



# **Abandoned Chemical Weapons in China: The Unresolved Japanese Legacy**

GLOBAL GREEN USA,  
US AFFILIATE OF GREEN CROSS  
INTERNATIONAL

**May 2011**

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### **Acknowledgments**

I would like to acknowledge Global Green USA for providing me with access to resources on abandoned chemical weapons. I would like to thank Dr. Paul F. Walker, Director, Security & Sustainability; and Finn R. Torgrimsen Longinotto, Senior Fellow, for their guidance in research and writing. I am grateful to Ryo Sato, who specializes in Japanese abandoned and sea-dumped chemical weapons for interviews and comments on the first draft of this paper. The feedback from Loren Cass, Holy Cross Professor and Marina Voronova-Abrams, Program Associate at Global Green USA, was also invaluable in shaping the direction of this paper.

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## **Table of Contents**

1. Executive Summary
2. Background
  - 2.1 Chemical Weapons in Europe
  - 2.2 Japan's Chemical Weapons During WWII
  - 2.3 Japan's Chemical Weapons After WWII
3. World Wide Chemical Weapons Use and Negotiations
  - 3.1 Chemical Weapons Convention
  - 3.2 Global Context
4. China and Japan in the Chemical Weapons Convention
  - 4.1 Memorandum of Understanding
  - 4.2 Abandoned Chemical Weapons
  - 4.3 Weapon Conditions Issues
  - 4.4 Logistical and Physical Issues
  - 4.5 Studies and Negotiation Issues
  - 4.6 Uniqueness
5. Financial Issues and Considerations
  - 5.1 Scandal and Corruption Issues
  - 5.2 Japanese Commitment Issues
  - 5.3 Reparation Issues
  - 5.4 Administrative Issues
  - 5.5 Foreign Relation Issues
  - 5.6 Technical Treaty Issues
6. Recent Progress
7. Conclusion

## 1. Executive Summary

Chemical weapons are internationally condemned because of their potential to cause serious harm and even death to civilians and military combatants alike. The Chemical Weapons Convention (CWC) of 1997 is a groundbreaking treaty that bans chemical weapons development, production, stockpiling and use, and obligates its signatories to destroy their existing chemical weapons within ten years of the treaty's entry into force.

The Chemical Weapons Convention has achieved amazing success with most countries fully meeting their obligations. Ninety-eight percent of the global population and the chemical industry worldwide are covered by its prohibitions. One noticeable outlier is the particularly slow pace of Japan's destruction of the estimated 300,000 – 400,000 abandoned chemical weapons remaining in China from WWII. The first chemical weapon in China was not destroyed until fall 2010 and as a result Japan and China are unlikely to meet the 2012 final CWC destruction deadline. This presents an interesting puzzle because both Japan and China appear to have a strong interest in resolving this problem. China receives obvious environmental, security and economic benefits from the removal of chemical weapons on its territory while Japan is motivated to eliminate this source of tension between the two countries. This paper assesses the reasons for the slow progress in destroying Japanese abandoned chemical weapons in China.

There have been limited attempts to unravel the reasons behind the destruction delay in the Japanese and Chinese case. The scope and complexity of destroying abandoned chemical weapons by the Japanese in a country other than their own is the primary reason for the delay in progress. There are substantial technical difficulties involved in the process including the large number of weapons, their condition, lack of local infrastructure, remote locations, danger of explosion or toxic exposure, and environmental harm through leakage.

The complications involved in negotiating every aspect of the chemical weapons process between China and Japan also contribute to the delay in destruction. Japan accepted the burden of chemical weapons destruction to normalize diplomatic and economic relations with China. However, the contentious diplomatic relations between Japan and China since WWII have continued to plague the entire destruction and negotiation process. The difficulty between the countries is exacerbated by China's frequent use of chemical weapons destruction as an excuse to highlight and condemn Japanese atrocities during WWII.

During the time since Japan committed to the treaty, the country has been plagued by corruption, scandals, fixation on financial issues and administrative difficulties. Japan has been reluctant to make some reparations for chemical weapons accidents since WWII and has failed to officially acknowledge chemical weapons attacks for years, which has also contributed to delaying rapid resolution of the problem.

Overall, the complicated nature of the project along with technical problems, negotiation issues, and financial and diplomatic difficulties have resulted in the slow pace of progress and inability of Japan and China to meet the 2012 deadline for destruction of the declared chemical weapons.

## 2. Background

Chemical weapons (CWs) continue to threaten global security and are often classified as weapons of mass destruction because of their ability to cause indiscriminate death and suffering. The destructive capacity of declared and abandoned chemical weapons (ACWs) makes timely decommissioning extremely important. There are an estimated 300,000 to 400,000 abandoned chemical weapons awaiting destruction in China alone. Chemical weapons can be extremely harmful against civilians and unprepared military forces, although literally tons of agents are

needed to create lethal doses in large open areas.<sup>1</sup> Chemical weapons can vary from deadly nerve toxins to widely used riot-control agents like tear gas or pepper spray. The domestic use of non-lethal, riot control agents are currently acceptable under international law, while lethal chemical weapons are banned under the Chemical Weapons Convention (CWC). The CWC defines chemical weapons in Article II, paragraph 1 as

- (a) Toxic chemicals and their precursors, except where intended for purposes not prohibited under this Convention, as long as the types and quantities are consistent with such purposes; (b) Munitions and devices, specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (a), which would be released as a result of employment of such munitions and devices; (c) Any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (b).<sup>2</sup>

Thus chemical weapons are usually defined as the four basic types of chemical warfare agents that can cause death (choking, blister, blood, or nerve agents). Choking agents, such as chlorine and phosgene, attack the lungs through inhalation and interfere with breathing. Blister agents, such as mustard gas and lewisite, harm human skin and tissue through skin contact and inhalation. Blood agents, such as hydrogen cyanide, block the flow of oxygen through the blood. Finally, nerve agents, the most lethal chemical warfare agents, such as sarin, tabun, and VX, produce convulsions and death by blocking acetylcholinesterase, which is needed to transmit messages in the nervous system. Nerve agents are extremely lethal in small doses. A small drop of VX on the skin can kill an adult in minutes.<sup>3</sup> All weapons produced with the chemical agents listed in Table 1 have been identified by Japan as abandoned chemical weapons in China.

**Table 1: The Categories of Poison Gases<sup>4</sup>**  
(Highlighted chemical agents refer to lethal agents)

Army Name	Category	Type (Agents)
<b>Yellow No.1 Ko</b> <b>Yellow No.1 Otsu</b> <b>Yellow No.1 Hei</b> <b>Yellow No.2</b>	German type Yperite (Mustard agent) French type Yperite (Mustard agent) German type cold Yperite (not frozen) Lewisite	Blister (asphyxiation)
<b>Blue</b>	Phosgene	Choking (asphyxiation)
<b>Brown</b>	Hydrogen cyanide	Blood (asphyxiation)
<b>Red</b>	Diphenylcyan arsine (DA) Diphenylchloroarsine (DC)	Vomiting, Sneezing
<b>Green</b>	Chloroacetophenone	Riot control
<b>White</b>	Trichloroarsine	Toxic smoke-producing

<sup>1</sup> Yuki Tanaka, "Poison Gas: the Story Japan Would Like to Forget," *Bulletin of the Atomic Scientists*, October 1988:

12.[http://books.google.com/books?id=tAYAAAAAMBAJ&pg=PA10&lpg=PA10&dq=unit+731+erased+from+maps&source=bl&ots=7JO1PdCABd&sig=FKreQUKtW1MxoF2qC8wYhhwKcC&hl=en&ei=TbdvTdXsKcH3gAev351V&sa=X&oi=book\\_result&ct=result&resnum=3&ved=0CCoQ6AEwAg#v=onepage&q=unit%20731%20erased%20from%20maps&f=false](http://books.google.com/books?id=tAYAAAAAMBAJ&pg=PA10&lpg=PA10&dq=unit+731+erased+from+maps&source=bl&ots=7JO1PdCABd&sig=FKreQUKtW1MxoF2qC8wYhhwKcC&hl=en&ei=TbdvTdXsKcH3gAev351V&sa=X&oi=book_result&ct=result&resnum=3&ved=0CCoQ6AEwAg#v=onepage&q=unit%20731%20erased%20from%20maps&f=false)

<sup>2</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Fundamental Provisions." <http://www.opcw.org/chemical-weapons-convention/about-the-convention/fundamental-provisions/>

<sup>3</sup> Yuki Tanaka, "Poison Gas: the Story Japan Would Like to Forget." 12.

