

# **Nagasaki's Voice: 75 years' Experience**

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## **About the Author**

Dr. Masao Tomonaga is also hibakusha exposed at 2.5 kilometer. After graduation from Nagasaki University Medical School in 1968 he became a physician and hematologist specializing leukemia treatment. He also continued research on how radiation exposure induces malignancy. After retirement he was appointed the Director of Japanese Red Cross Nagasaki Atomic Bomb Hospital. Since 2012 he works for elderly hibakusha at Megumino-Oka Nagasaki Atomic Bomb Survivor Nursery Home as Director of Clinics. He was also appointed in 2018 President of Nagasaki Prefecture Hibakusha Association with 2000 members. He is Vice-President of IPPNW (Nobel Peace Prize in 1985) for North Asia Region and Representative for Nagasaki Global Citizens Assembly for Nuclear Abolition (ICAN member) and Director for “Nyokonokai” dedicated for Dr. Takashi Nagai, hibakusha radiologist and author of “The Bell of Nagasaki”.

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## Abstract

The nuclear weapon age has opened in 1945. We Nagasaki hibakusha experienced 73,000 early deaths as the first victim of human being. We saw the Cold War evoked in 1947. Another 74,000 hibakusha survived and experienced a long period of Cold War until 1992. Around 1955 hibakusha experienced a start of anti-nuclear movement. Cuban Missile Crisis in 1962 struck us and whole Japanese. We experienced for the first time a real fear for nuclear war. We also experienced first recognition that human being now had ultimate weapons in human history that is capable of destroying whole humanity.

There developed some good signs such as PTBT Treaty in 1965 and NPT Treaty was enforced in 1970. Further, INF Treaty signed in 1987 between US and Soviet Union succeeded in markedly reducing nuclear warheads in 1990ies. However, we also experienced firmly established nuclear deterrence strategy on the basis of MAD theory by maintaining balanced nuclear powers in order to avoid nuclear attacks. We experienced the end of Cold War without hot war in 1989, but we experienced a strong framework of nuclear deterrence policy has been maintained until now.

NPT regime gradually changed to be inactive around 2010, resulting in shrinkage of nuclear disarmament. Hibakusha and NGOs such as ICAN aroused for adopting TPNW by a strong solidarity and succeeded in establishing the Treaty in 2017, which is now close to be in force as international law.

Even now in 2020 hibakusha continue to suffer atomic bomb radiation- induced cancers and leukemia. This life-long health consequence prove genuine inhumane nature of nuclear weapons. We must challenge a new stage of nuclear abolition under dangerous divide between NPT supporters and TPNW promoters. To overcome this divide we require power of civil society, especially of citizens of nuclear weapon states to make their governments to abandon nuclear policy. They must listen to Nagasaki's voice gained from many serious experiences.

Complementary amalgamation of NPT and TPNW into one treaty is key for future nuclear-free world. Coming each review conference of NPT and TPNW should be set as best theaters for confidence-building, dialogue, and scientific collaboration as shown in ongoing COVID-19 pandemic and the climate change to overcome the divide. To avoid human extinction by nuclear war, intended or by accident, we will experience next 25 years as a crucial stage. We hibakusha with the most important experiences would disappear by 100 Anniversary of the

atomic bombings; to see nuclear-free world or not, is the ultimate question in 21<sup>st</sup> Century for Homo sapiens.

### **Key Words**

*Nuclear Age, Hibakusha, Cold War, NPT, TPNW, Civil Society, Confidence-building, Nuclear-free World*

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## **I. Experiences Nagasaki had since 1945**

### **The World First Victim of Nuclear Detonations**

75 years ago, on August 6 and 9, 1945 when the atomic bombings on two Japanese cities of middle size opened the nuclear weapon age, we were in the final stage of the World War II. The nuclear weapon later proved a final weapon developed by human wisdom in the history, capable of destroying the humanity on the earth.

In Nagasaki almost 73,000 citizens were killed instantaneously or within five months due to blast wind, high dose radiation, and severe skin burn. City infrastructure was totally devastated.

