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Post-earthquake Aid Operations and the Role of Citizens

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Now that May has begun, it has been two months since the Great East Japan Earthquake. By the time the same length of time had passed following the Great Hanshin Earthquake in 1995, there were already 30,000 temporary houses built, more than 60% of the required number of such houses, and the removal of the debris was progressing steadily. On this occasion, however, there are almost 10,000 people still missing and more than 110,000 people still having to live in evacuation shelters. The affected area faces a number of significant challenges which must be overcome before it can move forward towards anything that can truly be described as "recovery." These challenges include the physical and mental exhaustion and malnutrition of evacuees, the huge mounds of discarded debris, and the unpredictable situation at the Fukushima Daiichi Nuclear Power Plant. The magnitude of damage caused by a post-earthquake tsunami on this unprecedented scale is quite enormous.

Personally, I have many acquaintances who were affected by the earthquake and tsunami. My parents-in-law have evacuated, leaving their cars and precious possessions along with everything else, and are now living in a public apartment in Ehime Prefecture. A farmer couple who were living in the vicinity of the nuclear power plant and from whom I always received help with my job, were forced to leave their land and the produce they had managed with great care, and have found refuge in another town in Fukushima Prefecture without any prospect of resuming farming. A family who used to cultivate dried seaweed in Miyagi Prefecture had most of their fishing tools swept away along with their boat, and their workshop damaged. The gravity of the damage to each of the affected people, not to mention those who lost their own lives or who lost loved ones, can never be measured in figures.

On the following morning of the earthquake on March 11, our NGO "Peace Winds Japan" (PWJ) carried out an on-site investigation of the area by helicopter. We decided to base our initial aid activities in the coastal city of Kesennuma City, Miyagi Prefecture, and soon dispatched an operation team and relief supplies. I myself left Onomichi, Hiroshima Prefecture, in a car packed with relief supplies, and drove all the way through Tokyo and Niigata before arriving in Kesennuma at midnight on the 15th where it was snowing. I still cannot forget the horrified feeling I had when I was driving into towns and suddenly found the panorama of collapsed houses and mounds of debris stretching out in front of me.

The first thing we did in Kesennuma was distribute relief supplies as we usually do in similar operations carried out abroad. The delay of supply distribution immediately following the earthquake was a particularly serious problem as the affected area was so extensive and fuel soon became scarce. Each day PWJ continued to deliver food, blankets, stoves, hygine goods and other items to evacuation shelters in and around Kesennuma which were transported from the Tokyo Metropolitan Area. These relief supplies included goods that were donated by corporations. We transported gasoline and kerosene from as far afield as Mie and Yamanashi Prefectures with the help of other volunteers. The amount of goods that we delivered over a period of one month exceeded 100 tons.

The vistas that I witnessed in the affected area were nothing short of "catastrophic." They were absolutely incomparable, in terms of both scale and scope, to any of the quake-hit places that I have visited, such as the Hanshin-Awaji area (struck in the 1995 earthquake in Japan), and in Turkey, Pakistan, Indonesia and other places. Particularly in Rikuzentakata City, Iwate Prefecture, and Minamisanriku Town, Miyagi Prefecture, almost the entire central areas of these places had been swept away, and they looked like devastated, deserted lands in which the pre-earthquake scenery was quite unimaginable.

At an evacuation shelter in Kesennuma which we made our base, there was no telephone network, so we made one of our three satellite mobile phones available to the evacuees. People stood in a long queue every day as the shelter accommodated many evacuees, including those of Chinese, Indonesian and other nationalities who were working in local seafood processing factories. I couldn't help shedding tears when I heard their happy voices when they were at long last able to inform their relatives in their home countries that they were safe.

We at PWJ have been continuing a variety of relief activities in accordance with constantly changing conditions and local needs in the affected area. In evacuation shelters we built bath facilities from scrap materials in cooperation with local people. Once people started moving in to temporary houses, in collaboration with local governments and aid groups we supplied commodities such as kitchen utensils, bed linen, futons and clothes to the residents. We have also been creating opportunities for art and sports activities for children, and providing free bus transport services for people to go shopping or to hospitals. When I went to the affected area for the second time in early April, I myself initiated a "movie-viewing caravan" for children, visiting approximately 20 evacuation shelters.

Self-Defense Force members search for missing people in the midst of debris in Rikuzentakata City, Iwate Prefecture. (April 10) Photo by PWJ

The recent earthquake brought in an unprecedented amount of money in the form of donations in the immediate aftermath of the disaster, and this heightened the momentum for aiding the affected area and its people right across the country. In fact there is a significant number of NGOs, like ourselves, who have rich experience in carrying out aid activities abroad, and also groups which specialize in post-earthquake aid that were established nationwide following the 1995 Great Hanshin Earthquake. The potential power of citizens is also of great significance in supporting the affected people, as represented by the participation of many individual volunteers and aid provided by corporations.

However, there are still a number of issues which need to be solved in order for these various citizen activities to be utilized most effectively. The most important issue is the lack of a mechanism which can oversee the whole situation and strategically and efficiently coordinate the activities of national and local governments, the Self-Defense Forces, corporations, medical institutions, NPOs and volunteers.

When carrying out relief activities abroad, the United Nations assumes the role of overall coordinator, gathering information at regular meetings of the related parties in particular areas or fields, in order to ensure that there is no vacuum or duplication of specific activities. Japan needs this kind of mechanism to facilitate fast and efficient disaster relief through the systematic coordination of public and private activities.

In the affected area, fully-fledged efforts for recovery will be initiated at some point in the future which will require knowledge and creative ideas for the revitalization of local industries and communities. To support recently resumed local economic activities, we at PWJ are cooperating with local fisheries' cooperatives and chambers of commerce, and have begun supplying equipment and vehicles which fishers and shops require to resume their work. For farmers who have been seriously affected by false rumors about radioactive contamination from the accident at the nuclear power plant in Fukushima, we are planning to establish sales networks through which they will be able to sell their agricultural products.

