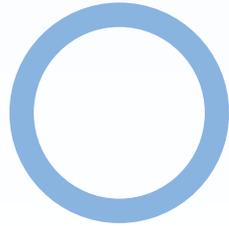
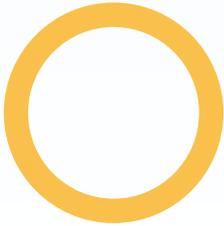


Guidebook for  
Peace Communicators



STEP



At 8:15 on the morning of August 6th, 1945, the world's first atomic bomb exploded over Hiroshima.

Three days later, at 11:02 am on August 9th, 1945, another atomic bomb exploded over Nagasaki, our hometown.

Those two days were inscribed in our memory as the days on which people used nuclear weapons against other people. The two atomic bombings instantly destroyed and continuously damaged the daily lives of atomic bomb victims. Despite all of that, humans have still been making nuclear weapons.

**"We will never allow ourselves to create "Hibakusha" (atomic bomb victims)."**

This is the hope of Hibakusha and our mission.

This guidebook was made to encourage you to take a step toward building upon the past, learning about the present, and acting for the future.

We hope you will join us in spreading our mission to the world by sharing information with your friends and family in your home country.

Now, with this guidebook, you too can be a Peace Communicator!

Best wishes from your friends in Nagasaki



The facts of the atomic bombing p.1~p.6

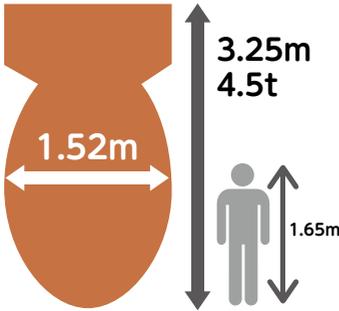
The current state of nuclear weapons p.7~p.10

Facing the future p.11~p.14



# The numbers of the atomic bombing

Model Diagram for Nagasaki type Atomic Bomb



Blast **50%**  
Heat ray **35%**  
Radiation **15%**

Number of victims and casualties (Demographic breakdown)



Population of Nagasaki Approx. **240,000** persons ※2

※1 At the time of the end of December, 1945

※2 Population for rationing at the time of the end of May, 1945

## After the atomic bomb explosion

- Within the 1-kilometer blast radius, **1,326 houses** were completely destroyed. Within the 4-kilometer blast radius, **11,574 houses** were completely burned to the ground.
- After the bombing, there were so many wounded people that medical supplies ran out and sufficient treatment was unavailable for many of the victims.

**Blast**

440m/second

Hypocenter

240m/second



160m/second



1000m

Roof tiles melt.

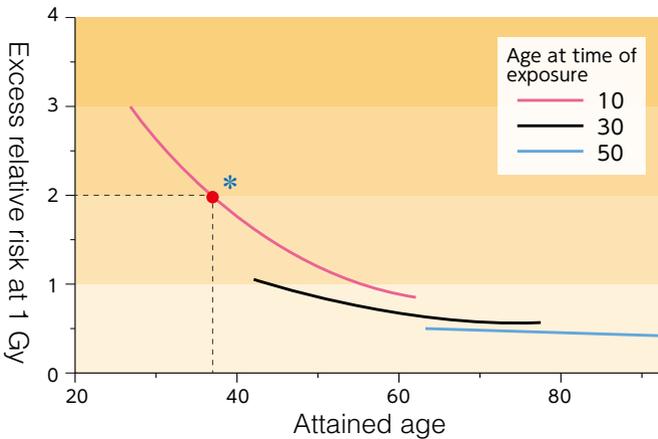
**Heat Ray**

# Radiation

The full damage of the atomic bombing emerged years later.

Radiation is known to cause leukemia and cancer after years of exposure.

**The younger a victim is at the time of exposure, the higher the risk of cancer is.**



< Change in sex-averaged ERR/Gy of solid cancer incidence by attained age among those exposed at 10, 30, and 50 years of age  
Source: A BRIEF DISCUSSION by Radiation Effects Research Foundation Inc.

## What is excess relative risk?

Excess relative risk describes the ratio of the excess risk of getting cancer associated with exposure to radiation compared with an unexposed populace, whose risk for cancer is valued at 1.

**For example,\*** a person exposed to radiation at the age of 10 has an excess relative risk of 2 to have cancer by the time he reaches the age of 37. Given this risk value compared to the case of a person unexposed to radiation, his risk of getting cancer is multiplied by three (one plus two).