Approximately 74,000 hibakusha survived the immediate aftermath of the detonations. We hibakusha soon experienced first radiation-induced malignant disorder, leukemia. Decades later various types of cancer gradually developed among the high-dose exposure group.

### **Life-long Health Effects are persisting after 75 years**

Now in 2020 the radiation-induced disorders continue among the elderly hibakusha with mean age of 83, still unfolding human consequences of the nuclear detonations, therefore total number of casualties cannot yet be calculated. Thus, the Radiation-induced human

consequences are apparently a life-long phenomenon. There seems to be no cessation of medical consequences until all hibakusha die.

Recent medical research employing molecular technology has proved that the life-long persistence of disorders are derived from DNA damage caused by high-dose radiation exposure within one minute in 1945. The DNA damaged cells had been dormant or sleeping for several decades until the second genetic events are added, creating cancer cells, then final tumors appear clinically.

There also exists a fear of genetic transmission of such malignant disorders from survivor parents to their children. A series of large scale epidemiologic studies had been done, although none could formally prove genetic transmission. More sophisticated technology for whole DNA (genome) analysis called whole genome sequencing is now available. Recently, such a preliminary analysis has been done, again resulted in a negative result.

On the contrary animal experiments often reported positive results, giving parent survivors and their children threat.

### **The Cold War and Nuclear Competition**

Within a few years after the start of nuclear age the cold war began between the United States (US) and Soviet Union, accompanied by an extensive nuclear competition. Soon or later, other three nuclear states, UK, France and China joined, an apparent nuclear proliferation started. Later on Israel, India, Pakistan and more recently North Korea joined, thus 9 nuclear states in total now. They maintain nuclear policy for national security and keep anti-nuclear defense policy. The maximum number of the nuclear foreheads reached around 75,000 in mid-1980s.

Also atmospheric nuclear experiments continued and thermonuclear weapons were added by the first experiment in 1952 in Marshal Islands followed by Bikini Atoll in 1954, the latter brought extensive radioactive fallouts around the atoll where many Japanese tuna fishermen were exposed. In Japan this Bikini incident provoked a nation-wide anti-nuclear movement.

### **Hibakusha started Nuclear Abolition Movement**

Along with the nuclear competition between nuclear powers, hibakusha population were living under continuing fear and threat for actual radiation-induced disorders. Around 1955, in Nagasaki, young survivors with various health problems founded their union for anti-nuclear movement and soon it expanded to Hiroshima, and then nation-wide because many hibakusha had already moved to larger cities such as Tokyo to gain occupations for better life and avoid segregation. This anti-nuclear movement by hibakusha also stimulated all civil societies in Japan which gradually extended all over the world. Hibakusha union also started their campaign to gain national aid for their health maintenance.

Then, hibakusha could not protest directly to US Government for their anti-humanitarian use of new nuclear weapons which were featured by dropping two bombs without pre-warning to two cities of which majority were civilian non-combatants. Backing to the time just one day after the bombings Japanese Government protested to US Government through Swiss Government by claiming the use of anti-humanitarian weapons. Because of Japan's unconditional surrender on August 15 hibakusha had no way to protest US afterwards. Young survivors, therefore decided to protest by internationally talking about the experience of anti-humanitarian nature of the bombs especially in the United Nations (UN), then insisting against the nuclear weapon states, especially US with double responsibility for the development of atomic bombs first in the world and also the first use of two bombs.

### **Reconstruction of the City and Regeneration of Living Measures for Hibakusha**

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Along with the anti-nuclear movement, Nagasaki civil society confronted a tough reconstruction works to revive the city infrastructure and financial and health maintenance support for hibakusha's daily life. Nagasaki City Government gained national support according to a new national law for building International Peace City which effectively accelerated the city regeneration from once devastated atomic field. Financial support by the Government for Hibakusha for daily health maintenance and full medical supports for those diseases especially leukemia and cancers started in 1958. The total amount of such medical and social aid progressively elevated, in recent years reaching 129 billion yen per year.

