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Giving Up the Nuke?

By Haruhiro Fukui

"Do you believe it to be possible to eliminate nuclear weapons?" is one of the questions, and the hardest of all, that I have often been asked since my appointment as the next HPI president was officially announced. "Maybe, ..." has typically been my lame answer. In what follows, I would like to address the question once more and raise a few related questions.

Let me begin with a few comments on the charming little book by Noel Perrin published in 1979, *Giving Up the Gun*. It relates the remarkable tale of Japan's meteoric rise and fall as the "matchlock superpower" of the early modern world. What was remarkable was not so much the speed with which the nation manufactured and armed itself with more guns than all European nations combined within a few decades of its first encounter with the couple of matchlocks brought by the Portuguese adventurers stranded on Tanegashima in 1543. Nor was it the demonstration of the formidable destructive power of the weapon in the series of famous battles fought by rival bands of warriors during the last half of the century, notably the Battle of Nagashino in which Oda's 3,000 matchlockmen literally obliterated Takeda's entire cavalry. It was rather that Japan abandoned the formidable weapon soon thereafter and strictly on its own initiative.

An important lesson of the Japanese encounter and parting with the gun is surely that, as Perrin suggests, "progress" in military technology, such as the invention of the gun or nuclear weapons, is not something "semidivine" and "inexorable" but something "we can guide, and direct, and even stop." As he puts it: "Men can choose to remember; they can also choose to forget." Men in Tokugawa Japan indeed appear to have chosen to forget rather than remember. It would be, however, to misconstrue the main reasons for their choice to attribute it, as Perrin does, principally to the power of moral norms, such as the symbolic value of the sword for the "samurai" and his view of the gun as a "foreign" weapon. Far more important was no doubt the peace was broken and widespread violence broke out again during the last years of the Shogunate and the first years of the Meiji regime, the gun, rather than the sword, was the main weapon used by the combatants.

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As so-called realists among Western students of international politics, from Thucydides to Hobbes to Carr to Waltz, have been arguing for centuries with unfailing consistency and unshakable conviction, international peace is far more difficult to attain than domestic peace. This is primarily because international politics, unlike domestic politics, takes place in a state of anarchy, that is, the absence of government, among sovereign states. Anarchy creates the legendary Hobbesian "state of nature," or a permanent state of "war of all against all." This condition leads all states to arm themselves as heavily as necessary and possible for survival, giving rise to a vicious circle known as the security dilemma or arms race, a situation that raises the level of tension and heightens the risk of war. Should a war break out, the states involved are likely to employ any and every means available, including the most advanced and most destructive weapons at their disposal.

In a state of anarchy, the realist would go on to argue, disarmament is thus as difficult to achieve as international peace. In order to appreciate the degree

CONTENTS

Giving Up the Nuke? by new HPI President Haruhiro Fukui	1
HPI 's New President	1
Radiation Exposure Caused by Nuclear Tests by the Former Soviet	Union
and China, and Its Effect on Health by Masaharu Hoshi	2 ~ 4
Research Project on Nuclear Disarmament in the 21st Century	Missile
Defense, Rogue-state Doctrine and Israel s Nuclear Weapons	4 ~ 5
NGOs, Citizens Meet in Nagasaki;	
Unite with Call for Nuclear-free Future	5
HPI Project Discusses the Definition of "New-interventionism "	6 ~ 7
East Timor Must Overcome Obstacles Before Becoming Truly Independent	7
Optimism, Pessimism Mix;	
Symposium on" Korea and Search for Peace in Northeast Asia "	7
DIARY	8

HPI's New President

Dr. HARUHIRO FUKUI was appointed president of HPI effective as from April 1, 2001.

Fukui specializes in contemporary Japanese politics, international relations, international politics and policymaking. He gained a B.A. from Tokyo University of Foreign Studies, an M.A. in International Relations/American Studies from Tokyo University, and a Ph.D. in International Relations from the



Australian National University. He has worked as assistant professor, associate professor and professor in the department of political science at the University of California, Santa Barbara, of which he is also professor emeritus. He was also professor at Tsukuba University and Nanzan University. Fukui was born in Tokyo in 1935.

of the difficulty, imagine that all states but one disarmed themselves in order to escape the security dilemma and prevent war. The one state that remained armed then could dominate the world, easily conquering, occupying or destroying any and every disarmed state. The same logic should apply to nuclear disarmament: Should all extant nuclear powers but one give up their nukes, the one that refused to fall into line would be in a position to bully all the others into submission and impose its will upon the entire world. That would be the case if the one remaining nuclear power were only a minor maverick state or even a local terrorist group.

To be sure, solutions to the realist conundrum can be and have been suggested. If peace and disarmament require government, why not create one? In fact, the idea was propounded already in the 18th century, in Kant's *Perpetual Peace*. In the 20th century, first the League of Nations and then the United Nations embodied the same basic idea in the wake of, respectively, the first and the second world wars. The League without the participation of the most powerful state of the day, the United States, proved too weak even to be taken seriously by, not to mention impose its will on, any of the major powers, such as Germany and Japan. The United Nations, sponsored and led by the United States, has proved far more effective and durable, but has a very long way to go before it attains the status of a functioning world government, if it ever will.

If a world government is not to be available in the foreseeable future, should we look for a proxy in a hegemon and "hegemonic stability" under Pax Americana? Unfortunately, the vaunted benefits of hegemony are highly problematic. For one thing, it is a form of despotism, however benign or benevolent it might be, and violates the basic principle of the sovereignty and equality of all independent states under the Westphalian system. For another thing, the United States as the putative hegemon has been proven to be neither all-powerful nor always benevolent and public-minded—for example, as a principal party to the Korean and Vietnam wars and as a third-party mediator in the Israeli-Palestine dispute.

Another alternative to world government may be, as some liberals argue, a global security community or a network of regional security communities. This alternative sounds considerably more promising than hegemonic rule. In fact, the European Union (EU) is already the most advanced form of security community in world history. Could Asians build one, too? Might the ASEAN Regional Forum (ARF) be either a prototype or a model of one? What factors and circumstances facilitate or obstruct the formation of a viable security community comparable to the EU outside Europe? These are surely important questions to be asked and probed by peace research scholars in Hiroshima and elsewhere.