<sup>4</sup> Japanese Ministry of the Environment Official Website. <http://www.env.go.jp/chemi/report/h15-02/002.pdf>

As of 2010, there were over five million chemical weapon munitions waiting to be destroyed around the world and there are four suspected stockpiles in states that have not signed the CWC.<sup>5</sup> Chemical weapons have been used in warfare and terrorist attacks in over ten situations during the last thirty years causing significant human harm. Al Qaeda, Iraqi and Afghan insurgents, and others continue efforts to steal or produce deadly chemical agents for terrorist attacks.<sup>6</sup> Terrorist threats highlight the importance of destroying and ridding the world of chemical weapons.

## 2.1 Chemical Weapons in Europe

Chemical weapons were first used on a large scale by Germany during WWI. The Germans employed both chlorine gas and mustard gas to kill their enemies and to attempt to dislodge them from the trenches.<sup>7</sup> The German army first employed choking agents against unprepared French and Algerian units. On April 22, 1915 the Germans released chlorine gas from thousands of cylinders along a 4-mile front at Ypres, Belgium creating a wind-borne chemical cloud. Troops watched in confusion and horror as the asphyxiating cloud floated towards them and enveloped their lines.<sup>8</sup> The success of the attack ensured the quick escalation of chemical weapons use over the course of the war.

Numerous countries, including the United States, Germany, England, France and Russia, developed chemical weapons programs and a total of 124,000 tons of chemical agents were used during WWI. Chemical weapons use by both sides resulted in 90,000 deaths and over one million casualties.<sup>9</sup> The indiscriminate suffering caused by chemical warfare began to create a backlash against chemical weapons. However, chemical weapons use continued after the war despite the 1925 Geneva Protocol prohibiting the use of chemical and biological weapons in warfare.

## 2.2 Japan's Chemical Weapons During WWII

While a number of countries refrained from resorting to chemical warfare during WWII for fear of escalation, these weapons were still used by Italy in Ethiopia and Japan in China. Japan caused considerable devastation in China when they used chemical weapons against the Chinese military and civilians throughout WWII. Even though Japan had signed the 1925 Geneva Protocol, this country pursued covert chemical warfare programs during its invasion of China. In 1929 Japan began discretely building a top-secret island factory for chemical weapons on Ohkuno Island.<sup>10</sup> Its location, in Takehara, Hiroshima Prefecture, was erased from unclassified Japanese maps. Dubbed "the island of great hardship," the facility produced toxins for 7.5 million weapons.<sup>11</sup> The majority of these weapons were destined for use in China, although there is evidence of chemical weapons use in Myanmar and Guadalcanal.<sup>12</sup> Japan also set up various laboratories in China including the infamous Unit 731, which experimented on

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<sup>5</sup> Paul F. Walker, "Abolishing Chemical Weapons: Progress, Challenges, and Opportunities," *Arms Control Association*, November 2010. [http://www.armscontrol.org/act/2010\\_11/Walker#16](http://www.armscontrol.org/act/2010_11/Walker#16)

<sup>6</sup> Paul F. Walker, "Abolishing Chemical Weapons: Progress, Challenges, and Opportunities."

<sup>7</sup> Barry R. Schneider, "Chemical Weapon," *The History Channel website*. March 8, 2011. <http://www.history.com/topics/chemical-weapon>

<sup>8</sup> Barry R. Schneider, "Chemical Weapon."

<sup>9</sup> Organization for the Prohibition of Chemical Weapons Official Website. "Destruction of Chemical Weapons: Introduction." OPCW. <http://www.opcw.org/about-chemical-weapons/history-of-cw-use/>

<sup>10</sup> Yuki Tanaka, "Poison Gas: the Story Japan Would Like to Forget."

<sup>11</sup> Yuki Tanaka, "Poison Gas: the Story Japan Would Like to Forget."

<sup>12</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy." *ISS Strategic Commitments*. December 2000. [www.iiss.org/EasysiteWeb/getresource.axd?AssetID=400&type=Full...](http://www.iiss.org/EasysiteWeb/getresource.axd?AssetID=400&type=Full...)

prisoners to test the effects of biological and chemical weapons in the battlefield.<sup>13</sup> Unit 516 and 526 were the two primary chemical units of the Kwantung Army responsible for carrying out chemical attacks.<sup>14</sup> Unit 516 was also notorious for conducting experiments on human beings, but many official records about the experiments inside of the Unit were destroyed.<sup>15</sup>

From 1937 to 1945 Japanese divisions armed with chemical weapons were responsible for 889 to 2,900 chemical weapons attacks in China. During this time, Japan used more than 9,000 chemical mortars and 43,000 toxic smoke cylinders.<sup>16</sup> The types of attacks varied in scale and intensity. For example, on October 1, 1938 the Japanese Army fired over 25,000 chemical artillery shells on a 2,700 square meter area at the battle of Dingxiang in Shanzi province. Over the course of WWII, Japanese chemical attacks resulted in an estimated 80,000 casualties and 10,000 fatalities in China but the rest of the world was largely unaware of these sufferings.<sup>17</sup>

### 2.3 Japan's Chemical Weapons After WWII

On the eve of its defeat, Japan abandoned a large number of chemical weapons all over China. The surprise attack involving 1.6 million Soviet troops against the Japanese army occupying eastern Asia was instrumental in causing panic and the retreat of the Japanese army in China. Within days, Emperor Hirohito's million-man army in the region had collapsed and Japan abandoned large quantities of chemical weapons all over China.<sup>18</sup> To conceal the fact that Japan used chemical weapons during the war in violation of the Geneva Protocol, documents were destroyed and many weapons were buried or hidden.<sup>19</sup> The army frantically disposed of weapons any way it could, including one incident where Unit 516 cast drums of chemical agents from a railway bridge into the Nenjiang River. Another army division, Unit 526, dug two large pits and buried over 200 drums of chemical agents. When the Chinese army reclaimed Japanese occupied territory, "no chemical weapons were found."<sup>20</sup> The incidents of chemical weapons use were largely ignored, covered up or forgotten for decades after the war.

It was not until the 1990s that the discovery of many Japanese abandoned chemical weapons was made public. There was very little information on the weapons' burial, and many were discovered accidentally in densely populated areas near water sources or in rivers. This has caused repeated incidences of casualty and environmental contamination.<sup>21</sup> Since the chemical weapons produced during WWII were buried for a long period of time, many of them are now

<sup>13</sup> Shamshad A. Khan, "Japan: CBW." CBW MAGAZINE. Institute of defense study and analysis. October 2009. [http://www.idsa.in/cbwmagazine/Japan-CBW\\_skhan\\_1009](http://www.idsa.in/cbwmagazine/Japan-CBW_skhan_1009)

<sup>14</sup> Gakujin Ki [XuerenJi in Chinese], Nihongun no Kagakusen [The Japanese Army's Chemical Warfare], (Tokyo: OtsukiShoten, 1996) pp. 306-307

<sup>15</sup> Gakujin Ki [XuerenJi in Chinese], Nihongun no Kagakusen [The Japanese Army's Chemical Warfare], 340.

<sup>16</sup> Hongmei Deng & Peter O'Meara Evans, "Social and Environmental Aspects of Abandoned Chemical Weapons in China," *The Nonproliferation Review*, 1997.