It is likely that it will take several years before the affected area fully recapture its pre-earthquake vigor. What is crucial now is for us not to lose our interest, and to continue to support the affected people over the long term, while gathering accurate information regarding what they actually need. Furthermore, this effort should not be left solely to the government, and a wide variety of imaginative ideas and action on the part of citizens will also be indispensable.

The year 1995 when the Great Hanshin Earthquake occurred is referred to as the "First Year of Volunteering" in Japan since it is said that active volunteering which was joined by a total of one million people following the earthquake pushed forward the enactment of the Law to Promote Specific Nonprofit Activities. With this in mind, following all the post-earthquake relief activities and the active participation of citizens, one wonders what the year 2011 will be remembered for. This remains to be seen. (Written on May 12, 2011)

Head of the Onomichi Office, Peace Winds Japan (NGO)

What We Must Know Now:

Fukushima Nuclear Power Plant Accident and Radiation Protection

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On May 6, 2011, the day on which Japanese Prime Minister Naoto Kan made an official request to suspend the Hamaoka Nuclear Power Plant (nuclear power plant: NPP) contrary to the policy of the Minister of Economy, Trade and Industry stated the previous day, various reactions were observed around the world. In South Korea, in the face of the accident at the Fukushima Daiichi NPP, the government announced new precautions against floods at all NPPs in operation, in order to prevent hydrogen explosions. German Chancellor Angela Merkel, following the remarkable victory of the Green Party in recent local elections, began seeking a complete turnabout in her legislation to extend the operation of NPPs there, legislation which had been adopted in the previous year. Meanwhile President Obama of the United States spoke at a wind turbine manufacturer on April 6 and made it clear that the US will continue to rely on NPPs, setting the goal of generating 80% of the US energy from such renewable resources as wind, solar, natural gas, clean coal and nuclear energy by 2035.

With all these kaleidoscopic circumstances currently surrounding nuclear power generation around the world, what must be done with NPPs, and what facts must we be aware of? This article discusses what we must know now.

The mechanism of nuclear power plants, and an overview of the accident at the Fukushima Nuclear Power Plant

The basic mechanism of an NPP is as follows:

1. Heat is generated by a controlled nuclear chain reaction;
2. High-temperature steam is produced by utilizing the heat from the nuclear chain reaction;
3. The turbine, connected to a power generator, is driven by the steam.

If the first step above is achieved by the combustion of fossil fuel, the mechanism is called thermal power generation, whereas with solar heat, it is solar power generation.

Natural uranium contains 0.7% uranium-235 (U-235), which can sustain fission chain reaction. Commercial nuclear reactors in Japan utilize low-enriched uranium (LEU), which has a concentration of U-235 of 3 to 5%. Uranium oxide ceramic made of LEU is formed into pellets and arranged into fuel rods of zirconium alloys, and these fuel rods are gathered in bundles and arranged in order inside nuclear reactors. In between the fuel rods are placed control rods that contain chemical elements, such as boron and cadmium, which can absorb neutrons without fissioning themselves. The fuel rods and control rods are then placed in water. Water itself has three functions: a coolant for the fuel rods, a moderator of neutrons, and a source of steam for driving the turbine.

When the control rods are pulled out of the fuel rod assemblies, fast neutrons emitted from a neutron source collide with oxygen and hydrogen in the water, lose their velocity (i.e. are moderated), and are turned into thermal neutrons. The thermal neutrons are absorbed by the fuel, causing the nuclear fission of U-235. During this nuclear fission, fast neutrons are produced which are also moderated by the water and turned into thermal neutrons. These thermal neutrons are similarly absorbed by the fuel, causing further nuclear fission. Therefore, the nuclear chain reaction within reactors consists of two steps: fast neutrons produced by nuclear reactions are moderated and turned into thermal neutrons which can cause nuclear fission; then these thermal neutrons induce further nuclear fission. The heat produced during this process is utilized for producing high-temperature steam. When nuclear chain reactions occur constantly and the amount of thermal neutrons remains stable in a nuclear reactor, it achieves a critical state.

If the water around the fuel rods happens to drain off, fast neutrons cannot be sufficiently moderated, producing less thermal neutrons than required for sustaining a nuclear chain reaction. Then the reactor core cannot go critical, thus suspending the operation of the nuclear reactor. Therefore **the assertion is often made that this negative feedback mechanism should keep nuclear reactors safe from thermal runaway.**

What has become clear following the recent accident at Fukushima is **the significance of the influence of "decay heat."** Immediately after the earthquake, the control rods were completely inserted in all of the nuclear reactors that had been in operation, therefore the self-sustaining chain reactions were over. At this point, no further nuclear fission of U-235 occurred. Nevertheless there were plenty of fission products that were not stable. Therefore, even after the termination of the self-sustaining chain reaction in the reactors, the fuel rods continued to generate heat through the radioactive decay of the nuclear fission products. This radioactive decay and consequent heat generation is a natural phenomenon, and does not require any moderator whereas the nuclear chain reaction of U-235 inevitably needs thermal neutrons. With the decrease of the coolant water level, the fuel rods were exposed and their temperatures increased significantly. Zirconium from the fuel rods reacted with steam to produce hydrogen molecule, and the rods themselves were damaged and began emitting nuclear fission products such as iodine-131 and cesium-137 that are supposed to be confined inside the rods. The hydrogen explosions that occurred at the Nos. 1, 2 and 3 reactors at Fukushima Daiichi NPP indicate that there must be "cracks" somewhere in the piping system extending from the pressure vessel, where hydrogen and nuclear fission products have likely leaked out. (The decrease in the coolant water level coincides with the presence of cracks.) According to the report published by the Ministry of Economy, Trade and Industry, the peak ground acceleration of the recent earthquake as measured at the Fukushima Daiichi NPP was smaller than that of the 2007 earthquake as measured at the Kashiwazaki-Kariwa NPP (in Niigata Prefecture) where no subsequent radioactive leakage was observed. This may suggest that it is worth investigating why the cracks have formed this time at Fukushima. These "cracks" were hardly reported on by the media.