What about the moral dimension of men's choice either to "remember" or "forget" the seductive power of the newest weapon, the dimension emphasized in Perrin's discussion of how and why Tokugawa Japan gave up the gun? I do have some reservations about Perrin's emphasis, as I have already mentioned, but the gun and the nuke are certainly not the same: One kills at a blast a few dozen persons—in fact, only one in the case of the matchlock of Tokugawa vintage—while the other annihilates at a spark the entire population of a city, a country or even the world. Could the difference make men "forget" the latter more easily than the former, provided that peace is maintained between nuclear powers? I submit that this, too, is a very important question for us to ponder.



Dr. Toshihiro Takatsuji and the writer collect soil samples.

Introduction

Human exposure to radiation has a 100-year history that began with the invention of X-rays. The atomic bombings of Hiroshima and Nagasaki exposed many people to radiation and contributed to public awareness of its serious impact on human health. Since then, the United States, the Soviet Union, and China have conducted a number of nuclear tests, and the accident at the Chernobyl nuclear power plant created many more victims of radiation. Though atmospheric nuclear testing is now banned, the major world powers proceed with nuclear development programs. France carried out nuclear tests in defiance of the international community s desire for the total abolition of nuclear weapons, and India and Pakistan now possess nuclear arms after conducting their own series of tests. In the meantime, people's exposure to radiation has continued through a catalog of accidents, the criticality accident in the village of Tokai in central Japan being a recent example.

The development of nuclear weapons and resulting nuclear accidents constitute the most negative attributes of radiation. At the same time, radiation has been of great benefit to humankind, in the form of X-rays, for example. It is also used in university research for deciphering DNA, and in many other constructive ways. Radiation is used in industry, including in the inspection and production of manufactured goods. These are just some of the ways in which radiation has been indispensable in improving our quality of life.

The Research Institute for Radiation Biology and Medicine (RIRBM) at Hiroshima University has conducted studies on the effects of radiation exposure on the health of atomic-bomb victims in Hiroshima and Nagasaki. Our organization has recently been investigating how people in other parts of the world have been exposed to radiation and the effect it has had on their health. The objectives of our research are (1) to delve into the mechanism that triggers radiation-induced illness through medical examination, in the hope of protecting the health of the victims, and (2) to clarify the relationship between radiation dosage and the incidence of disease, with a view to assessing the risk of radiation-induced illness for people who handle radiation at work, and for members of the public exposed to radiation through medical treatment.

Given that the effective use of radiation is already well established in some areas, doses people are exposed to in workplaces and other situations should be kept to a minimum. This approach will help bring about strictly observed standards. In Japan, radiation risks are incorporated into regulations, such as the Law Concerning the Prevention from Radiation Hazards due to Radioisotopes, which stipulates the maximum permissible levels of radiation exposure.

RIRBM is studying radiation exposure and its effect on the health of people living in Semipalatinsk, Kazakhstan, following nuclear tests there. As mentioned earlier, the purpose of the study is to assess the risk posed by radiation. Most countries depend on studies of atomic-bomb victims in Hiroshima and Nagasaki to draw up risk assessments. But some argue that the potential risk to people in Semipalatinsk and other locations is different from that faced by atomic-bomb victims because they have been exposed for much longer periods lasting from hours to several months. The exposure experienced by people in Hiroshima and Nagasaki was instantaneous. Our study aims to clarify the difference.

This article will examine the effects of exposure to man-made radiation. After all, humans are continuously exposed to naturally occurring radiation, such as that found in soil and the rays that descend on us from the cosmos. There are places in the world where soil contains nearly 10 times the levels of radiation found in soil in Japan. Locations at high altitudes receive more radiation via cosmic rays. The effects of natural radiation are negligible. Some experts even claim that life on Earth can continue unaffected by man-made radiation up to 100 times stronger than its natural equivalent. Although never proven, this theory has attracted a great deal of attention in research on lowdose/low-dose-rate exposure, and is recognized around the world as of vital importance to radiological sciences. While biological experiments have been launched on an international level, we hope our study on Semipalatinsk will clarify the effects of this type of exposure on human physiology.

Radiation Exposure Caused by Nuclear China, and Its

Study on Radiation Exposure and Its Effect on Health in the Former Soviet Union and Kazakhstan

Semipalatinsk is home to a vast nuclear testing ground—about the size of the Japanese island of Shikoku—once used by the former Soviet Union. A total of 459 test nuclear explosions were carried out there between 1949 and 1989. Twenty-six of the tests were conducted aboveground, 87 in the air, and 346 underground. According to Russian reports, the total yield of these tests in terms of TNT ¹ was 18Mt—0.6Mt for aboveground tests, 6Mt for atmospheric tests, and 11Mt for underground tests. The total is 1,100 times more powerful than the bomb dropped on Hiroshima, which had a yield of 15kt. Although the tests account for only 6% of all test nuclear explosions conducted in the former Soviet Union, the effect of radiation exposure on local residents is very serious, as the testing site is situated near villages and cities.

Immediately after atmospheric testing, radioactive clouds generated through nuclear fission flowed outside the test ground, contaminating the air and exposing nearby residents to radiation exposure. Compared with the direct impact of radiation from the hypocenter, however, not much is known about the effects of radioactive fallout ² on people living long distances away.

After gaining independence from the Soviet Union, Kazakhstan disclosed data on nuclear exposure in areas around the testing site. Questions surround the reliability of the data, however, as they were released under military supervision.

Studies on the effects of radiation on health were conducted during the Soviet era, and then by Kazakhstan after independence. The Research Institute for Radiation Medicine and Ecology in Semipalatinsk has conducted these studies. The area around the testing site reportedly has experienced an increase in incidences of malignant tumors since the nuclear tests began. The total number of cases is greater than regions of a comparable size that have not been exposed, and the link between such tumors and radiation exposure remains contentious. Radiation-induced malignant tumors have been observed in various forms, such as leukemia and cancers of the thyroid, esophagus, stomach, liver, intestines, lung, and breast. Other abnormalities, such as chromosomal aberrations and physical malformations, have also been confirmed and are thought to have been caused by radiation exposure. Other risks associated with radiation have been confirmed. All of the relevant data are being compared with the data on people exposed to radiation during the atomic bombings of Hiroshima and Nagasaki. These studies will have to be verified by third parties through medical examinations of the victims.