[http://docs.google.com/viewer?a=v&q=cache:OTL37B\\_6nMQJ:cns.miis.edu/npr/pdfs/deng43.pdf+japan+abandoned+chemical+weapons+in+china+documents&hl=en&gl=us&pid=bl&srcid=ADGEESgiRHY4az590LGgYtpRFcABRTRoQTFqxDdRnbUBSNq2q\\_vuHkZXNAbb8Uv8IQ2blbA8C1Qh2sMOPGS\\_mq6kTNK0kNDLyyVxbva8DHjZCRjRwU0sqWSVmw1-5S7KSsHvqtPcQFiI&sig=AHIEtbRfEjbnONgBI9gRXXookIHB0Z-nTQ](http://docs.google.com/viewer?a=v&q=cache:OTL37B_6nMQJ:cns.miis.edu/npr/pdfs/deng43.pdf+japan+abandoned+chemical+weapons+in+china+documents&hl=en&gl=us&pid=bl&srcid=ADGEESgiRHY4az590LGgYtpRFcABRTRoQTFqxDdRnbUBSNq2q_vuHkZXNAbb8Uv8IQ2blbA8C1Qh2sMOPGS_mq6kTNK0kNDLyyVxbva8DHjZCRjRwU0sqWSVmw1-5S7KSsHvqtPcQFiI&sig=AHIEtbRfEjbnONgBI9gRXXookIHB0Z-nTQ)

<sup>17</sup> Hongmei Deng & Peter O'Meara Evans, "Social and Environmental Aspects of Abandoned Chemical Weapons in China."

<sup>18</sup> Japan Today Website. "Historians rethink key Soviet role in Japan's defeat in WWII." Associated Press. August 16, 2010. <http://www.japantoday.com/category/national/view/historians-rethink-key-soviet-role-in-japans-defeat-in-wwii>

<sup>19</sup> Organization for the Prohibition of Chemical Weapons Official Website, "China: Position Paper: Chemical Weapons Abandoned by Japan in China," OPCW: Conference of the States Parties Second Review Conference. 18 April 2008 - 25 March 2008 <http://www.opcw.org/documents-reports/>

<sup>20</sup> Hongmei Deng & Peter O'Meara Evans, "Social and Environmental Aspects of Abandoned Chemical Weapons in China."

<sup>21</sup> Hongmei Deng & Peter O'Meara Evans, "Social and Environmental Aspects of Abandoned Chemical Weapons in China."

deformed, damaged, or leaking. China has cited up to 2,000 injuries resulting from ACWs of Japanese origin since the end of World War II.<sup>22</sup>

### 3. World Wide Chemical Weapons Use and Negotiations

After the horrors of large-scale chemical warfare in World War I, international efforts to ban the use of chemical weapons increased. The result was the 1925 Geneva Protocol for the Prohibition of the Use of Asphyxiating, Poisonous or Other Gases, and Bacteriological Methods of Warfare. However, the Geneva Protocol only banned the use of chemical or biological weapons in war and did not prohibit the development, production, or possession of chemical weapons.<sup>23</sup> Many countries only signed the treaty with the stipulation that they could respond similarly if attacked with chemical weapons.

As a result, chemical weapons use continued after WWI and during WWII. There were large chemical weapons programs in many countries around the world. Both the United States and Russia made substantial investments into their chemical weapons stockpiles during the Cold War. Their stockpiles were large enough to “destroy much of the human and animal life on Earth.”<sup>24</sup> The next step in banning chemical weapons was the 1971 Biological Weapons Convention (BWC). While it did not specifically ban chemical weapons, it required that countries commit to the negotiation of an international treaty banning chemical weapons.

Recurring chemical weapons attacks along with the existence of a “stigma against using CWs” led to the eventual ban of chemical weapons.<sup>25</sup> In the 1980s, Iraq used chemical weapons during its war with Iran. In April 1984, one month after a UN report on Iraqi chemical weapons attacks, U.S. Vice President George H.W. Bush introduced a draft chemical weapons treaty at the Conference on Disarmament in Geneva.<sup>26</sup> Later, Iraq used mustard gas and nerve agents against Kurdish residents of Halabja in 1988. The shocking pictures of Halabja victims horrified the world at the time of the negotiations in Geneva on the Chemical Weapons Convention.<sup>27</sup> The Gulf War was a further wake-up call. Diplomats working on the treaty were jolted when Saddam Hussein threatened the Middle East with chemical warfare. Hussein’s earlier use of chemical weapons in the Iran-Iraq War emphasized the point and “gave the negotiators a new sense of urgency.”<sup>28</sup>

On September 3, 1992, after nearly 20 years of negotiations, the text of the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons, and on Their Destruction (Chemical Weapons Convention or CWC) was agreed upon.<sup>29</sup> The Chemical Weapons Convention was opened for signature in Paris on January 1993 and 130 States signed the Convention within the first two days. Four years later, in April 1997, the

<sup>22</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>23</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Destruction of Chemical Weapons: Introduction.”

<sup>24</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Destruction of Chemical Weapons: Introduction.”

<sup>25</sup> Price, Richard. “A Genealogy of the Chemical Weapons Taboo.” *International Organization* (Winter, 1995), 75.

<sup>26</sup> Paul F. Walker, “Abolishing Chemical Weapons: Progress, Challenges, and Opportunities.”

<sup>27</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Destruction of Chemical Weapons: Introduction.”

<sup>28</sup> Amy Smithson, “Chemical Weapons: The End of the Beginning.” *The Bulletin of the Atomic Scientists*. October 1992.

[http://books.google.com/books?id=wQwAAAAAMBAJ&pg=PA36&dq=The+Japanese+Army%E2%80%99s+Chemical+Warfare&hl=en&ei=XHpATYqUCMP\\_lgfl6vSiAw&sa=X&oi=book\\_result&ct=result&resnum=8&ved=0CFIQ6AEwBw#v=onepage&q=The%20Japanese%20Army%E2%80%99s%20Chemical%20Warfare&f=false](http://books.google.com/books?id=wQwAAAAAMBAJ&pg=PA36&dq=The+Japanese+Army%E2%80%99s+Chemical+Warfare&hl=en&ei=XHpATYqUCMP_lgfl6vSiAw&sa=X&oi=book_result&ct=result&resnum=8&ved=0CFIQ6AEwBw#v=onepage&q=The%20Japanese%20Army%E2%80%99s%20Chemical%20Warfare&f=false)

<sup>29</sup> OPCW. “Basic Facts on Chemical Disarmament: Introduction Brief History of the Treaty.” OPCW. January 2011 <http://www.opcw.org/news-publications/publications/basic-facts/>

Convention entered into force with 87 States Parties.<sup>30</sup> While the creation of the treaty was a significant accomplishment, it was only a first step in ridding the world of chemical weapons. The lingering threat of chemical weapons was demonstrated when Japan suffered two chemical weapons attacks by the Aum Shinrikyo terrorist group in the 1990s. These two attacks re-focused international attention on the potential use of chemical weapons by terrorists, and on the dangers posed by chemical weapons, which deepened countries commitment to the treaty.<sup>31</sup>

### 3.1 Chemical Weapons Convention

The Chemical Weapons Convention is unique because it is the first multilateral treaty to ban an entire category of weapons of mass destruction (WMD) while providing for international verification. It is also the first disarmament treaty created within a completely multilateral framework, which results in increased transparency and equal application to all countries.<sup>32</sup> The Convention requires industrial facilities to be inspected to make sure that chemicals are only used for purposes allowed by the CWC. The treaty also calls for the verifiable destruction of chemical weapons. A state-party is first required to declare old chemical weapons (OCW) or abandoned chemical weapons found on its territory 30 days after the CWC enters into force. The CWC classifies old chemical weapons as those produced before 1925 or produced between 1925 and January 1, 1946, that have “deteriorated to such [an] extent that they can no longer be used as chemical weapons.”<sup>33</sup> Signatories are then required to destroy their chemical weapons within ten years of the treaty's entry into force.<sup>34</sup> However, the Convention also allows for the possibility of a one-time, five-year deadline extension up to 2012.<sup>35</sup> To implement the treaty, the Organization for the Prohibition of Chemical Weapons (OPCW) was established in The Hague, the Netherlands. The OPCW's main functions are to carry out “verification activities and ensure treaty compliance.”<sup>36</sup> Together, the CWC and OPCW create a framework for destroying chemical weapons and create a destruction timeline.