Contents

Radiation protection and Hiroshima

The property of certain types of atomic nuclei to emit ionizing radiation is called radioactivity. It is a natural phenomenon and not artificial. There are three types of ionizing radiation that can be observed on earth: (1) charged particles such as α rays (a nucleus of helium-4), β rays (electrons or positrons), heavy particle beams (for medical use or experiments of high energy physics), and μ particles or muon (cosmic ray-created, with a short lifespan of ≦2.2ms); (2) neutron beams with no electric charges; and (3) γ rays, including X-rays, which are high-energy electromagnetic waves.

The charged radiation (α rays, β rays and heavy particle beams) are more likely to react with materials, and easily lose their energy. This is because each atom that composes materials consists of a positively-charged atomic nucleus and negatively-charged electron(s). In contrast, the uncharged radiation (neutron beams and γ rays) are less likely to react with other materials, thus, losing less energy during interactions. Therefore, once it is emitted, it is difficult to be blocked. In order to block radiation from radioactive isotopes, conditions vary depending on the type of radiation:

α ray: a sheet of paper of 0.1 mm of thickness
β ray: aluminum of a few millimeters of thickness
γ ray: lead of at least several centimeters of thickness

As to the effects on the human body, **charged radiation sources must be treated to avoid internal radiation exposure** (e.g. iodine-131 induces the development of thyroid cancer), while **uncharged radiation is the cause of external radiation exposures** (e.g. "Little Boy" and "Fat Man").

A becquerel (Bq) is a unit of radioactivity, and 1 Bq is defined as the activity of a quantity of radioactive material in which one nucleus decays per second. A sievert (Sv), on the other hand, is the unit of dose equivalent radiation on the human body, and 1 Sv is defined as a unit of energy (1 J) per unit of mass (kilogram). Please keep in mind that the dose equivalent in Sv does not specify the types of radiation (α, β or γ) or atomic nucleus. As discussed earlier, **different types of radiation react with materials in different manners, therefore, it is critical for the purpose of radiation protection to recognize what type of atomic nucleus is present and what type of radiation it emits.** In this respect, satisfactory analysis cannot be derived from the investigation data of radiation levels that the Ministry of Education, Culture, Sports, Science and Technology has been publishing on a daily basis.

The 1990 recommendations issued by the International Commission on Radiological Protection (ICRP) is based on data collected from *hibakusha* from Hiroshima and Nagasaki. The types of radiation from the A-bombs dropped on the two cities that reached to the ground were γ rays and neutron beams, and the recommendations take into account only a single acute high-dose external exposure and not internal exposures by α and/or β rays. In reality, however, those who were exposed to radiation by entering the cities soon after the bombings or by being hit by "black rain" suffered acute radiation diseases similar to those developed in those who directly experienced the atomic bombings: these people must have inhaled and/or taken in radioactive fallout that was composed of unfissioned U-235 and plutonium-239 (α ray sources) and nuclear fission products (mostly β ray sources). It is obvious that a significant amount of intake of α and β ray sources will cause internal exposures, leading to radiation diseases. Nevertheless, such effects have not been quantified. The 2006 BEIR VII report also takes into account the biological effects of a single acute external exposure to γ rays of 0.1 Sv or more only, based on the data collected from *hibakusha* from Hiroshima and Nagasaki. In short, there is no satisfactory and quantified data on low-dose exposures of less than 0.1 Sv, whether by a single acute exposure or by cumulative exposures, nor on internal exposures to α or β ray.

Advantages and disadvantages of nuclear power plants

The main "disadvantage" of NPPs is unquestionably the issue of radioactive waste, including the NPPs themselves. As radioactivity is one of the very characteristics of nature that cannot be artificially eliminated, radioactive waste needs to be maintained under strict controls for a very long period of time.

There are two factors regarding the "advantages":

- The "Megatons-to-Megawatts" program
  Highly-enriched uranium extracted from dismantled "Little Boy"-type bombs in Russia is transported to the US where it is mixed with depleted uranium to produce LEU for use at commercial nuclear reactors for power generation.
- "Plutonium Disposition"
  Plutonium extracted from dismantled "Fat Man"-type atomic bombs / hydrogen bombs is mixed with depleted uranium to produce MOX fuel for use at commercial nuclear reactors for power generation.

From the perspective of the abolition of nuclear weapons and nuclear non-proliferation, nuclear materials extracted from dismantled nuclear weapons (specifically highly-enriched uranium and high-purity plutonium) need to be totally and safely utilized in a peaceful manner: nuclear power plants satisfy this need.

The Fukushima accident as a "man-made disaster"

"Unexpected" is a word that has been frequently found in media reports of the recent Great East Japan Earthquake. Nevertheless, the authors hold that this word does not apply to the case of the Fukushima Daiichi NPP. Even before the earthquake, if not before the construction of the plant, it had been known that there had been a huge tsunami disaster, later named the Jogan Tsunami, of a far more gigantic scale than assumed within the emergency policy applied to the plant. There was also a simulation analysis conducted in 1981, regarding a possible temperature surge within the pressure vessel in the event that the external electricity is completely cut off.