Testimony about Nuclear Tests by the Former Soviet Union

The following is based on an account given by Dr. Boris I. Gusev, who was director of the Research Institute for Radiation Medicine and Ecology when our study began.

On August 12, 1953, the Soviet Union detonated its first hydrogen bomb 1,000 meters aboveground. Its yield totaled 470kt of TNT, or the equivalent of 31 Hiroshima bombs. The Soviet government took the unusual step of evacuating residents for three days from villages where radioactive fallout was expected. However, the wind speed was twice as fast as had been forecast, and fallout passed through the village of Karaul just two hours after the explosion. This unexpected development is



(Fig. 1) External exposure to gamma-ray fallout from each nuclear test as recorded outside the test site

Tests by the Former Soviet Union and Effect on Health

Masaharu Hoshi

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thought to have exposed 191 people to radiation from radioactive clouds that had reached the village well before they were ready to evacuate.

Despite the conclusion in 1963 of the nuclear test-ban treaty—which banned atmospheric nuclear testing—by the Soviet Union, the United States and other nuclear powers, the Soviet Union detonated a 240kt-class hydrogen bomb, claiming it was a peaceful use of nuclear energy, on Jan. 15, 1965, at ground-zero near the eastern border of the same test site. Apparently, many of the workers sent to the site after the explosion to build a reservoir later died of radiation exposure. The crater left by the explosion is now filled with water, and is called Atomic Lake. When we conducted a study there 30 years later, in 1995, we found that environmental radiation levels in the area were 100 times higher than normal. It is not hard to imagine how dangerous the nuclear explosion, conducted for so-called peaceful purposes, really was.

The military took various measurements before, during and after the nuclear explosion at Semipalatinsk. These were carried out not only within the test site, which was cordoned off, but also in residential areas outside the site. After the explosion, the military measured changing mid-air dosages over certain periods of time, as well as soil contamination in areas reached by radioactive clouds. They also conducted secret assessments of external and internal exposure among residents. The data released after the republic gained independence contains information on residential areas that were exposed to doses of radiation as high as several sieverts ³. The data cover only a small fraction of the 459 tests that were carried out. The disclosed contour map of doses (Fig. 1), for instance, includes just the five nuclear explosions carried out in 1949, 1951, 1953, 1955 and 1956.

Post-test Conditions Around the Test Site

It is necessary to conduct environmental studies on the current status of residential areas surrounding the site to gauge how much radiation residents will be exposed to in the future. In our 1995 field survey, we measured environmental radiation in Dolon, Znamenka, Semipalatinsk, as well as Atomic Lake, site of the nuclear explosions.

The level recorded on the shore of Atomic Lake was around 10 μ Sv/h (one millionth of a sievert per hour). In Semipalatinsk and several villages, the environmental radiation dose rate was less than 0.1 μ Sv/h. In Znamenka, 50km from the hypocenter of Atomic Lake, the dose rate also stood at a natural level of 0.07 μ Sv/h. Given that the current level of natural radiation in Hiroshima is less than 0.1 μ Sv/h, the figures indicate that people living in areas near the lake are not at risk.

The Impact of Nuclear Tests by China

A survey has just been initiated on the impact of nuclear testing in China. China reportedly conducted tests at the Lop Nor test site, though some suspect they took place near Kazakhstan. Still, the precise location is unknown. According to information made available only recently, China conducted 24 nuclear tests between 1964 and 1981. Of the total, 15 involved 100kt-class bombs, and eight used 1Mt-class bombs. No information is available on the remaining tests.

No information has been disclosed about the pollution and radiation exposure in China caused by these tests, but the results of surveys conducted inside Kazakhstan have been published in recent years. The area in question lies near the country's border with China, about 450km southeast of Semipalatinsk—a 170-kilometer belt that encompasses Bakter, Makanshi, Ulzhar, and Taskesken. There are reports that the Jarkent area in the south was also affected, but no details are available to verify that claim.

Kazakhstan officials who have conducted surveys on radiation exposure and related illnesses among residents of this area estimate the exposure dose at 0.3 - 0.4 Gy ⁴, and report that the incidence of related illnesses is twice as high as in non-exposed areas.

No overseas survey team has visited these areas, except for one led by



Dr. Nobuo Takeichi examines the thyroid gland of a Semipalatinsk resident.

RIRBM. Comparative verification will be necessary, but we have not yet reached that stage.

Surveys Led by RIRBM, Hiroshima University, Funded by a Grant-inaid for Scientific Research from the Ministry of Education (now the Ministry of Education, Culture, Sports, Science and Technology)

Since 1994, our institute has been measuring radiation exposure and its effect on local people as a result of nuclear tests conducted in Semipalatinsk by the former Soviet Union. Ours is the first full-scale survey to be conducted by a team of foreign nationals. Starting with contaminated soil, we used bricks retrieved from the affected area to measure physical external exposure doses. We have also used ultrasonic equipment to examine blood samples taken from people exposed to radiation for possible chromosomal abnormalities, as well as thyroid glands.

Our first task was to estimate how much radiation residents near the Semipalatinsk test site had been exposed to, and then to compare our data with that of previous surveys. We estimated external exposure doses by applying thermoluminescence dosimetry to the bricks, which had been collected from Dolon, Znamenka, and other nearby villages considered to have received relatively high levels of fallout.

We found that bricks taken from an old church in Dolon recorded about 0.9Gy, which is very close to the figures reported in the past. To our surprise, however, the bricks collected from one of the buildings in Semipalatinsk City turned out to contain radiation levels of between 0.5Gy and 0.7Gy, or 100 times the reported figures. If internal exposure by fallout were taken into account, the actual exposure levels would be even higher. The outcomes of our study are consistent—taking into account a margin of error—with the results of the surveys conducted by the former Soviet Union and Kazakhstan. Those studies 'estimates of external exposure doses presented reliable values within a certain range of measurements.