The CWC has made impressive strides in chemical weapons destruction and universality. The non-discriminatory provisions of the CWC are widely praised for promoting the treaty's wide acceptance in a short period of time. Currently, 98 percent of the global population and the global chemical industry are covered by its prohibitions.<sup>37</sup> The verification measures in the treaty have been enforced and numerous inspections of chemical facilities and stockpile sites have been carried out. From April 1991 until 2010 the OPCW conducted 4,167 inspections on the territory

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<sup>30</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Basic Facts on Chemical Disarmament: Introduction Brief History of the Treaty,” OPCW. January 2011 <http://www.opcw.org/news-publications/publications/basic-facts/>

<sup>31</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Destruction of Chemical Weapons: Introduction.”

<sup>32</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>33</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>34</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” BICC Paper Series. September 1997: 1.

[http://docs.google.com/viewer?a=v&q=cache:amlXDruahjwJ:www.bicc.de/uploads/pdf/publications/papers/paper13/paper13.pdf+books+on+china+chemical+weapons+destruction&hl=en&gl=us&pid=bl&srcid=ADGEESjI3PdBU0eXALT\\_UPN\\_EhV7DhgwbM8wsxvzSW0PbLSwW8fNNOKBChBfYGglQBKIav\\_B9pHhNmRdpI8Uflo3WuZsSZgxIkX2sBlxHafpLwP629nvQ3NEZ5LIRzzwPNbYvmDhc4Ef&sig=AHIEtbQQ\\_fgOdxFXZuTI99lpUuQf4YavoA](http://docs.google.com/viewer?a=v&q=cache:amlXDruahjwJ:www.bicc.de/uploads/pdf/publications/papers/paper13/paper13.pdf+books+on+china+chemical+weapons+destruction&hl=en&gl=us&pid=bl&srcid=ADGEESjI3PdBU0eXALT_UPN_EhV7DhgwbM8wsxvzSW0PbLSwW8fNNOKBChBfYGglQBKIav_B9pHhNmRdpI8Uflo3WuZsSZgxIkX2sBlxHafpLwP629nvQ3NEZ5LIRzzwPNbYvmDhc4Ef&sig=AHIEtbQQ_fgOdxFXZuTI99lpUuQf4YavoA)

<sup>35</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Basic Facts on Chemical Disarmament: Introduction Brief History of the Treaty,”

<sup>36</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 1.

<sup>37</sup> Rogelio Pffirter. “The Chemical Weapons Convention: Progress to Date Statement By H.E. Ambassador Rogelio Pffirter Director-General of the Organization for the Prohibition of Chemical Weapons.” Clingendael Institute. June 3, 2010: 4. [www.opcw.org](http://www.opcw.org)

of 81 States Parties, including 2,305 inspections of chemical weapon-related sites.<sup>38</sup> As a result, 100% of the declared chemical weapon stockpiles have been inventoried and verified.<sup>39</sup>

### 3.2 Global Context

There are seven countries with declared CW stockpiles, nine countries with declared old CW on their territory and four countries with declared abandoned CW on their territory all of which have faced complex and unique destruction challenges. As of September 2010, 44,131 tons, or 61.99%, of the world's declared stockpile of 71,194 tons of chemical agent have been verifiably destroyed.<sup>40</sup> Consequently, there is less than two years left to destroy close to 40% of the declared chemical weapon stockpiles by the extended deadline of April 29, 2012. This responsibility falls mainly on Russia, which possesses the largest stockpile yet to be eliminated, and on the United States which has already stated that it will not meet the time limit.<sup>41</sup> As of October 20, 2010, the United States had only destroyed 81% of its declared chemical weapon stockpiles of 27,141 metric tons.<sup>42</sup> This destruction included 21,984 metric tons in more than 2.1 million munitions and bulk containers. The characteristics of the stockpiled weapons in the United States have allowed it to destroy seven times more weapons than the total abandoned weapons in China. Despite the challenges of destruction, the OPWC's former director-general, Ambassador Rogelio Pfrirter stressed the necessity of meeting the deadline and stated that, "countries should spare no effort."<sup>43</sup>

Failure of any country to meet the treaty deadlines may undermine the strength of the convention. The power of the treaty rests on universal international compliance and the promise of all countries to dismantle their programs.<sup>44</sup> Any country with remaining chemical weapons may be perceived as threatening the security of countries that have already dismantled their weapons. Even non-operational sites of old and abandoned chemical weapons pose a threat to the world. The sites are subject to theft, terrorist attacks and accidents. So far, the CWC has achieved almost universal compliance and success in ending the production of chemical weapons. However, the case of Japanese abandoned chemical weapons remains a stain on the reputation of the Chemical Weapons Convention due to the slow pace of destruction progress.

### 4. China and Japan in the Chemical Weapons Convention

The slow pace of progress in destroying chemical weapons is rooted in the complicated relations between Japan and China. Japan eventually accepted full financial and technical responsibility for destroying abandoned chemical weapons in China because of pressure from China to normalize diplomatic and economic relations, and to make reparations for WWII offenses. However, contention between Japan and China surrounding historical issues including chemical weapons exacerbates the inherent complications in destroying chemical weapons in another country.

World War II effectively ended relations between China and Japan until 1972. On September 29, 1972, both governments decided to establish diplomatic relations by reinstating

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<sup>38</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Demilitarization: Latest facts and figures," OPCW. March 9, 2010 <<http://www.opcw.org/our-work/demilitarisation/>

<sup>39</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Demilitarization: Latest facts and figures."

<sup>40</sup> Rogelio Pfrirter. "The Chemical Weapons Convention: Progress to Date Statement By H.E. Ambassador Rogelio Pfrirter Director-General of the Organization for the Prohibition of Chemical Weapons," 6.

<sup>41</sup> Rogelio Pfrirter. "The Chemical Weapons Convention: Progress to Date Statement By H.E. Ambassador Rogelio Pfrirter Director-General of the Organization for the Prohibition of Chemical Weapons," 6.

<sup>42</sup> Paul F. Walker, "Abolishing Chemical Weapons: Progress, Challenges, and Opportunities."

<sup>43</sup> Rogelio Pfrirter. "The Chemical Weapons Convention: Progress to Date Statement By H.E. Ambassador Rogelio Pfrirter Director-General of the Organization for the Prohibition of Chemical Weapons," 6.

<sup>44</sup> John Hart, "Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons."

embassies and participating in the exchange of ambassadors.<sup>45</sup> Economic cooperation, trade and investment followed diplomatic relations through the Joint Communiqué of 1972. However, significant historical disputes over WWII between China and Japan continued to threaten cooperation. In an effort to solve these historical disagreements, Japan and China signed the “Treaty of Peace and Friendship between Japan and the People's Republic of China” on August 12, 1978.<sup>46</sup> It attempted to strengthen the “mutual understanding with neighboring Asian nations” by supporting historical research and collecting books and documents that related to their past.<sup>47</sup>

The Treaty of Peace and Friendship and the Joint Communiqué of 1972 were insufficient to normalize relations between the two countries and disputes over WWII atrocities remained. The main sources of contention centered over abandoned chemical weapons, reparations for victims of Japanese occupation and the portrayal of the Japanese army in textbooks.<sup>48</sup>

The Japanese and Chinese had long clashed over the issue of abandoned weapons. However, Japan denied any incidents of chemical use, which blocked rapid resolution of the problem for many years.<sup>49</sup> China saw an opportunity to resolve the issue of abandoned chemical weapons through the Chemical Weapons Convention. As a result, China played an active role in chemical weapons destruction from the earliest negotiations through to the conclusion and signature.<sup>50</sup> China was an important player in the negotiations because it had an active chemical weapons program itself, along with significant chemical stockpiles.