Along with Japan's recovery in economy, Hibakusha became a bit older and their economic condition improved, so that they tried to go abroad often to attend UN meetings for nuclear abolition and prohibition of nuclear experiments, nuclear disarmament conferences in Geneva and other NGO meetings for nuclear abolition. Such international activities done by hibakusha union accelerated the collaborative antinuclear movement and later succeeded in establishing larger and stronger NGOs such as ICAN and further promoted strong solidarity with anti-nuclear weapon states that acted enthusiastically for realization of nuclear-free world.

Cuban Missile Crisis struck whole Japanese in 1962. This happened when TV broadcasting started already in Japan and all Japanese citizens were seized in front of TV screens and spent two weeks with supreme fear for start of world first nuclear war between two nuclear superpowers. Hibakusha were convinced of the reality of nuclear wars on the Earth, accordingly their anti-nuclear movement was aggravated dramatically.

### **PTBT: The First Treaty for Prohibition of Nuclear Experiments**

In 1965 hibakusha welcomed Treaty for Partial Prohibition of Nuclear Experiment (PTBT) which was established by the lead of US President John F. Kennedy. He understood clearly

the dangerous health consequence of nuclear experiments by the fallouts such as strontium which was proved in US by a medical analysis of children' teeth for accumulation.

Hibakusha movement especially for stopping nuclear experiments was much stimulated.

### **Mutually Assured Destruction (MAD) as a Basis for Nuclear Deterrence Strategy**

When Cuban Missile Crisis took place, there was no firm international norm not to use nuclear weapon again, namely as the third detonation. The total number of nuclear foreheads increased rapidly, so that two major nuclear powers began to consider they cannot win the first nuclear attack once hundreds of nuclear weapons were launched. They feared mutually for massive destruction that does not allow national survival.

This is called MAD. As the result they began to employ a policy with balanced nuclear power to prevent first attack. In addition this strategy involves first use of nuclear weapons. No first use policy was China's initiative but no other nuclear states followed.

Nagasaki hibakusha all understood firmly that the world became now on a brink of global extinction once a nuclear war happens between two superpowers. They worked more and more actively for nuclear abolition under the period of balanced nuclear deterrence. This phase continued several decades during which young hibakusha generation became adults and some elderly.

### **Adoption of NPT: 50 Years Anniversary with Treaty's Inertia**

In 1970 hibakusha enthusiastically welcomed the establishment of the world first international treaty for nuclear disarmament, the Nuclear Non-proliferation Treaty (NPT). Hibakusha considered that NPT is apparently the first political and legal achievement gained by hibakusha movement.

However, treaty for complete prohibition of nuclear experiments (CTBT) must wait until 1996 after Soviet Union had collapsed. CTBT is not completely ratified yet in 2020, eight states including USA and China still did not ratify.

However, a real nuclear disarmament must await enforcement of INF treaty in 1988 between US and former Soviet Union.

### **INF: Most Effective Treaty Reducing Nuclear Warheads**

Hibakusha saw the power of INF for the first time a success in markedly reducing the nuclear warheads by cooperation between US and new Russian Governments, in 1990ies leading to less than 50,000.

However, in 2019, US President Trump and Russian Prime Minister Putin independently abandoned INF by claiming each other for violating the treaty. We hibakusha were disappointed seriously to see the symbol for future complete abolition of nuclear weapons suddenly was lost after 32 years.

Then after INF, New STAR treaty was signed by president Obama and new Russian Prime Minister Medvedev in 2010 aiming to reduce warheads further to 1,500~1,650 after seven years (now 37,300 as of 2019). This new START now faces similar fate as INF abandonment in coming 2021. Two Governments now started slowly negotiation for prolonging the treaty. We feel that the nuclear states seems to turn towards cold war era.

### **Soviet Union Ends and Cold War Ends but Nuclear Age Continues**

In 1989 the cold war ended after the Soviet Union collapsed. Hibakusha had a hope of rapid cessation of nuclear weapon competition, however the nuclear deterrence strategy was maintained by nine nuclear-weapon states. Large nuclear weapons states especially US,



Russia and China are now changing their nuclear posture by developing smaller nuclear weapons and ultrasonic missiles. They said these changes modernization.

