of other issues or possible problems.
- How to best disseminate the risk information on radiation is important.

Lessons learned

- Risk Communications can lessen fear and associated behavior, and consequences.
- We need to create Risk Communications.

Discussion

- Development of risk communication
 - In usual situations, people do not have to think about risks including radiation.
 - Under emergency situations, people focus on the risk that faces them.
- What is needed?
 - Just providing information is not enough because people are not interested in the information under usual conditions. Under emergency situations, they need information which is related to what they are facing: for example, detected cesium level in their urine tests, how safe the radiation level in surrounding areas and so on.
 - Clear and continuing communication between experts and people would be needed.

Discussion

- Effective way and Prepare for the future
 - Even though the public are not interested in radiation under usual situations, education about radiation and its risks might be useful.
 - Directions about how to access necessary information would be needed when in an emergency.