During the negotiations, China pressed for a very strict agreement on abandoned chemical weapons that would require the abandoning country to take full responsibility for the weapons left on another country's territory.<sup>51</sup> Since instances of chemical weapons use were “a source of bitter grievance and serious concern for the Chinese people,” Chinese Delegate Hu Xiaodi claimed that a thorough solution of the issue of abandoned chemical weapons was one of the “most urgent tasks in the negotiations on the chemical weapons convention.”<sup>52</sup> Primarily, China pushed for strict language on the “attribution of responsibility for their destruction.”<sup>53</sup> China advocated that the state that used and abandoned chemical weapons should bear the full responsibility for their destruction.<sup>54</sup>

In 1992, the Chinese delegation to the Geneva-based Conference on Disarmament introduced a paper estimating that approximately two million chemical weapons had been abandoned in its territory.<sup>55</sup> However, this initial estimate was eventually revised downward as a result of subsequent joint Chinese-Japanese investigations and field visits.<sup>56</sup> In the face of Chinese evidence, Japan was placed in the awkward position of trying to limit their obligations without endangering their significant economic investments in China or diplomatic relations.

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<sup>45</sup> Ministry of Foreign Affairs, Japan. “Joint Press Announcement on Strengthening Cooperation between Japan and China toward the Twenty-first Century.” November 26, 1998.

<http://www.ibiblio.org/chinesehistory/contents/03pol/c02sc01.html>

<sup>46</sup> Ministry of Foreign Affairs of Japan, “Outline of the Peace, Friendship, and Exchange Initiative,” <http://www.mofa.go.jp/policy/postwar/outline.html>

<sup>47</sup> Ministry of Foreign Affairs of Japan, “Outline of the Peace, Friendship, and Exchange Initiative,”

<sup>48</sup> REUTERS, “Points of Conflict Between China and Japan.”

<sup>49</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>50</sup> Wendy Frieman, *China, arms control, and nonproliferation*, New York; London: 2004.

<sup>51</sup> Federation of American Scientists, “China: Conference on Disarmament: Proposals on the Issue of Abandoned Chemical Weapons,” February 20, 1992. <http://www.fas.org/nuke/guide/japan/cw/CD1130.htm>

<sup>52</sup> Hu Xiaodi, “China: Conference on Disarmament, Final Record of the 614th Plenary Meeting,” Federation of American Scientists, February 27, 1992. [http://www.fas.org/nuke/guide/japan/cw/HU\\_CHINA.htm](http://www.fas.org/nuke/guide/japan/cw/HU_CHINA.htm)

<sup>53</sup> Hu Xiaodi, “China: Conference on Disarmament, Final Record of the 614th Plenary Meeting,”

<sup>54</sup> Hu Xiaodi, “China: Conference on Disarmament, Final Record of the 614th Plenary Meeting,”

<sup>55</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>56</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

Japan was most affected by China's clause on abandoned weapons and the Japanese initially resisted the provision since they would be burdened with the technical and financial requirements of the job.<sup>57</sup> In response to demands from China and the statements from Hu Xiaodi of China, Japan argued that it would be very "complicated" to place the responsibility of destruction on "the abandoning State."<sup>58</sup> This is due to the fact that the abandoning State does not normally have jurisdiction or the right to enter the territory of another State party where abandoned chemical weapons are located. Japan also argued that it is "very difficult to establish or identify the country which may have abandoned them."<sup>59</sup> However, the delegation from Japan eventually agreed "if it is established that a certain country has abandoned old chemical weapons and the country where they are discovered wishes the abandoning country to cooperate, such an arrangement should certainly be provided for in the convention."<sup>60</sup>

Japan's tolerance of an agreement on abandoned chemical weapons came as the price for a ban on chemical weapons. Japan is consistently a firm proponent of arms control treaties and it was an active participant in the negotiations for a treaty banning chemical weapons. Japan's 1947 constitution bans all armed forces for all purposes and consequently limits their chemical weapons programs and WMD programs.<sup>61</sup> Since then, Japan has followed a consistent policy of committing to and remaining in compliance with international security efforts. Japan believes that it has a "natural responsibility" to contribute to the "peace and prosperity of the world."<sup>62</sup> The Ministry of Foreign Affairs officially states that Japan is ready to fulfill its international obligations as "a Japan Contributing to the World" by promoting the cooperation of peace and promoting international arms control.<sup>63</sup> Japan has been active in treaties to ban all weapons of mass destruction - chemical, biological, and nuclear weapons.

Along with Japan, U.S. President George H.W. Bush championed a chemical weapons ban. According to a U.S. government official, without the inclusion of language on abandoned chemical weapons, China "would not have signed the treaty."<sup>64</sup> Thus the United States pressured Japan to accept a clause on abandoned chemical weapons to convince China to sign the treaty. It was important to have China sign the treaty because it maintained a large chemical weapons program and stockpiles. In the end, Japan agreed to a chemical weapons clause in order to induce China to sign the CWC.<sup>65</sup> Japan also saw the treaty as a chance to continue to repair relations with China by solving the issue of abandoned chemical weapons. To Japan, reparations were an extension of their responsibility following the Treaty of Peace and Friendship in 1978 and the Joint Communiqué of 1972.

The issue of abandoned chemical weapons was not the biggest issue for Japan while working on the treaty. Japan's largest concern involved negotiating a favorable outcome for their "world-renowned chemical industry."<sup>66</sup> Japan pushed to ensure that their private industry was

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<sup>57</sup> Amy Smithson, "Chemical Weapons: The End of the Beginning." Pg 39

<sup>58</sup> Mr. Donowaki, "Japan: Conference on Disarmament, Final Record of the 614th Plenary Meeting," Federation of American Scientists. February 27, 1992. <http://www.fas.org/nuke/guide/japan/cw/DONOWAKI.htm>

<sup>59</sup> Mr. Donowaki, "Japan: Conference on Disarmament, Final Record of the 614th Plenary Meeting."

<sup>60</sup> Mr. Donowaki, "Japan: Conference on Disarmament, Final Record of the 614th Plenary Meeting."

<sup>61</sup> Ministry of Foreign Affairs, Japan, *Diplomatic Bluebook 1989: Japan's Diplomatic Activities*, 1989, <http://www.mofa.go.jp/policy/other/bluebook/1989/1989-contents.htm#CONTENTS>

<sup>62</sup> Ministry of Foreign Affairs, Japan. *Diplomatic Bluebook 1989: Japan's Diplomatic Activities*. 1989.

<sup>63</sup> Ministry of Foreign Affairs, Japan, *Diplomatic Bluebook 1989: Japan's Diplomatic Activities*. 1989.

<sup>64</sup> Wendy Frieman, China, arms control, and nonproliferation.

<sup>65</sup> Wendy Frieman, China, arms control, and nonproliferation.

<sup>66</sup> Masahiko Koumura, "Statement by State Secretary for Foreign Affairs Masahiko Koumura to the First Session of the Conference of the State Parties of the Organization for the Prohibition of Chemical Weapons," Federation of American Scientists, May 6, 1997. <http://www.fas.org/nuke/guide/japan/cw/weapon.htm>

protected and claimed that it was most essential to “[protect] commercial proprietary information.”<sup>67</sup>

Despite pressure to sign the treaty, Japan was successful in limiting its responsibility to destroy abandoned chemical weapons by including a cut-off date for weapons and loose guidelines on the identity of abandoned chemical weapons.<sup>68</sup> Japan also inserted language that limited responsibility when the identity of abandoned chemical weapons has not been established. To China, insuring the removal of the old weapons was a major benefit of joining the CWC and it became one of the first countries to sign the treaty in 1993. A year and a half after entry into force, China was in compliance with its treaty obligations because removal or destruction of the chemical weapons would solve the long-term environmental, health and economic problems.<sup>69</sup>

It was not until December 1993 that Japan signed the Chemical Weapons Convention. The final CWC does not outline specific requirements for destruction of ACWs. Instead it requires Japan to enter into negotiations with China to destroy abandoned chemical weapons. Despite substantial concessions from China on abandoned chemical weapons, the issue delayed the ratification of the CWC by the Japanese government until terrorist attacks in Japan. There was an incident of sarin poisoning in Matsumoto, a Japanese residential community, in 1994. The incident was followed by a sarin attack on the Tokyo subway in 1995, perpetrated by the Aum Shinrikyu doomsday cult.<sup>70</sup> The chemical attack on Japanese territory convinced members of the government that a chemical weapons treaty was essential and Japan ratified the treaty within a month of the attacks.