To gauge radiation in soil, we measured the isotopes of Cesium137 and plutonium. As a whole, the levels of Cesium137 in the soil samples collected from inside the test site and surrounding areas turned out to be the same or slightly lower than levels found in Japan. On the other hand, the plutonium isotope levels were several to several hundred times higher than Japanese levels (40 - 120Bq/m²). From these results, we need to study internal exposure doses, or the actual dosage taken in by local people. We have begun to measure plutonium levels in bones taken from the deceased, only to obtain the same results. Measurements taken so far of internal exposure have not revealed doses high enough to harm human health.

We are also looking at chromosomal aberrations of lymphocytes in blood taken from victims. After examining the small nuclei, we discovered abnormalities equivalent to a maximum exposure of 0.4Gy. These results are not final, as we also need to look into other factors, such as the presence of viruses, before we can decide that such aberrations were caused by radiation exposure. In 1999, we started examining thyroid glands using ultrasonic devices as well as hormone levels in the bloodstream. We have learned that abnormalities are more prevalent in some areas exposed to radiation than in others. The results will be announced later this year.

Other Forms of Assistance and Studies

Japan International Cooperation Agency (JICA), an organization affiliated to the Japanese Foreign Ministry, has launched a humanitarian aid program that sends medical equipment to health-care institutions in Semipalatinsk and teaches local doctors how to use them. JICA has also conducted epidemiological studies in the area. Various organizations throughout Japan are involved in similar programs, with Hiroshima University and Nagasaki University providing the necessary human resources. The Science and Technology Agency (now the Ministry of Education, Culture, Sports, Science and Technology) plans to conduct an epidemiological study, and other

Research Project on Nuclear Disarmament in the 21st Century

Missile Defense, Rogue-state Doctrine and Israel's Nuclear Weapons

The fifth, sixth and seventh meetings of the *Research Project on Nuclear Disarmament in the 21st Century* were held on Oct. 20, Nov. 24 and Dec. 15, 2000, at the Hiroshima Peace Institute. The project leader is Mitsuru Kurosawa, professor at the Osaka School of International Public Policy, Osaka University. Each meeting featured presentations by a guest speaker and a project member, followed by a discussion. Details of the meetings are given below.

The fifth meeting

Fumihiko Yoshida, an editorial writer at The Asahi Shimbun, gave a presentation titled "Nuclear Strategy and Defensive Weapons." Yoshida examined the impact on nuclear disarmament of so-called defensive weapons such as the national missile defense (NMD) being developed by the United States.

Yoshida began by listing defensive weapons used or studied by the United States: 1) the anti-ballistic missile (ABM) in the 1960s; 2) the Strategic Defense Initiative (SDI) advocated by the Reagan administration; 3) the Global Protection Against Limited Strikes (GPALS) system favored by the administration of George Bush Snr.; and 4) NMD and theater missile defense (TMD), first proposed by the Clinton administration.

Depending on one s point of view, these weapons strengthen deterrence, replace deterrence, weaken deterrence or partly replace deterrence.

Yoshida said some people saw the proliferation of missiles and weapons of mass destruction as a justification for the development of NMD and TMD and believed they were an alternative deterrent to nuclear weapons. He added that many U.S. allies had voiced opposition to the systems, which had also been condemned by other countries who fear their deployment could trigger a nuclear arms race involving Russia, China, India and Pakistan. He said defensive weapons and the nuclear disarmament regime were incompatible, particularly given the threat of a new arms race.

Kazumi Mizumoto gave a presentation titled "Nuclear Policy and Non-nuclear Policy in Japan." He explained the background to

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universities are engaged in their own studies and research. The Research Institute for Radiation Medicine and Ecology in Semipalatinsk has a large stock of data obtained over many years of surveys and medical examinations that will continue to be of immense value in future studies.

On the international level, the United Nations has pointed out the need for more research and meetings to discuss the findings. On a national level, the United States spent three years carrying out medical examinations of thyroid glands, comparing data from both exposed and non-exposed areas, and found a startlingly large number of abnormalities in the exposed areas. Germany, Belgium and other European countries have also implemented such studies. As these examples indicate, the international community is well aware that the impact of radiation exposure on the residents of Semipalatinsk is far greater than that experienced by the people of Chernobyl, and that the health of local people has been seriously affected.

NGOs are also involved. The Hiroshima-Semipalatinsk Project was motivated by friendly ties formed between Hiroshima residents and Kazakh athletes during the 1994 Asian Games. Project members have provided ultrasonic devices for medical examinations, as well as medical supplies. They have also promoted people-to-people exchanges by, for example, inviting high school students from Semipalatinsk to study at local schools. Members of junior chambers of commerce in Hiroshima, Ihara and other places have also gotten involved. In addition to Chernobyl, Cataloghouse Co., Ltd. is now helping Semipalatinsk. As a resident of Hiroshima, a place that has suffered radiation exposure, I hope such exchange programs, as well as our studies and research, will expand in the future. policymaking, and highlighted future problems, including those related to nuclear weapons and nuclear energy.

Japan, the target of two atomic bombs, itself begun developing an atomic bomb during World War II, he said, adding that current Japanese nuclear policy was based on four principles: 1) non-nuclear policy (the three non-nuclear principles); 2) nuclear disarmament diplomacy; 3) dependence on the U.S. nuclear umbrella; and 4) the promotion of the peaceful use of nuclear energy.

Given the contradiction between the three non-nuclear principles and Japan 's dependence on the U.S. nuclear umbrella, Mizumoto argued that all four principles affect one another in several ways. The balance of these four principles, however, has never been discussed on the political stage. He compared Japan with four-wheel drive car whose wheels are heading in four different directions and cannot be brought under control by the driver. The " vehicle, " he said, was in need of urgent repairs.