60m/second

2000m

Clothing and trees burn.

30m/second

3000m

A second degree burn.

# Photographs of the atomic bombing

At 11:02 A.M. on August 9<sup>th</sup>, 1945  
With only one atomic bomb explosion...



Nagasaki city was a prosperous port town located in western Japan. It was known for its shipbuilding industry in particular, and different kinds of ships were made for use all over Japan.

**Nagasaki city  
before the explosion**

**Nagasaki city  
after the explosion**

The atomic bomb exploded at a height of 500 meters. It instantly destroyed many buildings such as houses, schools, shops and factories. The city of Nagasaki turned into a city of **burned ruins**.



## Distance of the building from the **hypocenter**



A:Shiroyama  
National School



Nagasaki Medical  
College Hospital

Photographed by Mr. H. J. Peterson



Mitsubishi Nagasaki  
Arms Factory Ohashi Plant

Hypocenter

500m

700m

1300m

## Schools after the explosion



Photographed by Mr. Shigeo Hayashi

### A: Shiroyama National School

Since this school was the closest to the hypocenter, the damage sustained by the building and people was quite high. This school is an example of the typical damage levied by the atomic bomb.

The number of students who died reached up to **about 1,400**.



### B: Nishiurakami National School

This wooden two-story school building collapsed while being uprooted and crushed by the force of the explosion.

Thanks to the neighborhood's fire fighting efforts, it escaped the fire.



Photographed by Mr. Tomiichi Masuya

### C: Shinkozen National School

Despite the windows broken by the bomb blast, this school building endured and was used as a first-aid station for the wounded.

**The number of patients** exceeded **8,000** within a period of 15 days from August 17<sup>th</sup> to 31<sup>st</sup>

※The number of patients right after the explosion is unknown.

Photographed by Mr. Torahiko Ogawa



Mitsubishi Hospital  
Funazumachi Branch

How did people feel about the serious damage to buildings levied by the atomic bomb?

B:Nishiurakami  
National School

C:Shinkozen  
National School

1800m

2800m 3000m

All photos belong to Nagasaki Atomic Bomb Museum

# Testimonies about the atomic bombing

## Unforgettable, August 9<sup>th</sup> was indelibly inscribed in people's hearts.

### Child's experience



△The Fountain of Peace  
(in the peace park)

I was really thirsty.  
Something oily was floating  
all over the water.  
I wanted water so badly  
that I drank the oily water.

~Note from Ms. Sachiko Yamaguchi~

△Excerpt from *Surviving under an Atomic Cloud* (partially omitted)

Right after the dropping of the atomic bomb, those who sustained severe burns went to the river and the water tank used for fire fighting seeking water. Many died there, near the water tank. Ms. Sachiko Yamaguchi, who was then **9 years old**, was safe but was worried about the chances of damage on her health by drinking the water.

## The tragic end of some female students

The female students were charred, and many were missing eyes on one side of their face.

Broken glass was stuck all over the bodies.

They begged pitifully, "please remove these pieces of broken glass."



We can hear the voices of the deceased female students,  
"I wished I could've gotten married."

Picture/Words by Mr. Masakazu Matsumoto

## How did the painter feel when he was depicting the scene that day?



△From *Drawings by Survivors*

Mitsubishi Arms Factory Morimachi Plant.

The original frame of the plant, as well as the roofs and walls, disappeared and the steel beams were bent. A number of people were crushed to death.

At that time, students were forced not to study, but to work due to student mobilization. 🔍 The painter of this picture was one such student worker when he experienced the bombing of Nagasaki at the **age of 18**. He painted this painting more than 50 years after his exposure in order to dedicate it to those who he could not save at the time of the bombing.

## Message from an atomic bomb survivor

Peace starts from having sympathy for other people's pain and suffering.

Mr. Katsuji Yoshida was just 850 meters away from the hypocenter of the A-bomb explosion when he was **13 years old**. Even after a number of operations, there remained a scar from the burn on his right side of face. He had a hard time every time he went out due to getting cold stares from people.