#### 4.1 Memorandum of Understanding

The CWC was a significant step towards resolving the issue of abandoned chemical weapons, but it only required Japan to enter into negotiations with China. The CWC did not specify who would fund or carry out the destruction.

After the CWC, Japan came under substantial pressure for “historical issues” including the use of sex slaves and “comfort women” during the war, which created a lot of public outrage. In January 1992, Yoshimi Yoshiaki, a Japanese history professor, went public with documents on sex slavery that he had obtained from the Library of the National Institute for Defense.<sup>71</sup> This forced a government investigation and highly publicized trials with numerous witnesses. Chinese anger over sex slavery spilled into other historical issues, including the issues of abandoned chemical weapons. The Chinese public mobilized around issues of reparations and ACWs and experts on China point out that anti-Japanese demonstrations are one of the few forms of protest allowed in China.<sup>72</sup>

Pressure to find a complete solution to chemical weapons increased in November 1995, following the declassification of US government records and the related parliamentary questioning of the Japanese Foreign Minister, Yohei Kono, pertaining to Japanese chemical weapons use during WWII.<sup>73</sup> The irrefutable proof of chemical attacks in China outraged the

<sup>67</sup> Masahiko Koumura, “Statement by State Secretary for Foreign Affairs Masahiko Koumura to the First Session of the Conference of the State Parties of the Organization for the Prohibition of Chemical Weapons.”

<sup>68</sup> Mr. Donowaki, “Japan: Conference on Disarmament, Final Record of the 614th Plenary Meeting,”

<sup>69</sup> Wendy Frieman, China, arms control, and nonproliferation.

<sup>70</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Destruction of Chemical Weapons: Introduction.”

<sup>71</sup> Taylor & Francis Group, *Europa World Year Book 1*, (London: Europa Publication, 2004): 2335.

[http://books.google.com/books?id=wGA4o-](http://books.google.com/books?id=wGA4o-UhAfgC&dq=japan+and+china+diplomatic+relations+and+chemical+weapons+in+china&sitesec=reviews)

[UhAfgC&dq=japan+and+china+diplomatic+relations+and+chemical+weapons+in+china&sitesec=reviews](http://books.google.com/books?id=wGA4o-UhAfgC&dq=japan+and+china+diplomatic+relations+and+chemical+weapons+in+china&sitesec=reviews)

<sup>72</sup> BBC, “China and Japan Rival Giants: Cultural Issues.”

[http://news.bbc.co.uk/2/shared/spl/hi/asia\\_pac/05/china\\_japan/html/cultural\\_issues.stm](http://news.bbc.co.uk/2/shared/spl/hi/asia_pac/05/china_japan/html/cultural_issues.stm)

<sup>73</sup> M Mitsubishi, “Japanese Chemical Weapons in China: Erasing a Wartime Legacy.”

Chinese and led to the unofficial admission by a Japanese government official that Japan had used “lethal gases.”<sup>74</sup> Once the use of chemical weapons was confirmed it was only a matter of time before Japan assumed full responsibility for reparations.

In an attempt to resolve the “history issues” between the two countries, the Prime Minister, Tomiichi Murayama, issued an apology on August 15, 1995. He acknowledged that, in the “not too distant past,” Japan caused “tremendous damage and suffering to the people of many countries.”<sup>75</sup> He expressed “feelings of deep remorse” and stated his “heartfelt apology.”<sup>76</sup> The apology was a monumental step in repairing relations between the two countries and solving historical issues over chemical weapons. The apology served as a foundation for Japan’s official position towards reparations for WWII issues. By acknowledging chemical use and apologizing for atrocities during WWII, Japan was placed in a situation where it would have to assume full responsibility for the clean-up of abandoned chemical weapons.

Negotiations over the terms of abandoned chemical weapons continued in earnest after Tomiichi Murayama’s apology in 1995 along with significant public interest and pressure from China. In September 1997, then Japanese Prime Minister Hashimoto visited China to commemorate the 25<sup>th</sup> anniversary of the normalization of relations between the two countries. During this time provisions for the removal of chemical weapons were discussed.<sup>77</sup>

During negotiations, Japanese Foreign Minister Yukihiko Ikeda addressed the importance of complying with the Convention and the disposal of abandoned chemical weapons in China.<sup>78</sup> He stated, in 1997, that the Government of Japan must meet its obligations under the Convention, “in accordance with the spirit of the Joint Communiqué of the Government of Japan and the Government of the People's Republic of China and the Treaty of Peace and Friendship between Japan and the People's Republic of China.”<sup>79</sup> Japan was thereby pressured to comply with intergovernmental organizations to maintain their reputation in the international arena.

The signing of the Chemical Weapons Convention by Japan was primarily an attempt to make reparations for WWII and to normalize economic and diplomatic relations between China and Japan. A Japanese Ministry of Foreign Affairs spokesperson stated that the cleanup “is extremely important for improving trust.”<sup>80</sup> China and Japan were also motivated to come to an agreement because of factors concerning international organizations. During 1996 and 1997 China backed Japanese proposals for a permanent seat on the UN Security Council. Japan was also supporting China’s entry into the WTO following the normalization of relations.<sup>81</sup>

The issue of abandoned chemical weapons was also tied to economic concerns. Japanese corporations invest heavily in China and both governments benefit from cooperation and investment. During negotiations over chemical weapons, the Chinese noted the “positive role played in China's economic development by Japanese corporations.”<sup>82</sup> Both countries expressed their intention to continue investing in China, which required the resolution of historical issues. During this time, Japan expressed its intention to make efforts to promote “further development

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<sup>74</sup> M Mitsubishi, “Japanese Chemical Weapons in China: Erasing a Wartime Legacy.”

<sup>75</sup> Ministry of Foreign Affairs of Japan, “Outline of the Peace, Friendship, and Exchange Initiative.”

<sup>76</sup> Ministry of Foreign Affairs of Japan, “Outline of the Peace, Friendship, and Exchange Initiative.”

<sup>77</sup> Taylor & Francis Group, Europa World Year Book 1.

<sup>78</sup> Yukihiko Ikeda, “Statement by Foreign Minister Yukihiko Ikeda on the Entry into Force of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction,” Federation of American Scientists. April 29, 1997. <http://www.fas.org/nuke/guide/japan/cw/0429.htm>

<sup>79</sup> Yukihiko Ikeda, “Statement by Foreign Minister Yukihiko Ikeda on the Entry into Force of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction.”

<sup>80</sup> Andrew Monahan, “Japan's China Weapons Cleanup Hits a Snag.”

<sup>81</sup> Taylor & Francis Group. Europa World Year Book 1.

<sup>82</sup> Ministry of Foreign Affairs, Japan, “Joint Press Announcement on Strengthening Cooperation between Japan and China toward the Twenty-first Century,” November 26, 1998. <http://www.ibiblio.org/chinesehistory/contents/03pol/c02sc01.html>

of cooperation in the field of investment between Japan and China.” The Japanese side even decided to provide loans of up to 390 billion yen.<sup>83</sup> To protect those investments, it was crucial for Japan to maintain friendly relations with China.

Finally, in 1999 the two governments signed a “Memorandum of Understanding between the Government of Japan and the Government of the People's Republic of China on the Destruction of Abandoned Chemical Weapons in China” in which Japan formally acknowledged the presence of large numbers of chemical weapons it abandoned on Chinese territory.<sup>84</sup> In the agreement, Japan promised to provide “all necessary financial, technical, expert, facility as well as other resources” for the purposes of destroying the ACWs.<sup>85</sup>

Japan achieved concessions from China on the locations of destruction. Initially China pressed for the weapons to be removed from China and then destroyed. However, the Memorandum of Understanding allowed Japan full access to China to destroy the abandoned weapons on Chinese soil rather than be obliged to move them back to Japan, a highly risky undertaking.