The sixth meeting

Kazuyoshi Hishiki, a professor at Hiroshima Shudo University, gave a presentation on the failure of the rogue-state doctrine from the viewpoint of the Clinton administration s nuclear and missile policy toward North Korea. Hishiki, a former journalist, worked as a Kyodo News correspondent in Seoul, New York and Washington, D.C. He was chief editor of the agency 's foreign news section and deputy chief editorial writer.

Hishiki said the Clinton administration 's belief in the rogue-state doctrine had begun with a supportive article in the 1994 March/April issue of "Foreign Affairs" by Anthony Lake, then assistant to the president for national security affairs. In the article, Lake referred to rogue states as " backlash states." In June 2000, then U.S. Secretary of State Madeleine Albright started referring to such regimes as " states of concern."

The United States regards Iraq, Iran, North Korea, Libya and Cuba as rogue states that constitute the biggest military threat to the West since the former Soviet Union. It aims to prevent them from expanding their power within their respective regions. Washington regards North

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Afterward

Reporting on radiation exposure in Semipalatinsk and other areas, and the medical support being extended to the victims, serves only to strengthen my belief that our studies and assistance must continue. Using the experiences of Hiroshima and Nagasaki, we hope to continue our activities with the help of scientists and NGOs around the world.

Acknowledgements

RIRBM has obtained the cooperation of many colleagues in Japan and overseas, including Dr. Nobuo Takeichi, Mr. Masayoshi Yamamoto, Dr. Kimio Tanaka, Dr. Jun Takada, Dr. B. I. Gusev, Dr. S. Zhumadilov, Dr. A. K. Sekerbaev, Dr. Toshihiro Takatsuji, and Dr. Isao Yoshikawa. We have also received generous support from Takashi Hiraoka, honorary chairman of the Hiroshima-Semipalatinsk Project, Suemitsu Shimozaki, Chieko Kobatake, Hideo Yamada, an interpreter specializing in medical affairs, and many other people too numerous to mention by name. I wish to express my heartfelt gratitude to all of them for their valuable support and assistance.

Notes

¹ Trinitrotoluene, a high explosive.

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- 2 A radioactive substance produced by nuclear explosions.
- ³ A unit of radiation that is biologically effective.
- 4 A unit of radiation measured by absorbed energy per unit mass of tissue. 1 gray=1 Joule/kilogram.

Korea, with its missile and nuclear-weapon development programs, as the second biggest threat after Iraq.

The rogue-state doctrine arose from suspicion that North Korea was developing nuclear weapons, a situation that threatened to trigger a military confrontation. As a result, the United States partially retreated from the doctrine and instead used a combination of sanctions, the threat of military action and diplomatic engagement in its relations with Pyongyang. This approach culminated in the 1994 U.S.-North Korea Framework Agreement.

Hishiki said the United States had used the test launch of a ballistic missile by North Korea in 1998 to justify its pursuit of NMD, but added that the rogue-state doctrine s weaknesses were exposed during the inter-Korea summit in 2000 when North Korea said it accepted the continued presence of U.S. troops in South Korea.

Osamu Yoshida, an associate professor at Hiroshima University and member of the research project, gave a presentation on Indian nuclear doctrine. He analyzed the nuclear doctrine (in the Draft Report of the National Security Advisory Board on Indian Nuclear Doctrine), announced by India in August 1999. The report s preamble criticizes the permanent extension of the Nuclear Non-Proliferation Treaty (NPT) in 1995. It says India 's nuclear arsenal is designed to be a minimum deterrent, that the country would not initiate a nuclear strike, and that its national security objective is to achieve the goal of a world free of nuclear weapons.

However, the report also contains ideas that could prompt an arms race, by, for example, stating India 's right to retaliate with nuclear weapons and the need to continue research and development. Yoshida cast doubts on the India 's sincerity concerning nuclear disarmament. He said India 's nuclear doctrine represented the first political step toward India 's obtaining international recognition as a nuclear-weapon state.

The seventh meeting

Shuzo Kimura, a professor at Himeji Dokkyo University, gave a presentation on Israel s nuclear policy. Kimura said Israel was regarded as a nuclear-weapon state, despite Israel s refusal to deny or confirm whether it possesses nuclear weapons. He described in some detail Israel s nuclear weapons program since it concluded a secret atomic treaty with France in 1957, the year after the end of the Suez crisis.

Against the backdrop of nuclear development, Israel, he said, had formed a specific approach toward security. Learning lessons from the

Nazi Holocaust, Israel, he explained, had vowed " to try every possible means to resist the enemy, " and had " opted for nuclear weapons to avoid a repeat of the holocaust. " Kimura said Israel s nuclear weapons were designed to deter attacks from Arab states through unilateral, rather than mutual deterrence. In addition, Israel uses every possible means to prevent neighboring countries from developing their own nuclear capability, as evident in its attack on an Iraqi nuclear power plant in 1981.

The chances of incorporating Israel into the NPT regime as part of the Middle East peace process are low, Kimura said, since Israel says it will join the NPT only after a reliable nuclear-free zone is established in the Middle East. He said the United States had applied double standards in taking a tough stance against Iraq and North Korea (both of which are trying to develop nuclear weapons) while staying silent about Israel s' nuclear ambitions.

Masamichi Kamiya, a visiting research fellow at HPI, gave an overview of nuclear disarmament negotiations at the United Nations and their prospects. Because the United Nations was founded before the advent of nuclear weapons, nuclear disarmament is not clearly prescribed in the UN Charter. However, Kamiya said the organization had, for most of its history, looked upon nuclear disarmament as one of its most important aims. General Assembly Resolution 1, for instance, calls for international controls of nuclear weapons.

Kamiya looked at nuclear disarmament efforts made by the United States and Russia. He also looked at the progress of special sessions of the UN General Assembly on Disarmament since 1978, the efforts made by UN regional centers for peace and disarmament in Africa, the Asia-Pacific and in Latin America and the Caribbean, which were established in the 1980s. He covered multinational disarmament talks outside the United Nations through to the current UN Conference on Disarmament (CD) in Geneva. He also talked about Japan 's efforts at the United Nations to promote nuclear disarmament.