Prior to the recent accident at Fukushima, there had been only two incidents at a nuclear power plant of a significant scale: at Three Mile Island in the US in 1979, and at Chernobyl in the former USSR in 1986. Moreover, the causes of these two accidents are different from that of the present Fukushima disaster. Today we travel in airplanes, or we operate steam engines and thermal power plants quite safely, partly because of all the lessons and improvements learned from various past incidents. Therefore, considering the gradual nature of "technological progresses," the idea that the Fukushima accident can be seen as "unexpected" might not be unreasonable. **Nevertheless we must also remember that there was no one whose health was affected by radiation exposure when, on December 2, 1942, Enrico Fermi succeeded in a test operation of the first-ever nuclear reactor, CP-1, making it critical by the artificially controlled nuclear chain reactions of U-235 (artificially keeping its self-sustained chain reaction).** (In fact, the first fatal accident caused by radiation exposure occurred in the US only after the atomic bombings in Hiroshima and Nagasaki.) This indicates that even at the time when available facilities were incomparably more primitive than today, people succeeded in protecting themselves from invisible radiation by taking prudent precautions. The authors believe that this past accomplishment should illustrate more clearly that the accident at the Fukushima Daiichi NPP deserves to be called a "man-made disaster."

(Written on May 9, 2011)

The Global Hibakusha Project

Robert Jacobs

In Hiroshima and Nagasaki, what the first *hibakusha* endured is unimaginable: they remain the only people to have survived a direct attack by nuclear weapons. Their history, and the continuing energy and witness that they bring to the cause of nuclear abolition, are examples that inspire people all around the world. However, while the *hibakusha* of Hiroshima and Nagasaki are the only humans who have survived a nuclear attack, millions more around the world have suffered from exposure to significant amounts of ionizing radiation. Most of these are victims of exposures due to nuclear weapon testing, especially during the era of atmospheric nuclear testing (1945-1963). Others received their exposures as a result of nuclear power plants, especially those who suffer from the catastrophic accident at Chernobyl, and sadly now Fukushima. Additionally, untold numbers have been exposed to radiation through the wartime use of depleted uranium (DU) weapons by the United States in Bosnia, Afghanistan, Iraq, and possibly in Libya.

World Hibakusha

There have been over 2,000 nuclear weapon tests on earth — in our oceans, in our air, in our ground. Weapons have been tested in North America, Asia, Europe, Africa, Australia, and throughout the Pacific Ocean. Countless people have been exposed by nuclear weapon testing to ionizing radiation that has affected their health, and the well-being of their families and communities. Nuclear weapon testing has typically been conducted in areas where the local population is politically powerless and socially marginalized. Often there is a colonial component, in which a nuclear weapon state tests their weapons in the colonial reaches of their military holdings, far from populations of their own ethnicity, and their own land. (The notable exception to this is the testing by the United States in Nevada, where over 1,000 of the tests have taken place, although there are arguments regarding the marginal status of the local communities there as well.) Often the indigenous communities in these test sites experience multiple abuses: their removal and often permanent dislocation from their traditional lands; exposure to ionizing radiation; contamination of food sources such as land used for planting and herding, and seas used for fishing; inadequate information about exposure histories and ongoing contaminations; a complete lack of compensation for health and land losses, or the denial of medical care. Because of the isolation of these communities, the *hibakusha* living there often have little awareness that there are other communities in the world that have experienced similar traumas. They tend to define their experiences in isolation, reinforcing their political powerlessness.

The impact of these exposures are most importantly assessed and understood epidemiologically. Most *hibakusha* have lost family members and neighbors, and often their own thyroid glands to cancer. They live in constant fear of emerging cancers. This project works to broaden our understanding of *hibakusha* by examining the social and cultural impact of radiation exposures on families and communities, which are generally much less visible than the health affects.

Hibakusha communities are scattered all around the world. The communities with the largest impact from nuclear weapon testing lived near the sites at which nuclear weapons were tested in the open atmosphere. In 1963 the United States and the former Soviet Union signed the Partial Test Ban Treaty, which ended testing in the atmosphere, and moved the tests underground. Communities that experienced underground nuclear testing also suffered from exposures to ionizing radiation, although in lesser amounts than were those exposed to atmospheric testing. However, they nonetheless experienced many of the social and cultural effects, such as displacement from traditional lands. The United States conducted almost all of its nuclear testing in two sites, Nevada and the Marshall Islands. To spare Americans from the very worst exposures to radiation, the United States tested all of its thermonuclear weapons (H-bombs) in the Marshall Islands, resulting in the long-term contamination of many atolls, four of which have had their populations evacuated and relocated onto other atolls. The former Soviet Union tested in many places, but primarily near Semipalatinsk (present day Semey) in East Kazakhstan. These areas suffer the most catastrophic legacies of nuclear testing. People who lived in these areas have suffered devastating social and cultural effects in addition to the blows to their health. The United Kingdom tested weapons in Australia; the French tested weapons in Algeria and on several islands in the South Pacific; the Chinese have tested weapons in the Lop Nur area of Western China near communities of the Uighur people, a marginalized Muslim community; India and Pakistan as well as Israel have also tested nuclear weapons, and most recently North Korea. Besides the *hibakusha* created by all of these nuclear weapon tests, countless communities have been exposed to ionizing radiation from uranium mining, nuclear weapon production, and nuclear power plants. The use of DU weapons by the United States in its wars since the 1990s has also sickened people and communities whose lives and land will forever be changed because of radiation exposures and contaminations.

Case Study: The Marshallese

Immediately after World War II the United States was eager to gather information about its new super-weapon. In July of 1946, less than a year after the bombings of Hiroshima and Nagasaki, the United States tested two nuclear weapons in the Marshall Islands. The US military was particularly interested to study the effects of nuclear weapons on naval ships and underwater. They decided to test the weapons in the middle of Bikini Atoll. (Bikini is a typical round coral atoll with no elevation.) The Bikinians were given 24 hours to gather their belongings before they were forcibly removed and taken to live on neighboring atolls and islands. Two weapons were tested at Bikini contaminating the atoll with high levels of radiation. The Bikinians, who had been told that they could return to their homes after the testing and cleanup, slowly began to realize that they were not going back to their homes. During the next 17 years the United States tested more and larger nuclear weapons at Bikini Atoll and at Eniwetok Atoll, including dozens of high yield thermonuclear weapons. The radiation load borne by these and surrounding atolls was horrendous.