#### 4.2 Abandoned Chemical Weapons

The CWC and the Memorandum of Understanding between China and Japan formed the framework for abandoned chemical weapons destruction in China. Abandoned chemical weapons are defined as chemical weapons, including old chemical weapons, abandoned by a State after January 1, 1925 on the territory of another State without the consent of the latter. (CWC Art. II, para. 6)<sup>86</sup> The specific requirements for declaring and destroying ACWs are defined in the Verification Annex of the Convention. When the identity of the country, which has abandoned chemical weapons, is known, that country is required to destroy the weapons with the cooperation of the Territorial State Party (TSP). The Verification Annex also includes how the OPCW inspections are to be carried out, and gives the Territorial State Party the right to consult with the Abandoning State Party in drafting a plan to destroy the weapons.<sup>87</sup>

As described in the CWC, the Territorial State Party (China) is required to declare chemical weapons abandoned on its territory, cooperate with the Abandoning State Party (Japan) and destroy abandoned chemical weapons on its territory when the abandoning state party cannot be identified or is not a member of the treaty. The Abandoning State Party (Japan) is required to declare chemical weapons abandoned on another's territory, destroy ACWs, and underwrite the costs.<sup>88</sup> The original CWC destruction deadline required Japan to have completed elimination of all ACW before April 2007, which is ten years after the CWC's entry into force. However, the Japanese government was granted a five-year extension until 2012 due to “political and technological complications.”<sup>89</sup>

Instances of abandoned chemical weapons contain complicated problems and issues for a few unfortunate countries. As of December 2007, there were 13 declared possessors of old chemical weapons and only three states declared that chemical weapons had been abandoned on their territory. China, Italy, and Panama have declared ACWs.<sup>90</sup> The abandoned chemical

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<sup>83</sup> Ministry of Foreign Affairs, Japan, “Joint Press Announcement on Strengthening Cooperation between Japan and China toward the Twenty-first Century.”

<sup>84</sup> Ministry of Foreign Affairs of Japan, “Japan's Disarmament and Non-Proliferation Policy.”

<sup>85</sup> Takeshi Nakane, “Statement by H. E. Mr. Takeshi Nakane, Ambassador, Director-General, Disarmament, Non-Proliferation and Science Department, Ministry of Foreign Affairs at the Eleventh Session of the Conference of the States Parties [to] the OPCW,” The Hague, December 5, 2006. [www.opcw.org](http://www.opcw.org)

<sup>86</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 3.

<sup>87</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 3.

<sup>88</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 4.

<sup>89</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>90</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

weapon sites in Italy and Panama were small and are relatively uncomplicated to destroy. Alternatively, the abandoned chemical weapon situation in China is extensive, complicated and results in numerous destruction difficulties for China and Japan.<sup>91</sup>

After decades of slow deliberation and preparation, the Japanese government began destroying weapons abandoned in China on September 1 2010.<sup>92</sup> Destruction began with a ceremony in the suburbs of the eastern Chinese city of Nanjing. Hideo Hiraoka, Senior Vice Minister of Japan's Cabinet Office, reaffirmed that Japan will “continue to take measures to speed up the destruction process.”<sup>93</sup> After the ceremony, the officials paid a visit to a site and facility for destroying chemical weapons on the outskirts of Nanjing. The ceremony was held in Nanjing because it was a site of many Japanese injustices during WWII and the ceremony was a further attempt to make reparations. Relief that progress was being made, along with criticism from the Chinese that progress was long overdue, marked the ceremony. The complexity of the project and the fact that destruction only started in 2010 has a number of analysts concerned that the extended 2012 deadline will be almost impossible for Japan to meet.<sup>94</sup>

### 4.3 Weapon Conditions Issues

The destruction project in China is very complicated because of the condition of the abandoned chemical weapons. Unlike stockpiled chemical weapons, which are stored neatly in warehouses or bunkers, the abandoned chemical weapons in China have remained under the soil or water for decades before excavation. They are heavily corroded or deformed, so they require careful handling and are difficult to disassemble.<sup>95</sup> Many weapons are even leaking various chemical agents.

The weapons are also dangerous to destroy because there are cases of conventional munitions with fuses along with the chemical weapons that can trigger the munitions while they are being handled or while in storage.<sup>96</sup> While the number of ACWs found attached with fuses is small, many shells contain picric acid, which can form highly explosive picrate over the years of storage.<sup>97</sup> As a result, each weapon requires independent classification, handling and transportation. The initial retrieval stage often involves the use of metal detectors and careful manual handling where possible. When a munition is thought to be unstable, a mechanized approach is used to retrieve and transport the weapon.<sup>98</sup> The principles of public safety and environmental protection are reinforced in the CWC. If an ACW presents a threat, then precautionary measures must be taken immediately, whether this means putting a weapon in temporary storage, draining the munitions in the field, or neutralizing the agent fill.<sup>99</sup>

Every chemical weapon requires careful inspection before any action is taken. The characteristics of every weapon are examined to determine its classification and weapon type. It is usually possible to determine the safety of a munition for handling by sight. In cases where the weapon is too corroded, an x-ray is necessary to determine the munition's internal design and

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<sup>91</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 3.

<sup>92</sup> Philstar, “Japan starts destroying chemical weapons abandoned in China during WWII,” September 2, 2010. <http://www.philstar.com/Article.aspx?articleId=608400&publicationSubCategoryId=200>

<sup>93</sup> Philstar, “Japan starts destroying chemical weapons abandoned in China during WWII.”

<sup>94</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>95</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China,” OPCW: Conference of the States Parties First review Conference. 28 April – 9 May 2003 <http://www.opcw.org/documents-reports/>

<sup>96</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>97</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan’s Efforts Toward Early Destruction of ACW In China,” OPCW: Conference of the States Parties Second Review Conference. 7-18 April 2008. <http://www.opcw.org/documents-reports/>

<sup>98</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 4.

<sup>99</sup> Peter O'Meara Evans, “Destruction of Abandoned Chemical Weapons in China,” 4.

type of fill (liquid or solid). Due to the extent of corrosion, an x-ray is not always possible and sometimes the chemical fill is not identified until destruction.<sup>100</sup> In addition, Japanese ACWs in China have some problematic composition characteristics. Many of the munitions contain lewisite, diphenylcyanoarsine or diphenylchloroarsine. These substances yield arsenic compounds during the destruction process, so Japan must collect these compounds properly.<sup>101</sup> The various characteristics of the abandoned chemical weapons in China contribute to significant difficulties during the handling, storage and destruction process and result in delays.

#### 4.4 Logistical and Physical Issues



In addition to the technical characteristics of the chemical weapons, there are a variety of logistical and physical features that are responsible for the slow pace of chemical weapons destruction. There are numerous chemical weapons sites randomly scattered all over China (see Figure 1). As a result, finding the weapons is difficult and time consuming. After the CWC was ratified, the Japanese Government launched extensive investigations to try to collect information on the whereabouts of hidden abandoned chemical weapons. In the 1990s, the Japanese government started examining old documents and conducting interviews with WWII veterans of the former Japanese Army. The information from Japan's exhaustive and time intensive study was then provided to the Chinese Government.<sup>102</sup> To determine the extent of chemical weapons in China, there was a joint Chinese-Japanese investigation in 1991 of a site containing chemical weapons.

**Figure 1: Excavation of Abandoned Chemical Weapons in China**<sup>103</sup>

Since then, the two countries have jointly conducted over 75 fact-finding missions and site investigations of suspected ACW sites.<sup>104</sup> Despite considerable efforts by both governments to investigate the location of other weapons, many chemical weapons sites were discovered accidentally which led to accidents and further complications.

The largest burial site of ACWs was discovered in Haerba-ling District of Dunhua City in Jilin Province. According to joint estimates, 90 percent of the ACW munitions in China are in this location.<sup>105</sup> This proved to be problematic because Jilin is prone to severe winter conditions

<sup>100</sup> Peter O'Meara Evans, "Destruction of Abandoned Chemical Weapons in China," 4.

<sup>101</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China."

<sup>102</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Japan's Efforts Toward Early Destruction of ACW In China."

<sup>103</sup> Japanese Cabinet official website. <http://www.cao.go.jp/acw/en/jigyobetsu/jigyobetsu.html>

<sup>104</sup> John Hart, "Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons."