### **Obama's Prague Address and the First Presidential Visit to Hiroshima**

In 2009 Hibakusha sincerely welcomed Mr. Obama's Address issued at Prague just after his inauguration. In 2016 Obama also committed Hiroshima Visit for the first time as US President. These events made hibakusha confident with the US President's strong mind towards nuclear abolition. He was then given Nobel Peace Prize. However, the fact that Mr. Obama failed after several years of his administration to gain any progression in nuclear disarmament in US. In Hiroshima, Mr. Obama emphasized that we human beings still lack the wisdom of ethics to abandon nuclear weapons. It indicated how much difficult subject the nuclear disarmament and realization of nuclear-free world are. In the final year of his administration he tried to propose no first use for US nuclear posture, but Japan and other allied nations did not support, being afraid of weakening of their umbrella policy.

### **Adoption of TPNW and 50 States Soon Ratify**

Starting in 2012 three large international conferences were held consecutively in Norway, Mexico and Austria every year for intensive discussion on the humanitarian aspect of nuclear weapons. Hibakusha representatives and many NGOs including ICAN had attended and insisted their demand for nuclear-free world and a Nagasaki medical researcher, Dr. Masao Tomonaga, reported the life-long persistence of radiation-induced malignant disorders for the first time for international audience.

Hibakusha promoted a strong cooperation with global NGOs such as ICAN and also non-nuclear weapon states which worked enthusiastically for nuclear prohibition. They attended often United Nations Assembly and Nuclear Disarmament Conferences held in Geneva. Young

people, students of high schools and colleges also attended. Activity of hibakusha and Nagasaki youth reached a peak.

TPNW was adopted by 122 states at UN Meeting in 2017. In mid-September 2021, 45 states already ratified the treaty. It will soon become in force. Hibakusha congratulated each other, and mayors of two cities also congratulated.

However, Japanese Government did not sign and denied entry to TPNW by explaining its nuclear umbrella policy based on US-Japan Security Treaty does not allow joining. Hibakusha was most disappointed by the Japanese Government's refusal to sign to TPNW in spite of being the only nation that experienced nuclear attack in war and know most deeply the consequence of using nuclear weapons. They shed bloody tear indeed. Since 2017 we are protesting frequently to Japanese Government for signing TPNW and the Parliament for ratifying it.

Since 2016 we hibakusha union promoted a world campaign for collecting signatures by citizens to push signing and ratification. In Nagasaki we were successfully collected over 500,000 signs that means over a half of Nagasaki voters signed.

### **Reversed Nuclear Posture by US and Russia**

As of 2020, we hibakusha are now observing a serious reverse tendency in the nuclear disarmament, almost being stopped, and on the contrary nuclear posture review by President Trump after Obama in 2017 and similar nuclear policy change by Putin revealed these two major nuclear weapon states turned their nuclear policy toward modernization of nuclear weapons by increasing small size nuclear warheads for the sake of easier usability to reduce human consequences and restricting to military targets. Hibakusha has been extremely disappointed with these retrograde attitude towards nuclear arm expansion. Moreover, China continues to propagate their nuclear armament and modernization of their nuclear bombs and

ultrasonic missiles. The world faces revival of nuclear competition between major nuclear weapon possessing countries.

### **Abandonment of INF and Probably New START Also**

Hibakusha observed adoption of TPNW in 2017 but INF was abandoned a year later. And they are now disappointed to see a reviving nuclear expansion with small atomic bombs and a serious divide between nuclear weapon states and non-nuclear weapon states. Concerning TPNW this divide poses a serious retardation in realizing the nuclear-weapon-free world that was promised in the Chapter 6 of NPT.

## **II. Voice from Nagasaki Hopefully the Last Victim City**

### **New Stage for Nuclear Abolition under Dangerous Divide between NPT Supporters and TPNW Promoters**

What can we do to overcome the present divide? Does Nagasaki's Voice could have power to push back the ongoing retrograde nuclear proliferation. In Chapter 6, all NPT state parties promised to do efforts to make realize the nuclear weapon-free world. How to make this supreme desire of the world move forward in coming stage after TPNW in force. Most difficult issue is how to invite nuclear weapon states and nuclear umbrella states to negotiation and dialogue for joining TPNW.