◀The condition of Mr. Yoshida when he was bombed (From *"Our Story and Experiences of A-bomb Exposure"*)



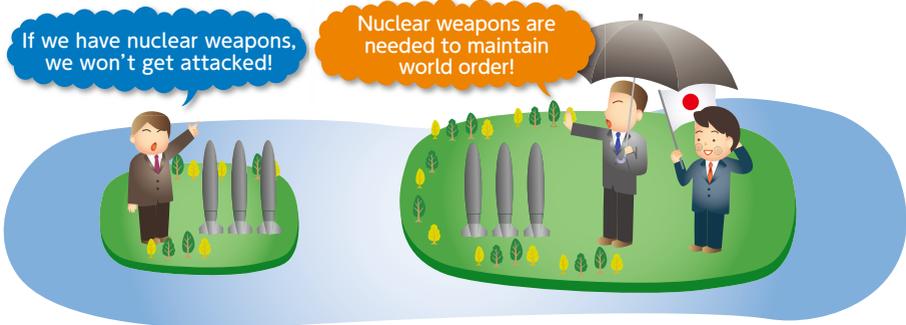
△Mr. Yoshida was active as a story-teller.

However, his mother's encouragement and his positive personality led to a momentous shift in perspective. Saying **"It will never be the way it used to be. If so, then, I'd better take it positively,"** he continued to devote himself in communicating the importance of peace by telling his messages and showing the picture story show about his life.

# Nuclear weapons exist near you.



## Why haven't nuclear weapons disappeared?



In the world, some countries possess nuclear weapons in order to compete with other countries that have nuclear weapons or to protect their countries from such nuclear states. Other countries possess nuclear weapons for the purpose of gaining a stronger voice in the international arena. In this way, nuclear weapons have become a **symbol of national power**. Japan is one of the countries protected by such nuclear deterrent.



# Number of nuclear experiments that involved nuclear explosions **2,055**



70 years since the end of the World War II.

As many as **2,055** nuclear experiments (with nuclear explosions) have been conducted around the world.

Even after the dropping of the atomic bombs on Hiroshima and Nagasaki, we have seen many “*Hibakusha*” around the world.

## 1948-1958

### Bikini Atoll Nuclear Hydrogen Bomb Testing



Photograph provided by:  
Daigo Fukuryu Maru Peace Association

On Bikini Atoll in the Pacific, a hydrogen bomb test was carried out by the United States, and creatures living in both the surrounding ocean and the air above were contaminated by radiation.

In addition, many Japanese fishing boats were also damaged. One example in particular is the Daigo Fukuryu Maru, despite the fact that it was operating outside of the danger zone of the bomb, all of the crew members suffered from acute radiation syndrome, and one of them died six months later.

These facts show that the damage done by the radiation of nuclear weapons poses a widespread danger beyond imagination.

## 1949-1991

### Semipalatinsk (Semey) Nuclear Experiment



Provided by NASHIM  
(Nagasaki Association for Hibakushas' Medical Care)

At this test site in Kazakhstan, the former Soviet Union has conducted as many as 459 nuclear experiments in the past 40 years. Because of these experiments, an increasing number of people have suffered from thyroid disorders and died from cancer. Furthermore, there remain people who have **mental issues** due to fear and anxiety concerning sickness.

The nuclear experiments left deep scars both on the minds and bodies of residents.

The lake on the left is the outcome of an explosion, demonstrating the power of nuclear weapons.

(“Atomic Lake” with a diameter of about 400 meters and a depth of about 100 meters)

# The threat of nuclear weapons continues at present.

Imagine if the largest known nuclear weapon was dropped on the city of Tokyo.

## Tsar Bomba

The most powerful nuclear weapon that was ever used was detonated at Novaya Zemlja Test Site and had the power of 50Mt. It was about 2400 times more powerful than "Fat Man", which exploded over Nagasaki.

If Tsar Bomba was dropped over Tokyo, it would be very likely that Tokyo and the surrounding metropolitan area would be subject to devastating damage.

## How about your country?

Here, we will introduce you to a website called "Ground Zero II". On this site, it is possible to simulate situations in which nuclear weapons that were detonated in past nuclear tests are detonated in other areas.



Through this simulation, we can observe "What if" situations.

How much area does a bombing affect? Blast, heat ray, and radiation will cause horrifying damages.

However, there are other problems beside the explosion itself.

Explosions associated with the use of nuclear weapons and particles rolled up by fire will cover the sky and block the sun.

Because of this, the ecosystem will be damaged, and the environment will deteriorate so badly that humans can no longer live in the area. Even if a nuclear war takes place in a country far away, a "nuclear winter" will occur, and the damages will spread across the world.