The Bravo Test (1954) in particular wrecked much more destruction than just the hole blasted into Bikini Atoll (separating the land into two and giving birth to the name of the two-piece bathing suit). Bravo tested the first deliverable thermonuclear weapon built by the United States. The test yielded a far larger explosion than weapon designers had intended and the resultant fallout contaminated several downwind atolls, most notably Rongelap. American radiation monitors visited the atoll later that day and realized that the levels of contamination were dangerously high, but left without informing any of the Rongelapese. They returned three days later and declared that all the inhabitants had to evacuate immediately. Residents had less than an hour to gather their valuables before boarding the US naval vessels. Many remember wondering if they would ever return to their homes. The US military attempted to clean up the radiation from Rongelap and bring the evacuees back to their homes. In 1957, three years later, they declared the atoll "clean and safe" and returned the Rongelapese. But the atoll was only partly "clean and safe," and residents were told that they should not eat the fish caught off the atoll, or travel to the northern end of the atoll. Over time many Rongelapese became sick and many died of cancer. They asked the Untited States and the international community to come to their aid, but they were ignored. Finally, in 1985 the boat, the *Rainbow Warrior*, belonging to the environmental group Greenpeace arrived at Rongelap and in three trips evacuated all of the residents a second time to other atolls. In fact, after completing this mission and later docking in New Zealand, the *Rainbow Warrior* was blown up by the French secret service to keep it from disrupting French nuclear testing in the South Pacific.

For the Marshallese, land is of primary importance. Atolls have very little livable and tillable land: Rongelap has only 8 square miles of land. With land ownership come many rights. (Incidentally, land is passed down matrilineally in the Marshall Islands.) Displacement from their atoll (for three generations now), their continuing health problems, and the disconnection from their traditional lifestyle and diet, have burdened the Rongelapese and their descendants considerably. And this year they face yet a new challenge. The US government has again "cleaned up" Rongelap, building houses, a school, a community center, and other infrastructure. The Rongelapese will have to decide whether to return to Rongelap. This decision will engage deep longings to be "home"; for some a home they have never been to. Their decision will also stir their understandable mistrust and wounds from past betrayals. Should they trust that their atoll is "clean and safe"? Should they risk their health again? What would you do?

Residents of Bikini being removed from their homes by the US military in 1946.

Project Goals

There are several components to the work being done through the Global Hibakusha Project. The first is to gather oral histories of *hibakusha* (first-, second- and third-generation *hibakusha*) and to access the existing oral history records. However, the primary goal of the project is to empower and link the disparate *hibakusha* communities. We believe that if the isolation of the *hibakusha* communities can be bridged, a dialogue can emerge between these communities — a dialogue that will have positive and potentially liberating effects. The first effect is for *hibakusha* to understand that they are part of a global community of people who have had very similar experiences and who face very similar challenges. This understanding — that many other people in the world can relate to their experiences, and even share many of them — is both sad (to know others suffer), and liberating (to alleviate the sense of otherness and isolation). Another goal is to establish a dialogue about political tactics and compensation strategies. One group of *hibakusha* may have been able to legally establish particular health effects as related to their exposures, while another community may not. An awareness of the successes and strategies of disparate communities fighting essentially the same legal battles with separate governments can provide tools that can assist *hibakusha* communities in establishing and asserting their rights.

Additionally, a key goal of the project is to engage younger, third- and even fourth-generation *hibakusha* with their family and community histories. Many younger people assume that their elders' exposure to radiation is separate from their own experiences. This may come from defining the experience strictly as related to health issues. However, when a teen that has grown up with a marginal status because their family is dispossessed of their traditional lands, that teen has been very much shaped by their *hibakusha* experience. We will seek to facilitate the production by younger *hibakusha* of creative cultural pieces about their lives and heritage. This, for example, could take the form of conducting a video interview with their elders, which many young, and even impoverished people can now do because of cell phone technology. That interview can then be emailed into a central digital database. We want to encourage young *hibakusha* to produce artwork, music and any manner of creative expression that they choose, with the goal of sharing it with the youth of other *hibakusha* communities.

Outcomes

The Global Hibakusha Project is designed to have many blossoms. Though there will be a book based on scholarly analysis, as well as several journal articles and conference panels, the project aims at having a felt impact in the *hibakusha* communities and not just in the academic community.

A key outcome of this project will be the creation of an online space intended to be a resource and — just as importantly — a communication tool for *hibakusha* communities. The website will have both public and restricted areas. The public areas will list resources and contain public testimony, artwork, and information about *hibakusha* communities meant to spread their stories to the whole world. By presenting information about many far-flung *hibakusha* communities, our goal is to help people to see the *hibakusha* experience from a global, rather than a national, perspective. The private sections will be strictly for the use of the *hibakusha*. As we work to gather stories and artwork in *hibakusha* communities, we make it clear to each contributor that they are the owners of the material. We will never publish them, online or in academic publications, without the express consent of the creator. We recognize that some of this material will be meant only for other members of the same community, or for *hibakusha* from other affected communities. We want to facilitate that dialogue, protect their privacy, and honor their wishes. We will work to have the material on the webpages translated into the languages used by each of the *hibakusha* communities, so that stories from Maralinga, Australia, can reach people in Semey, Kazakhstan, and stories from Palau in the South Pacific can be understood in Hiroshima and Nagasaki.

The use or testing of nuclear weapons, and nuclear power, have had many effects in the world, and none as misunderstood as the isolating veil that is thrown over a community once it suffers the invisible threat of radiation. The Global Hibakusha Project is working to remove the barriers of isolation that have long separated *hibakusha* communities from each other. We hope that as the voices of the *hibakusha* of the world join into a chorus, the lessons first taught in Hiroshima and Nagasaki will echo from pole to pole.

The Global Hibakusha Project is the work of Dr. Robert Jacobs of the Hiroshima Peace Institute and Dr. Mick Broderick of Murdoch University in Perth, Australia. The project is generously supported by funds from the Special Academic Research Grant for Peace Studies from Hiroshima City University, and the Grant-in-Aid for Scientific Research from the Japan Society for the Promotion of Science.