Kamiya said the United Nations should proclaim a " Decade for Disarmament and Human Security." He added that the United Nations should make better use of its regional centers for peace and disarmament, link nuclear disarmament with comprehensive disarmament, and adhere to " general and complete disarmament" under international control.

By Kazumi Mizumoto, associate professor at HPI

NGOs, Citizens Meet in Nagasaki; Unite with Call for Nuclear-free Future

The Nagasaki Global Citizens 'Assembly for the Elimination of Nuclear Weapons was held at Nagasaki City Peace Hall, Nagasaki Atomic Bomb Museum and other venues from Dec. 17 to 20. About 500 people from Japan and 17 other countries took part, and about 1,000 people, including registered participants, attended the opening assembly on Dec. 18.

Ten workshops, which were the core events at the gathering, were held Dec. 19 on the following topics: a) Forum for *Hibakusha* and Test Victims; b) Forum for Youth; c) Forum for Women; d) Peace Education and Peace Culture; e) Establishment of a Nuclear Weapons Convention; f) Refutation of Nuclear Deterrence; g) Laboratory and Subcritical Testing; h) Nuclear-weapon-free Zones and Nuclear Umbrellas; i) Roles of NGOs; j) Ballistic Missile Defense (BMD) and the Nuclearization of Space.

In addition, citizens and NGOs conducted "Your Own Programs," which featured 15 events, such as symposiums and photograph exhibitions, focusing on the importance of peace. Many people were drawn to the "Wartime Food Corner," which gave people the opportunity to recall their wartime experiences.

This international gathering, the result of efforts by NGO representatives, mainly leaders of Abolition 2000, and the municipal and prefectural governments of Nagasaki, provided a useful illustration of cooperation between citizens and local governments.

The closing assembly adopted the Nagasaki Appeal. The document calls for an international conference to negotiate a treaty to eliminate nuclear weapons. Second, it calls for the establishment of a Northeast Asia nuclear weapons-free zone, and third, for the cessation of all missile defense programs in cooperation with like-minded U.S. citizens. Fourth, the appeal urges all governments to inform the public of the damage caused by nuclear activities. Finally, it appeals to nations to do their utmost to implement incremental and parallel measures that would bring about the early abolition of nuclear weapons.

Some of those present wondered whether Hiroshima would be able to host a similar event. The people of the Hiroshima await the city government s response with interest.

By Masamichi Kamiya, visiting research fellow at HPI

Research Project on the Legitimacy and Rationality of New-interventionism

HPI Project Discusses the Definition of "New-interventionism"

As of January 2001, the Hiroshima Peace Institute had held six monthly meetings of members of its Research Project on the Legitimacy and Rationality of New-interventionism, launched last July. The project has been studying international society s' engagement in domestic conflicts and humanitarian crises since the end of the Cold War. Specialists have been invited from outside to discuss problematic areas and regional issues that project members alone would have been unable to cover in sufficient depth. While researching and analyzing case studies, the project team had some interesting discussions and has made significant progress.

This year we have placed emphasis on defining the term new-interventionism. We also discussed how different governments seek to legitimize humanitarian intervention, but this article will focus on discussions surrounding newinterventionism.

New-interventionism is difficult to define. After all, what is " new, " and what types of actions constitute " intervention? "

This research project chose not to use the term humanitarian intervention, since it aims to study international society s involvement through several different processes of conflict resolution; from the prevention of conflicts to post-conflict peace building. The extent to which those processes are humanitarian depends, in turn, on how we define " intervention. " Since the timing and nature of humanitarian interventions, or those that are conducted for apparently humanitarian reasons, are affected by political considerations, more study is needed into specific interventions to determine whether they can be called truly humanitarian.

Project members had a great deal to say about the use of the word " new " to distinguish between new types of intervention and past interventions in areas of conflict.

Domestic humanitarian crises are seen increasingly as threats to peace that override traditional ideas about noninterference in another country s internal affairs. Whenever there is a conflict between national sovereignty and humanitarianism, those doing the intervening require a clear political mandate and strict standards governing their actions.

Therefore, multilateral intervention, ideally by the United Nations, is seen as preferable to unilateral action. It is also important to allocate political responsibility for maintaining peace once an intervention has ended.

The question of neutrality often arose in discussions about humanitarian intervention in conflicts. The International Committee of the Red Cross (ICRC), for example, is known to maintain strict neutrality during its aid operations. By doing so, ICRC can conduct its genuinely humanitarian activities with the blessing of both sides in any conflict. The organization also maintains secrecy about its role and shuns the limelight to win the continuing trust of all parties involved in the conflict.

Although some who wish to see the ICRC do more to resolve conflicts find the organization's stoicism hard to accept, the fact is that this is the only way neutrality can be maintained. Mediators, by contrast, have no neutrality in the strict sense because they are required to submit mediation plans and make value judgments.

It is ironic that humanitarian aid can often get caught up in a prolonged conflict. Political judgments always affect interventions in conflicts and their resolution. A common belief in the universality of humanitarianism and human rights would, of course, lend much legitimacy to humanitarian interventions, but international opinion remains divided on this point.

The project turned its attention to the political responsibility of mediators for post-conflict peace building. In East Timor, the UN Transitional Administration in East Timor (UNTAET) has attempted to restore public order, reconstruct society and the economy, and establish a new system of governance. East Timor provides a valuable lesson in how international society should contribute in the process of restoration and, ultimately, independence.

Although the East Timorese opted for independence in their referendum, doubts exist over the desirability of independence given the seriousness of the country's economic and social situations. Nevertheless, international society must respect the democratic will of the people and provide as much aid and assistance as possible. This still leaves the question of to what extent international society should get involved in supporting East Timor in its quest for self-governance. While UNTAET is offering continued support for the Timorization of East Timor's administration, it faces difficult choices in deciding how far it should be involved in social affairs, such as education, where resources are so scarce that local projects alone will not succeed.