Carlos Labs "Ground Zero II"  
<http://www.carloslabs.com/node/20>

The world moves toward the **total abolition of nuclear weapons.**

## CTBT & NWC

### Comprehensive Nuclear-Test Ban Treaty/Nuclear Weapons Convention

Effort has been made, since its opening for signature in 1996, to effect the Comprehensive Nuclear-Test Ban Treaty (CTBT), which is intended to ban all nuclear test explosions in all environments including outer space. Moreover, the draft of the Nuclear Weapons Convention was submitted to the UN in 2007 in order to abolish and exterminate all nuclear weapons. Currently, a super-majority of UN member states show positive indications toward early talks seeking the enactment of this convention.



## Nuclear Weapon Free Zone



Nuclear Weapon Free Zone refers to an area where the use, development, or deployment of nuclear weapons is banned. Currently, areas such as Central and South America, Africa, Southeast Asia, and the Antarctic are designated as Nuclear Weapon Free Zones. The designation of Nuclear Weapon Free Zones is regarded as a very significant gain in international disarmament and non-proliferation efforts.

- 1 Treaty of Tlatelolco
- 2 Treaty of Rarotonga
- 3 Treaty of Bangkok
- 4 Treaty of Pelindaba
- 5 Central Asian Nuclear-Weapon-Free Zone Treaty
- 6 Mongolia's Nuclear-Weapon-Free Status
- 7 Antarctic Treaty
- 8 Outer Space Treaty
- 9 Sea-Bed Treaty

# What we can do for the future

How did you feel after learning about the atomic bombing and nuclear weapons? The feelings and thoughts you have now are real and reliable, but, those feelings and thoughts themselves won't change the world.



## So, what should we do?

### Step 1

### Do research on what interested you.



Before acting, you need knowledge, right?  
How can we prevent the creation of more atomic bomb victims?  
How can we abolish nuclear weapons?  
Let's start checking words marked with a magnifying glass! 🔍



**Try!**



Write down those words marked with a magnifying glass that interest you!

### Step 2

### Begin your challenge with something you can start on your own.

What are the things you can do **on your own**?

**Have compassion.** Can you say "Thank you," and "I'm sorry" sincerely? To begin, why don't you try telling the people around you about what you learned from this guidebook.

These conversations could be **a step** toward a peace-making movement that you can start on your own, couldn't it?



**Try!**

Let's write down other things you can think of doing by yourself!

## Step 3 Let's make friends!



If you have friends who **support** you, you might be able to do more things than you would be able to do by yourself.



For example,

You might find **a friend** near you who is willing to support you. Step out and talk to the people you feel like approaching.

If you keep making friends together with the friends you made, your **friendship** will expand to many parts of the world.

How will the future change if everyone on the planet makes friends with one another?



**Try!**

Write down what you want to do with the friends you make!

Having read up to this point, you have learned how to face **the past, the present, and the future.**

**Everyone in this world longs for peace.**

You have many friends in the world. Try finding what you want to do and acting upon your interest and desire.

**A step you take will change the world!**

Finally... ask your seniors about their experiences!



# Interviews of your seniors' experience



## Nagasaki Youth Peace Volunteer

Nagasaki Youth Peace Volunteers learn the facts concerning the atomic bombing in Nagasaki, contemplate the significance of peace, and relay the memories and the messages of atomic bomb victims through discussions and guided activities. (200 volunteers registered)

### 1. What motivated you to join a peace-making activity?



For the sake of my grandfather who has been silent about his painful experience as an atomic bomb survivor, I thought I should do something.



I was involved in a peace-making activity at school, and when I was looking for something outside of school, I found the Youth Peace Volunteers.

### 2. What did you do to communicate the importance of peace?



#### ● Exchanging opinions about peace with children

I tried to prepare in advance so that I could understand and imagine children's situations well enough to navigate a discussion with them smoothly.



#### ● A story-telling activity for elementary and junior high school students

I tried to think about and be creative with how I tell stories. In order to gain and maintain the children's attention, I sought advice from my family and school teachers.

### 3. What I want to tell everyone



You don't need to worry about differences such as race and gender. We are all human beings longing for peace. I hope you will get involved in a peace-making activity with the intention of making sure that we will never repeat the mistake of starting wars.



The most important factor in communication is to imagine the circumstances of the person who receives your messages.