The divide between the nuclear power state group and non-nuclear state group looks now the most difficult problem to resolve. Hibakusha must again cooperate with global NGOs and ICAN as well as non-nuclear weapon states. This solidarity succeeded in realizing TPNW in 2017. For this solidarity the first Review Conference for TPNW after its entering force will

be essential theater for making confidence-building and mutual dialogue between the two groups. It seems possible by TPNW as law to invite the nuclear power states to join the TPNW Review Conference as observer state. Umbrella states also are able to join as observers.

Hibakusha voice from Hiroshima and Nagasaki as well as from Japanese civil societies as the only nation experiencing the nuclear detonation and became the first victim as human being must be heard by nuclear weapon states. In such a theater, we hibakusha must emphasize the life-long persistence of radiation-induced malignant diseases such as various cancers and leukemia even now in 2020 as genuine nature of the nuclear bombs.

The malignant disorders are apparently occurring on the basis of gene abnormalities induced by DNA damage that was caused by atomic bomb radiation in all organ cells in 1945 and took an amazingly long time over a half century. In addition the issue of the genetic transmission for the second generation is an ongoing problem for all parent survivors and their children. Those extreme antihumanitarian nature of nuclear weapons is not at all resolved by TPNW unless the nuclear weapon states and umbrella states enter the treaty.

### **Civil Societies of Nuclear Power States must Listen to Nagasaki's Voice**

If voice of hibakusha successfully influences civil societies of nuclear power states, they would urge their governments to attend such Review Conference. Especially nine nuclear states must take seriously such people's voice. Also hibakusha must restart nuclear abolition movement by extensively aiming at young generation of civil societies of the nuclear powers. Recent reports by media of those nuclear powers, especially in US, young generation citizens show clear tendency to consider in more than half that their national nuclear policy for keeping nuclear weapons should be gradually changed for aiming at future nuclear abolition.

## **Complementary Amalgamation of NPT and TPNW**

NPT has no chapter for nuclear prohibition. NPT plus TPNW by complementary amalgamation should be absolutely necessary to negotiate in each review conference. If succeeded, future amalgamated treaty should make all state parties, especially nuclear power states and umbrella states, challenge the final stage for the nuclear weapon-free world. During this process the nuclear-dependent states must deeply understand and seriously recognize 75 year's experiences of hibakusha as the most profound feature of nuclear weapons in terms of humanitarian aspect.

The time would come if the nuclear power states continue to boycott TPNW, for non-nuclear states and all global citizens to begin intensively to claim responsibility of nuclear power states for having nuclear weapons for their egoistic defense measure. Especially US has double responsibility for creation of the first nuclear weapons and using first on human being. This could be extended to a legal suing for antihumanitarian behavior at International Court of Justice (ICJ) at Hague. We must remind ICJ's advisory opinion on the legality of the nuclear weapons 1996. This advisory opinion especially said: the Court cannot conclude definitively whether the threat or use of nuclear weapons would be lawful or unlawful in an extreme circumstance of self-defense, in which the very survival of a State would be at stake. Now TPNW seems to provide an answer to this ICJ's opinion.

At present nuclear policy of most nuclear powers employ first use strategy by targeting many large cities of each opponent nation. These target cities are not virtual civil society without citizen but full of real human being in millions. As victim of the first use of nuclear bombings on Hiroshima and Nagasaki, we have right to insist such a first use strategy could be unlawful.

The nuclear power states always insist that they have right to possess nuclear weapons for protection of their nations itself and lives of their national citizens.

Their opponent nations' cities are also full of citizens. This is most cruel political condition where we are living during the past 75 years including the period of the cold war. Nuclear weapon states must abandon this first use strategy before the nuclear arms to be completely abandoned. Then there needs a jump for nuclear weapon states towards realization of nuclear-free world by ethical wisdom as Obama talked in Hiroshima.

Any nation on this Earth has responsibility to keep our planet safe for future human survival by creating international solidarity, confidence building, intimate dialogue and sharing scientific development like vaccines to revive the global environment, overcoming pandemics such as Covid-19, and most importantly abandoning nuclear weapons to avoid global nuclear war that ensues in extinction of Homo sapiens once happened.