Associate Professor at HPI

Revolutions in the Arab World and Their Implications in East Asia

Sung Chull Kim

The wave of anti-government demonstrations in North Africa and the Middle East has been drawing our attention to another corner of the world, East Asia, and particularly to China and North Korea. The series of mass demonstrations first began in Tunisia following the suicide of a poor, young fruit-store owner, Mohammed Bouazizi, who set himself on fire on December 17, 2010. The suicide sparked mass protests against corruption and oppression by government officials, and in turn the protests resulted in the ousting of President Ben Ali one month after Bouazizi's martyrdom. From the dawn of this year, demonstrations have spread throughout the Arab world: in Algeria, Oman, Egypt, Yemen, Jordan, Saudi Arabia, Kuwait, Iraq, Bahrain, Iran, Libya, Morocco, Lebanon and Syria. The targets of the protesters' anger, the forms of their resistance and the responses of the respective repressive regimes differ from country to country. As a consequence, the impacts of the demonstrations also vary from one another. (For the major consequences, see below.)

- Tunisia: On January 17, 2011, President Zine El Abidine Ben Ali was ousted.
- Egypt: On February 11, President Hosni Mubarak was ousted.
- Bahrain: On March 16, two ministers, four upper house members and twelve judges resigned.
- Libya: On March 17, in response to the dictator Muammar el-Qaddafi's brutality, the UNSC adopted Resolution 1973 which permitted military intervention by Western countries.
- Kuwait: On March 31, the cabinet led by Prime Minister Shaikh Nasser Al Mohammad Al Sabah resigned.
- Yemen: On April 23, President Ali Abdullah Saleh, accepting mediation from the Gulf Cooperation Council.

It is noteworthy that the demonstrators succeeded in ousting dictators only in Tunisia and Egypt; however, the situations in other countries are different. It is not incidental that Tunisia became the first country in which demonstrators ousted the 23-year dictatorship led by Ben Ali. More than any other Arab country, Tunisia has had real potential for a democratic transition due to the empowerment of women. The power of women expanded owing to compulsory women's education, which is unusual in Muslim society. Women's education has led Tunisian society to avoid the greatest defect of Islam that "repressive homes pave the way for repressive governments," to use Bernard Lewis's phrase. Furthermore, a rapid increase in the number of mobile phone users made revolution possible in Tunisia. The number of mobile phone users increased five times in the past seven years, from two million people in 2003 to ten million in 2010. This figure represents one mobile phone per person in the country. Information technology has also created an interface between mobile phones, the Internet, and social media such as Twitter and Facebook. This development made possible the rapid spread of breaking news and the ensuing mass demonstrations from one place to another, and in turn it is highly likely to have contributed to relieving fear which is a barrier that has made it difficult for people to resist their repressive rulers.

On the other hand, one may not expect that this chain of revolutions will immediately bring about a sequential political transition across the Arab world. The mass demonstrations and the resultant fall of dictators will not automatically guarantee regime transition. The causes of the mass demonstrations such as corruption, strict control and oppression are triggers, but they in themselves do not produce sufficient conditions for transition. In Egypt, the future of politics seems to be depending on what kind of future roles the military and the Muslim Brotherhood will play. The situations in other countries remain unpredictable. The ramifications of the armed struggles in Libya will continue to unfold, and Libyan migrants will likely continue to suffer hardships due to European countries' unwillingness to allow them entry. Civilian casualties in Syria caused by governmental repression have already reached several hundred; furthermore, President Bashar Assad still receives a certain degree of domestic support. The political situation in Yemen, even following Saleh's conditional resignation, remains unpredictable.

Despite the divergence of developments across the Arab world, the magnitude of the mass demonstrations was huge. As a consequence, observers have instinctively looked to see if there will be reverberations of the mass demonstrations in the Arab world in China and North Korea. The increasing use of information technology in China and North Korea has drawn the particular attention of observers; however, thus far it has not contributed significantly to a spill-over effect from the revolutions in the Arab world. In China, the rate of mobile phone usage is around 64%, which is much lower than that of Tunisia, slightly lower than that of Iran, and the same as in Lebanon. North Korean usage rate is as low as 1.7%, which is an incomparably low figure. More importantly, the effect of the interface between mobile phones and the Internet is strictly censored in both countries. The Chinese government, which already tightly controlled the Internet, has further strengthened its control since Liu Xiaobo won the 2010 Nobel Peace Prize and demonstrations spread throughout the Arab world. North Koreans use their mobile phones mostly for commercial purposes in the area bordering northeastern China. Whereas North Korean mobile phone users consider them a useful tool for accessing information from the outside, most North Koreans are still in a deep sleep regarding what has been going on in the Arab world.

As to the possible impact of the revolutions in the Arab world on East Asia, the dynamics of civil society will become one of the most important variables. As demonstrated in the post-communist transition in Eastern Europe, there were divergent paths depending on the role played by civil society. Empowered labor in Poland and the expanded power of intellectuals in Czechoslovakia's underground resistance, even before popular uprisings took place in these countries, paved the way for faster and relatively smoother regime transition. In contrast, most of the former republics of the Soviet Union, whose independence benefitted from the synergetic effect of the Eastern European transition, underwent ups and downs, and eventually witnessed the reemergence of repressive regimes. The independent governments of Armenia, Azerbaijan, Belarus, Kazakhstan and Uzbekistan either undermined an already weak civil society or mobilized security forces to brutally repress it.

Conversely, the Chinese case shows a gradual development of civil society. The citizens movement, which began with governmental supervision at the beginning of the new millennium, is becoming more organized in order to protect civil rights, as well as to expand rights in environmental issues and improve working conditions. People who lived in the era of reform transformed their discontent about politics into hard work which resulted in economic development, and in turn they themselves benefited from the results. Now the young generations who have grown up amidst the socio-economic changes are more independent and are making demands about their rights. The governmental control of labor rights in particular will probably become a source of the most grudging discontent. Furthermore, the rapidly expanding use of information technology will render the new generation and civil society even more organized and empowered.