When you learn and communicate, always remember to use your imagination.



Many people will support you. Muster your courage to reach out to others and start a peace-making activity!



## Nagasaki Municipal Kogakura Junior High School Peace Volunteer Club

Peace volunteer Club performs picture story shows about survivors' experiences and nuclear atomic bombs, presents reader's theatre on the Tohoku Earthquake, and participates in peace related activities. (Established in 2014, 8 members registered)

### 1. What motivated you to join a peace-making activity?



I just wanted to do what I could do, just like my grandmother who was actively involved in different activities as a survivor.



After entering junior high school, I started to feel that I wanted to relay the messages of atomic bomb survivors.

### 2. What did you start from?

We started with readings that were familiar to us.

In order to help put our hearts into our presentation, we first did voice training.

To make it better, we received advice from outside coaches and got together often for practice.

*How did you feel after your challenge?*



Acting was not easy. It was difficult to put our hearts into the roles!



I learned a lot. It will be the basis of my future peace-making activities.

### 3. What I want to tell everyone

I learned about the pain of the survivors and got involved in such peace-seeking activities as readings. Even if you are a teenager, you can do something as long as you long for peace.

Why don't we do our best together?

## Editors' notes

### The Past Section



People in charge:  
Ayaka Mine, Kae Urakawa,  
Toko Taira, Monami Hamaguchi,  
Momoka Tateishi, Kana Nishimoto,  
Keito Morisaki

Making this book gives us a good opportunity to rethink peace. In order not to repeat the same misery, we have a mission to tell as many people as possible about the horrifying facts of nuclear explosions and the messages from the survivors. Let's start from something small, together, as Peace Communicators.

People in charge:  
Kazuyoshi Ito, Masaaki Ota,  
Susumu Tateishi, Sumire Sasaki,  
Kentaro Matsumoto, Yutaro Moriguchi

Our group, which consists of 6 members who have different personalities and levels of knowledge, worked together on the present condition of nuclear weapons. Through the process of making this booklet, we learned that it was important to check if the source of our information was adequate before putting any numbers on the page. Although we were limited in the pages of this booklet, we hope it gives you a chance to develop interest in this issue.

### The Present Section



People in charge:  
Akito Nishida, Mana Inuzuka,  
Yosuke Tanaka, Monami Matsuo,  
Miho Kido

We had many things to tell as members of the peace-seeking community. Due to how much we wanted to say, we had a hard time making this guidebook and trying to figure out how we could deliver our message. However, it was our joy to create the guidebook, and we look forward to its completion. Our greatest joy would be if this guidebook brought together all people who long for peace. We look forward to hearing from you here in Nagasaki.

### The Future Section



# Bibliography

*Nagasaki genbaku sensaishi, daiikkan, sōsetsuben kaiteiban.* (Nagasaki Atomic Bomb War Damage Documentation Vol.1 General Review Revised Version)

Edited by: Nagasaki Atomic Bomb Museum. Published by: Nagasaki-city

*Nagasaki genbaku sensaishi, dainikan, chūikihen.* (Nagasaki Atomic Bomb War Damage Documentation Vol. 2 Regional Version) Edited by: Nagasaki City Hall. Published by: Nagasaki International Culture Hall.

*Nagasaki genbaku sensaishi, daisankan, zoku-chūikihen shūsenzengohen* (Nagasaki Atomic Bomb War Damage Documentation Vol. 3 Regional Version No.2 the End-of-the-War Era) Edited by Nagasaki City Hall. Published by: Nagasaki International Culture Hall.

*Kōekizaidanbōjin Hōshasen'eikyokenkyūyo yōran.* (Radiation Effects Research Foundation Catalogue)

*Genshūgumo no shita ni ikite. Nagasaki no kodomora no shuki.* (Surviving under an Atomic Cloud: Memoirs of Children in Nagasaki), Edited by: Nagai Takashi. Published by: Chuō Publishing Company

*Nagasaki no shōgen sōsho 3, Chūisaki jūjūka-Nagasaki no kodomo shukishū.* (The Testimonies of Nagasaki Series 3, A Small Cross: The Memoirs of Children in Nagasaki), Edited by: Nagasaki no shōgen no kai. Published by: Chōbunsha Publishing Company.

*Genbaku no e, Nagasaki no inori.* (Drawings by Survivors: Prayer from Nagasaki) Edited by: NHK Nagasaki Broadcasting Station. Published by: NHK Publishing Co., Ltd. (NHK shuppan).