Finally, question of perpetuity depends on whether American engagement in conflicts will change with the election of a new administration in Washington. New-interventior" ism " suggests a concrete philosophy and set of procedures that constitute a permanent norm. Since the Gulf War, actions by the United States have largely determined the outcome of many cases of humanitarian intervention. Observers predict that the administration of George W. Bush will adopt a more passive approach toward conflicts abroad than that of Bill Clinton. It remains to be seen whether the election of a new U.S. administration heralds a change in the nature of international society s involvement in conflicts, or whether a new universal criteria for such engagement—namely new-interventionism will emerge that survives changes in administrations.

By Nobumasa Akiyama, research associate at HPI

HPI Research Forum

East Timor Must Overcome Obstacles Before Becoming Truly Independent

The Hiroshima Peace Institute held a forum on Dec. 4, 2000, at its conference room. Takeshi Kamiyama, who was sent by the Japanese Foreign Ministry to East Timor as head of the Environmental Protection Unit—part of the Governance and Public Administration Component of the UN Transitional Administration in East Timor (UNTAET)—spoke about the current situation in East Timor and its prospects.

Although East Timor has political independence from Indonesia, confrontations between pro-independence and pro-integration groups remain unsolved. Reconciling the factions, and uniting all East Timorese to rebuild their country will be no easy task.

Moreover, many obstacles remain in the way of real independence, including delays in building an economic infrastructure. Given such difficulties, the help of NGOs and international organizations such as UNTAET is of even greater importance.

In his speech, Kamiyama spoke from the viewpoint of someone involved in supporting nation-building, and touched on some of the internal problems they face.

He first pointed out problems in "Timorization" and post UNTAET governance in East Timor. Currently, UNTAET is in charge of all levels of administration, from central to local, and the hand-over of power from international staff to local people is under way. He said the process of devolution had been made more difficult by East Timor's shortage of qualified people and severe economic problems.

Low wages have driven many talented people overseas. The United Nations offers salaries far higher than the local average, so it must deal with the problem of how to foster a society that functions despite such wage differentials. Deciding what is to be done with employees hired locally, and establishing an organization that continues to hire talented people, are just two of the issues the United Nations will have to address before it withdraws if East Timorese society is to develop and remain stable, Kamiyama said.

He added that East Timor needed to reconstruct its economic and political relationship with Indonesia. Closer economic interchange with Indonesia is essential for the East Timorese economy. Despite gaining political independence, East Timor has many issues to solve before it can be called truly independent, he said.

By Nobumasa Akiyama, research associate at HPI

Optimism, Pessimism Mix

Symposium on "Korea and Search for Peace in Northeast Asia "

The International Symposium on Korea and the Search for Peace in Northeast Asia (KPNA) was held Dec. 6 and 7 at Kyoto International Conference Hall. The event was organized by Ritsumeikan University and chaired by former UN Undersecretary General for Humanitarian Affairs, Yasushi Akashi. Thirty-five specialists from 11 countries discussed recent developments on the Korean Peninsula and the future of North-South relations.

In a keynote speech, Stephen W. Bosworth, U.S. Ambassador to South Korea, said the United States, Japan and South Korea should continue to engage the North while maintaining a deterrent to reduce any threat from the communist state. He said normalization of diplomatic ties between North Korean and the United States depended on the satisfactory resolution of Pyongyang s development of missiles and weapons of mass destruction.

Discussions followed during sessions titled "Geopolitical Overview —Trends and Developments, ""Economic Issues, ""Security Issues, " "Major Powers, ""Multilateral Organizations/NGOs" and "Future Framework and Policy Initiatives." Many of the participants were particularly interested in weapons of mass destruction, missile proliferation and the impact the possible introduction of the U.S. national missile defense (NMD) system would have on security in Northeast Asia. Many voiced concern over the slow progress being made by the Korean Peninsula Energy Development Organization (KEDO), and discussed the possibility of creating a new framework for KEDO's dealings with North Korea. I was struck most by the levelheaded attitude shown by participants from the Korean Peninsula toward the positive diplomatic moves recently made by North Korea. Multilateral cooperation in the economic and security fields, particularly between Japan, the United States and South Korea, is needed to increase North Korea 's involvement in international society.

By Nobumasa Akiyama, research associate at HPI

Presentations of the Research Project on the Legitimacy and Rationality of New-interventionism (November 2000 ~ January 2001)

4th meeting on Nov. 24, 2000

"Food Situation in Africa—Food Assistance Under Circumstances of Political Intervention by Former Suzerain Power" by *Hiroyuki Matsumura*, director, World Food Program Office in Japan

"Subregional Conflict Resolution by the Economic Community of West African States (ECOWAS): Intervention for Regime Security " by *Takehiko Ochiai*, lecturer, Keiai University

5th meeting on Dec. 22, 2000

" A Study of the Japanese Government's Measures to Address the Situation in Kosovo and East Timor " by *Kenji Kanasugi*, senior assistant for policy coordination, Foreign Policy Bureau, the Ministry of Foreign Affairs

"What is New about New-interventionism?: Legitimacy and Rationality of the NATO Bombing of Yugoslavia " by *Hideaki Shinoda*, research associate, Institute for Peace Science, Hiroshima University

6th meeting on Jan. 25, 2001

"The Media's Influence on International Politics — the Cases of Bosnia and Kosovo" by *Shuichi Habu*, deputy international editor, international news department, The Yomiuri Shimbun

"Friction between Humanitarianism and National Interests in Refugee Relief Activities: The Case of Italy s Missione Arcobaleno " by *Nobumasa Akiyama*, research associate, Hiroshima Peace Institute

DIARY November 1, 2000 ~ February 28, 2001

Nov.6

Nobumasa Akiyama and Masamichi Kamiya participate in a roundtable meeting on disarmament issues at the Japan Institute of International Affairs.

Akiyama participates in a workshop on preventive diplomacy organized by Prof. Yukio Kawamura of Waseda University, at Waseda University.

Nov. 12

Kazumi Mizumoto gives a presentation, "The Violence of Nuclear Weapons From the Viewpoint of Hiroshima and International Politics," at a session titled "Violence of Nuclear Weapons and Peace Education" at the semiannual conference of the Peace Studies Associations of Japan (Nihon Heiwa Gakkai), at Aichi University.