Professor at HPI

The Sinking of the Cheonan and East Asian Community Debates:
North Korea's Place in the Region

Mikyoung Kim

North Korea never ceases to be exciting and excitable. It is located at the center of the East Asian region in both the literal and figurative senses, linking continental China and oceanic Japan, and sharing borders with China, Russia and South Korea. Recently, a series of violent incidents has made the region ever more unpredictable, and North Korea lies at the epicenter of this situation. Portrayals of a rapidly changing East Asia (e.g. China's rise, Japan's decline, the US as an Asian and/or Pacific country, and South Korea as a medium power) have given way to concern over the region's propensity for violence. Following the sinking of the Cheonan on March 26, 2010, North Korea shelled the Yeonpyeong island, along the Northern Limit Line (NLL) on November 23, 2010. In between these events, Japan and China clashed over the Senkaku (Diaoyu in Chinese) islands in September. With such danger lurking within, how sustainable are the East Asian Community debates?

The East Asian region has been rattled by the sinking of the ship. The South Korean corvette of the 2nd fleet, PCC-722 Cheonan, sank while conducting a mission in the vicinity of the Northern Limit Line on March 26, 2010. The Sea Patrol along the western sea line of the ROK was soon dispatched, and rescued 58 out of 104 crew members. Among the 46 missing crew members, 40 were reported to have perished, while 6 were still missing as of April 24, 2010. The ROK Ministry of Defense organized a Civilian-Military Joint Investigation Group consisting of 25 experts from 12 Korean civilian agencies, 22 military experts, 3 advisors recommended by the ROK National Assembly, and 24 multinational experts from the United States, Australia, the United Kingdom and Sweden. On May 20, the team issued reports implicating the DPRK in the attack.

The responses of governments in the region have ranged widely from direct accusation to cautious ambivalence. The wide spectrum of reactions to this alleged North Korean belligerence sheds an instructive light on the ongoing East Asian Community debates. "Community," as a concept different from "association," often assumes a shared cultural ethos among members who seek to defend and promote their common interests and values. It is not surprising that the debates over community in East Asia have been largely oblivious to the regime of Kim Jong-il. Community discourse, with its assumptions of shared values and goals, has yet to address the dangers lurking within. Then how can the East Asian Community sustain itself amidst the waywardness of North Korea? This paper argues that the North Korean regime simultaneously consolidates and divides the community, as seen in the aftermath of the Cheonan incident. The North Korean factor needs to be taken into consideration in order for there to be viable community debates.

Efforts to situate North Korea in East Asian Community debates entail ideational considerations formed through one state's repeated interactions with reference groups from significant other states. The self-image of a state, the manifestation of a cognitive framework, influences the shaping of national interests, preferences and foreign policy behavior. The "politics of labeling and framing," along with strategic calculations, designate North Korea's place in East Asia. As a nation-state within the international system understands others' perceptions of itself, so it reacts to those others accordingly. North Korea is no exception to this.

The Cheonan incident is a tragic case in terms of testing the validity of norm-based East Asian Community discourse. Violence within the community, a disruptive element, consolidates domestic interests over the ideational construction of an international society. Internal violence deepens the divisions of pre-existing rivalry by reopening old wounds and reviving competition between states. Consequently, it can enhance the power of parties that can control the perpetrators of violence. The Cheonan incident, therefore, has chilled the romanticized prospects for a communal vision, pushing it back to a Cold War-like modality. The incident has reminded the community that *realpolitik* supersedes normative rhetoric.

North Korea is indeed a part of Northeast Asia, but its isolation makes a systemic study of the nation much more difficult in comparison to other countries. Nevertheless, North Korea is an East Asian nation, sharing a Confucian cultural tradition, geographical proximity, historical memory, linguistic affinity, and racial similarity with other states in the region. The DPRK's dynastic socialist government, however, makes its regional membership a challenge. The DPRK's circumstances surrounding the Cheonan incident are a telling case in point. How do the similarities and differences across the region shape the community discourse?

A most self-serving response to the Cheonan incident would be to quote the cliché "time will tell." There is no question that time will tell in this increasingly democratizing world, where past wrongs and hidden truths are eventually unearthed under the bright gaze of historical fact-finding efforts. The US Freedom of Information Act and its Japanese equivalent are legally bound to shed light on this incident 25 years from now. The South Korean eyewitnesses will survive to testify about what they saw on March 26, 2010. However, the lingering question is what should be done in the meantime: what does the Cheonan incident mean for the East Asian Community?

Regional reactions to the incident demonstrated dramatic divisions among the member states. Apart from geographical proximity, other binding elements such as shared worldview, ethos, mutual identification and common ideational values were notably lacking. Amid rising concerns and anticipations, the future trajectory of East Asian Community debates remains to be seen. The (re-)constructed narratives surrounding the violence within the community show more room for pessimistic predictions than rosy wishful thinking.

The sunken Cheonan reminds us of two unspoken mishaps: the dismissal of North Korea as a legitimate party to the discourse, and the potent adverse effects of inter-community violence. The multilayered readings of the Cheonan incident alert us to what we have refused to see, and why. The unfolding saga of the past year has carried with it a self-reflexive momentum. The stories of Japan, South Korea and North Korea reveal the hidden intentions of each stakeholder. The sunken Cheonan, therefore, is instructive for its unsolved mysteries.

The community debates project the region as one integral unit, amid rapid shifts within its socio-political and economic landscapes. North Korea, an accused perpetrator, occupies a crucial place in the East Asian Community.

Associate Professor at HPI

New HPI website launched

The website of the Hiroshima Peace Institute has been renewed on April 1.