*Watasshitachi ga tsutaeru hibakutaiken.* (Our Story and Experiences of A-bomb Exposure) Picture and Text: Nagasaki Municipal Sakurababa Junior High School. Printed and Published by: Nagasaki-City Atomic Bomb Exposure Countermeasures Section, Support Room for Peace Studies.

*Pisu-tōku, kimitachi ni tsutaetai VIII, kurikaesumai Nagasaki no taiken - pisu-tōku I~VII hibakutaikenkōshū -* (Peace Talk: We Want to Tell You VIII, We Won't Repeat the Experience of Nagasaki-Peace Talk I~VII Summary of Survivors' Experiences) Edited and Published by: Nagasaki Foundation For the Promotion of Peace.

*Kaku ga nakunaranai nanatsu no riyū:* (Seven Reasons Why Atomic Nucleus Won't Disappear) Author: Sunohara Tsuyoshi. Publisher: Shinchōsha Co. Ltd.

*SIPRI Yearbook 2014 Armaments, Disarmament and International Security* Edited by: Stockholm International Peace Research Institute, Published by Oxford University Press, 2014.

*Haba to ko de miru A34 Suibaku Burabō, sangatsu tsuitachi Bikinikanshō Daigofukuryūmaru.* (The A34 that Mother and Child Saw, Hydrogen Bomb Bravo, March 1<sup>st</sup> Bikini Atoll Daigo Fukuryūmaru) Author: Toyosaki Hiromitsu, Yasuda Kazuya. Publisher: Kusanone Publishing Co.

*Daigofukuryūmaru, Bikinijiken o gendai ni tou.* (Daigo Fukuryūmaru: Questioning the Contemporary Significance of Bikini Atoll Incident) Author: Kawasaki Shoichirō. Publisher: Iwanami Shoten.

"Kazafusutan-kyōwakoku Semiparachinsuku Hibakujittachōshōhōkokusho." (Report on the Actual Conditions of the Radiation-Exposed Residents near the Former Semipalatinsk Nuclear Test Site) Editors/Authors: Kawano Noriyuki, Taoka Yasuyuki, Hiraoka Takashi, Matsuo Masatsugu, Apsalikov Kazbek Negmatovich, Zhumadilov Zhaxybay Shaimardanovich, Hoshi Masaharu. Published by: Hiroshima University Research Institute for Radiation Biology and Medicine, Hiroshima-University, Hiroshima Peace Science Consortium.

*Kakubeikijiten* (Reference Guide to the Nuclear Weapons). Author: Ozu Hajime. Publisher: Kabushikigaisha Shinkigensha.

*Shirizu sensō, kataritsugō Hiroshima Nagasaki 4 Kakubeiki towa dōjimonoka.* (Series War: Let's pass stories of Hiroshima and Nagasaki down from generation to generation 4 What is a nuclear weapon like?) Text/Editor-in-chief: Anzai Ikurō. Publisher: Shinnihon Publishing Company.

*Kakubeiki no nai mirai no tame ni - <Heisei 26 nen Nagasaki heiwasengen kaisetsusho>* (For the Future without Nuclear Weapons <Nagasaki Peace Declaration Manual 2014>) Edited and Published by: NagasakiCity Hall Peace Promotion Section

"Nihonkōkū gekkanshi AGORA, Kokupitto-nikki Captain 60." (JAL Monthly Magazine *AGORA*, Diary from the Cockpit, Captain 60) <https://www.jal.co.jp/entertainment/cockpit/captain60.html>

Status of world nuclear forces (FAS: Federation of American Scientists), HP  
<http://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>

Carlos Labs, HP  
<http://www.carloslabs.com/node/20>

Gaimushō (Ministry of Foreign Affairs of Japan). HP  
<http://www.mofa.go.jp/mofaj/gaiko/kaku/ctbt/gaiyo.html>  
<http://www.mofa.go.jp/mofaj/gaiko/kaku/n2zone/gaiyo.html>

NTI(The Nuclear Threat Initiative), HP  
<http://www.nti.org/treaties-and-regimes/proposed-nuclear-weapons-convention-nwc/>

UNODA(United Nations Office for Disarmament Affairs), HP  
<http://www.un.org/disarmament/WMD/Nuclear/NWFFZ.shtml>

※All the websites were last retrieved on April 22, 2015.



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