Nov. 14

Mizumoto attends a study group meeting, "Exploring Japan s Proactive Peace and Security Strategies: The Case of the Nuclear Umbrella, " organized by the National Institute for Research Advancement (NIRA) in Tokyo.

Nov. 17-20

Kamiya attends the Worldwide Gathering of NGOs: Nagasaki Global Citizens Assembly for the Elimination of Nuclear Weapons, organized by the Global Citizens ' Assembly for the Elimination of Nuclear Weapons in Nagasaki, in Nagasaki. Kamiya served as a panelist and gave a presentation at a workshop on laboratory and subcritical testing.

Nov. 18-19

Mizumoto attends the semiannual conference of the National Defense Agency, held at the National Institute for Defense Studies in Tokyo.

Nov. 24

HPI s project team on the Legitimacy and Rationality of New-interventionism holds its fourth meeting.

HPI s project team on Disarmament in the 21st Century holds its sixth meeting. Nov. 28

Mizumoto attends the 26th Forum on New Thinking on Security Issues, held at and organized by the Tokyo Foundation. The forum included a lecture analyzing the Armitage Report by Koichi Isobe of the Japan Defense Agency.

Dec. 2

Mizumoto attends a symposium titled " The Day Japan Is Involved in a War, " organized by the Hiroshima Bar Association and sponsored by Hiroshima city and the Hiroshima Medical Association, at Hiroshima YMCA Hall.

Dec. 6-7

Mizumoto, Akiyama and Kamiya attend the Third International Symposium on Korea and the Search for Peace in Northeast Asia, organized by Ritsumeikan University, at Kyoto International Conference Hall.

Dec. 8

Mizumoto attends a study group meeting, " Exploring Japan's Proactive Peace and Security Strategies: The Case of the Nuclear Umbrella, " organized by NIRA in Tokyo.

Akiyama attends a symposium titled "Human Development and Human Security in Northeast Asia, " sponsored by the Tokyo office of the UN Development Program, held at the United Nations University.

Dec. 10

Mizumoto gives a presentation at a session titled "Toward a Nuclear-free Asia-Pacific Region " at an international symposium, "Nuclear Development and the Economic, Social and Cultural Influence, " sponsored by and held at the International Peace Research Institute of Meiji Gakuin University in Tokyo.

Dec. 12

Akiyama attends a workshop on Central Asia sponsored by the Sasakawa Peace Foundation in Tokyo.

Dec. 15

HPI s project team on Disarmament in the 21st Century holds its seventh meeting. Dec. 16

Mizumoto delivers a lecture on the current situation concerning nuclear weapons during the third training course of the Hiroshima Peace Volunteer Project, sponsored by the Hiroshima Peace Memorial Museum.

Dec. 19

Akiyama attends a workshop on disarmament organized by the Center for Global Communications at the International University of Japan, at the Institute for International Policy Studies in Tokyo.

Dec. 22

Dec. 27

HPI s project team on the Legitimacy and Rationality of New-interventionism holds its fifth meeting.

Mizumoto attends the 27th Forum on New Thinking on Security Issues, held at

and organized by the Tokyo Foundation. The forum featured a lecture by Yoichi Funabashi titled "Japan s Lost Decade What Was Lost in Those 10 Years? " Jan. 8-19. 2001

Kamiya acts as an advisor at the second preparatory committee for a UN conference on the illicit trade in small arms and light weapons, held at the United Nations in New York.

Jan. 12

Akiyama participates in a workshop on preventive diplomacy organized by Prof. Hideaki Shiroyama of Tokyo University, held at the International House of Japan, Tokyo.

Jan. 18

Akiyama delivers a lecture on the politics and administration of Japan at a general orientation for participants in a training program run by the Hiroshima International Conference Center.

Jan. 25

HPI s project team on the Legitimacy and Rationality of New-interventionism holds its sixth meeting.

Akiyama attends an international conference titled "Partners in Humanitarian Crises, " sponsored by the European Commission and the United Nations University. Jan. 26

HPI s project team on Disarmament in the 21st Century holds its eighth meeting. Jan. 29

Akiyama participates in a workshop on the Caspian Basin, organized by the Research Institute for Peace and Security.

Feb. 13

HPI s project team on Disarmament in the 21st Century holds its ninth meeting. Feb. 14

Akiyama participates in a workshop on the Caspian Basin, organized by the Research Institute for Peace and Security.

Feb. 15-24

Akiyama visits East Timor to conduct research for the Research Project on the Legitimacy and Rationality of New-interventionism.

Feb. 19-22

Mizumoto makes a keynote speech at the second symposium on Sino-Japan preventive diplomacy, co-sponsored by the Japan Center for Preventive Diplomacy, the China Institute of Contemporary International Relations and HPI, in Beijing. Feb. 27

HPI s project team on the Legitimacy and Rationality of New-interventionism holds its seventh meeting.

- Visitors to HPI -

Nov. 16

Tsutomu Ishiguri, director of the United Nations Regional Center for Peace and Disarmament in Asia and the Pacific

Nov. 17 Dr. Kamarulnizam Abdullah, lecturer and head of the Strategic and Security Studies Unit (UPSK) at the faculty of social sciences and humanities, University Kebangsaan (National) Malaysia (UKM)

Dec. 12

Dr. Brian R. Tomlinson, professor of economic history at the University of Strathclyde in Scotland

Jan. 17, 2001

Frank Umbach, senior research fellow at the Research Institute of the German Council on Foreign Relations

Dr. Christopher Hughes, senior research fellow at the Centre for the Study of Globalization and Regionalisation, Economic and Social Research Council, Warwick University, England

Feb. 8

Ms. Khin Ma Ma Myo, visiting research fellow at the Japan Institute of International Affairs, and tutor in the department of international relations at Yangon University in Myanmar

Feb. 26

Dr. Makoto Katsumata, director of the International Peace Research Institute, Meiji Gakuin University

Hideki Uemura, research associate at the International Peace Research Institute, Meiji Gakuin University

HIROSHIMA RESEARCH NEWS

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