English http://www.hiroshima-cu.ac.jp/modules/peace_e/index.php

Japanese http://www.hiroshima-cu.ac.jp/modules/peace_j/index.php

DIARY

March 1 – June 30, 2011

◆**Feb.-Jun.** Mikyoung Kim serves as secretary of the organizing committee for the international conference "Human Rights, War and Peace after the Cold War," co-organized by the Korea Association of International Studies and the International Political Science Association, to be held in June in Seoul, Korea.

◆**Mar. 13** HPI Vice-President Kazumi Mizumoto gives lecture "What to Learn from Cambodia and How?: Some Advice from My Experience" at a review session of the Study Tour to Cambodia organized by the Hiroshima International Center (HIC), held at HIC.

◆**Mar. 15** Mizumoto attends the annual meeting of the Advisory Research Group of the Hiroshima Peace Memorial Museum, held at the International Conference Center Hiroshima.

◆**Mar. 19** Mikyoung Kim chairs, serves as a panel discussant, and presents paper "The Middlemen Genre: An Analysis of Northern Settlers' Narratives in South Korea," at a panel session "Memory Project: Historical Justice and Reconciliation in East Asia," during the annual convention of the International Studies Association, held in Montreal, Canada.

◆**Mar. 24** Mikyoung Kim presents paper "The Border-man Genre: The Northern Settlers' Narrative in South Korea" at the Halle Institute, Emory University, Atlanta, Georgia, US.

◆**Mar. 25** Mizumoto serves as the Vice-Chair at the 5th meeting of the Exhibition Review Committee of the Hiroshima Peace Memorial Museum, held at the museum. ▽Mikyoung Kim presents paper "The Cheonan Sinking and Its Implications for East Asian Community Debates" at the Center for the Study of Global Issues, the University of Georgia, Athens, Georgia, US.

◆**Mar. 28** Mikyoung Kim presents paper "The Current Crisis in Japan: A View from the Hiroshima Peace Institute" at the Halle Institute, Emory University, Atlanta, Georgia, US. ▽Mikyoung Kim presents paper "North Korean Refugee Issues and Korean-American Communities" at the Association of Inter-Korea Reconciliation and Cooperation (Atlanta Charter) in Doraville, Georgia, US.

◆**Apr. 3** Sung Chull Kim attends a joint conference co-organized by the Association for Asian Studies and the International Convention of Asia Scholars, and presents paper "Japan's Repatriation of Korean Residents and the US Involvement," held in Honolulu, Hawaii, US. ▽Mikyoung Kim presents paper "Commemorating the Dark Past: The Atomic Bomb Dome and Hiroshima History Movement" at a panel session "War, Memory, and Japanese National Identity Construction over Time and Space," during a joint conference co-organized by the Association for Asian Studies and the International Convention of Asia Scholars, held in Honolulu, Hawaii, US.

◆**Apr. 11** Mizumoto participates in the screening board for basic exhibition design proposals for the Hiroshima Peace Memorial Museum, held at the museum.

◆**Apr. 15** Mizumoto attends a preparatory meeting for "Building an International Peace Hub in Hiroshima," organized by Hiroshima Prefecture, held at the HIC.

◆**Apr. 23** Robert Jacobs presents paper "Atomic Pawns: Preparing American Troops for the Nuclear War in the 1950s" during a national conference co-organized by the Popular Culture Association and the American Culture Association, held in San Antonio, Texas, US.

◆**May 1** Mikyoung Kim is appointed as a member of the Advisory Council on Democratic and Peaceful Unification of the Republic of Korea for the period of May 2011-April 2013.

◆**May 7** Mizumoto gives lecture "The Meaning of Studying the Hiroshima Experience" at the Hiroshima Peace Forum organized by the Hiroshima Peace Culture Foundation and other groups, held at the Hiroshima Peace Memorial Museum.

◆**May 18** Mizumoto attends the 1st meeting of the Drafting Committee of the Peace Education Program organized by the Hiroshima Municipal Board of Education, held at HPI.

◆**May 23** Jacobs presents paper "Irradiated Zombie Soldiers: Strategic Options for American Battle Commanders Whose Troops Have Been Exposed to Lethal Radiation," during the global conference "War and Peace: Probing the Boundaries," held in Warsaw, Poland.

◆**May 26-29** Robert Jacobs and Makiko Takemoto present papers, respectively entitled "Domesticating Hiroshima in America: From Military Target to Childlike Victims in Need of Help, American Depictions of the Victims of the Hiroshima Bombing in the Early Cold War" and "Japanese Discourse on 'Hiroshima and Auschwitz' and 'Overcoming the Past,'" during the international conference "Images of Rupture in Civilization between East and West: The Iconography of Auschwitz and Hiroshima in Eastern European Arts and Media," held at Heidelberg University, Heidelberg, Germany.

◆**May 29** Mizumoto gives lecture "The Raison d'Être of Hiroshima in the International Community" at the training program in Hiroshima of the 63rd Japan-America Student Conference (JASC), held at the Hiroshima Peace Memorial Museum.

◆**Jun. 13** Mizumoto serves as the Vice-Chair at the 1st meeting of the Exhibition Review Committee of the Hiroshima Peace Memorial Museum, held at the museum. ▽Mizumoto attends the 1st plenary meeting of the Cambodia Reconstruction Support Project, co-organized by Hiroshima Prefecture and JICA, held at the Hiroshima Prefectural Office.

◆**Jun. 16** Mizumoto attends the 2nd meeting of the Drafting Committee of the Peace Education Program organized by the Hiroshima Municipal Board of Education, held at HPI. ▽Mikyoung Kim presents paper "North Korean Human Rights Debate in East Asia" at the international conference "Human Rights, War and Peace after the Cold War," co-organized by the Korean Association of International Studies and the International Political Science Association, held in Seoul, Korea.

◆**Jun. 24** Mizumoto gives special lecture "The Current State and Tasks of Peace Research" at a training program for Level II Certified Nursing Administrators organized by the Hiroshima Nursing Association, held at the association.

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