<sup>105</sup> Shari Oliver & Stephanie Lieggi, "Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly," WMD Insights: Issues and Viewpoints in the International Media. June 2008 [http://www.wmdinsights.com/I25/I25\\_EA1\\_ProgramToCleanUp.htm](http://www.wmdinsights.com/I25/I25_EA1_ProgramToCleanUp.htm)

and it is far from the nearest road.<sup>106</sup> Considerable infrastructure had to be built around the burial site in order to undertake excavation and recovery in Haerbaling. The construction of an access road to the site was not completed until October 2002.<sup>107</sup>

The conditions of chemical weapons burial sites and the harsh winter weather in the Chinese northeast made it difficult to carry out work on the ground for nearly 5 months out of the year.<sup>108</sup> Recovering chemical weapons required excavation and digging which is hindered by winter conditions and frozen ground. Severe cold and winter conditions also contributed to delays in building infrastructure and excavating the chemical weapons sites.

#### 4.5 Studies and Negotiation Issues

The complicated nature of the project quickly overwhelmed the Chinese and Japanese governments. Destroying weapons involved agreeing on destruction technologies, destruction locations, costs, contracts and various other technical issues. Every issue relating to the destruction progress instigated long deliberations, studies, and review processes before a decision was reached.<sup>109</sup> The difficulty was compounded by the fact that Japan and China needed to work together to solve all of these problems.

Selecting the most suitable technologies for the destruction of the ACWs was one of the most important and complicated problems. Japan spent years analyzing samples taken from the Japanese ACWs, as well as conducting a number of tests to verify the effectiveness of destruction technologies and their compliance with various safety and environmental standards.<sup>110</sup>

Since there are different types and calibers of munitions, Japan and China conducted lengthy studies to choose appropriate destruction technologies and facilities. Based on the results of these tests and analyses, Japanese and Chinese experts agreed on the selection of main technologies for the ACW destruction in April 2003. Out of 30 candidate technologies, they chose detonation plus incineration as the “most suitable technology for destruction in Haerbaling.”<sup>111</sup> Even though both sides agreed on the initial location of the destruction plant, in the vicinity of Haerbaling, the final details were not decided until April 2007.<sup>112</sup> The facility is called the Japan-China Joint Organization for the Destruction of Japanese ACWs in China. Later in the summer of 2007, Japan and China agreed to allow the use of a mobile destruction facility for disposal of munitions that cannot be safely transported to Haerbaling.<sup>113</sup>

Environmental and public safety concerns also slowed progress toward establishing the disposal facility and beginning destruction. The dangerous nature of the ACW materials and the precautionary measures employed when disposing of them caused Japanese and Chinese officials to consult continuously on the best methods for the proper disposal of the various components of

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<sup>106</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China.”

<sup>107</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China.” 1.

<sup>108</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan’s Efforts Toward Early Destruction of ACW In China.”

<sup>109</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan’s Efforts Toward Early Destruction of ACW In China.” 1.

<sup>110</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan’s Efforts Toward Early Destruction of ACW In China.”

<sup>111</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan’s Efforts Toward Early Destruction of ACW In China.” 2.

<sup>112</sup> The Nuclear Threat Initiative, “Delegation of Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China,” OPCW. April 25, 2003. [http://www.nti.org/db/china/engdocs/japewecon\\_03.htm](http://www.nti.org/db/china/engdocs/japewecon_03.htm)

<sup>113</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

the ACW shells. This thorough consultation process inevitably prolonged the initiation of disposal activities.<sup>114</sup>

The need to conform to China's "constantly evolving laws and regulations" presented another challenge.<sup>115</sup> China's authoritarian government is able to rapidly change regulations on the environment and land use. Japan is then required to comply with China's environmental standards and other laws that are rarely enforced on Chinese citizens.

The process of investigation and agreement on destruction methods was further delayed because of Japanese inexperience. The Delegation from Japan to the CWC in 2003 claimed, "Japan does not have experience in destroying large numbers of chemical weapons."<sup>116</sup> Japan has destroyed relatively small numbers of old chemical weapons that were found on its own territory. Japan referenced an incident in which the government had difficulty destroying chemical weapons discovered in a lake on the northern Japanese island of Hokkaido.<sup>117</sup> Therefore, the delegation stressed that the delay was partially due to the thorough study and analysis of information received from other States Parties which have experience in destroying chemical weapons, including old chemical weapons. Overall, the inexperience of the Japanese government has resulted in numerous investigations and studies to determine the proper destruction methods and locations.<sup>118</sup>

#### 4.6 Uniqueness

The excessive complexity of the project including weapon types, destruction site, weapon locations, environmental concerns, destruction technology and the scope of the project are primarily responsible for the slow progress in China. The Japanese government was granted the five-year extension until 2012 because of "political and technological complications."<sup>119</sup> Despite missing the first deadline, the Japanese delegation has consistently stressed their commitment to the CWC while blaming slow progress on complicated issues beyond their control. The governments of Japan and China have often claimed that the destruction of its abandoned chemical weapons is unique. In a 2003 interview with *Oriental Outlook Magazine*, a Japanese government official claimed that the slow pace of the Sino-Japanese negotiations was due to the unprecedented nature of the clean-up work.<sup>120</sup> The condition of the weapons is a significant problem because of the length of time they remained in the soil. He argued that "nothing similar has happened in any other countries in the world."<sup>121</sup> He also claimed that the components of Japanese chemical weapons are different from those of American and Russian ones. Because of the nature of the project, "pioneering work has to be done in the research of technologies for destruction."<sup>122</sup>

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<sup>114</sup> Shari Oliver & Stephanie Lieggi, "Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly."

<sup>115</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Japan's Efforts Toward Early Destruction of ACW In China." 1.

<sup>116</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China."

<sup>117</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy."

<sup>118</sup> Organization for the Prohibition of Chemical Weapons Official Website, "Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China."

<sup>119</sup> Shari Oliver & Stephanie Lieggi, "Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly."

<sup>120</sup> Shari Oliver & Stephanie Lieggi, "Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly."

<sup>121</sup> Shari Oliver & Stephanie Lieggi, "Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly."

<sup>122</sup> Shari Oliver & Stephanie Lieggi, "Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly."

In 2008, Japan reaffirmed the position that the delay in destruction was due to the complicated nature of the project. The delegation from Japan stated that “the ACW project in China is, hence, an unprecedented task involving unique challenges that are not seen in the case of stockpiled chemical weapons.”<sup>123</sup>

## 5. Financial Issues and Considerations

The project in China is extremely complicated, but the inherent “uniqueness” of the project is not the only reason for the slow pace of destruction of abandoned chemical weapons. There are numerous underlying causes that are delaying the project including political will, finances, political tension, and lack of motivation.

Cost considerations are a significant obstacle to rapid progress. The disposal cost for a single chemical-weapon canister is calculated at several thousand dollars.<sup>124</sup> The Cabinet Office responsible for processing abandoned chemical weapons estimated that the project had cost approximately 2.6 billion US dollars (219 billion yen) so far.<sup>125</sup> Even the simple administrative costs required Japan to spend approximately 5.1 million dollars between 1992 and 1998 in funding various research visits to China. The budget for weapons disposal for fiscal year 2000 already stood at \$30 million.<sup>126</sup> Since then, costs have continued to spiral out of control and this makes every decision subject to political wrangling and controversy. It is estimated that the total cost for Japanese destruction assistance could exceed 1 trillion yen (approximately \$9 billion).<sup>127</sup> Some states including Japan, the United States, and Russia have been accused of putting their own narrow economic and national security interests before the good of the convention.<sup>128</sup> As in the case of Japan, the treaty can be viewed as an excessive financial burden especially for weapons that are not viewed to be operational and are defined as more of an environmental than security issue.

Fiscal considerations became a huge issue when it came to awarding contracts to companies for destroying weapons. Japan insisted that the contracts go to companies from Japan, which angered China. Japan wanted to keep the significant amount of money for chemical weapons destruction in their economy. Beginning in the spring of 1998, a variety of firms attempted to submit bids to the Japanese government to manage the disposal of existing chemical weapons. These firms include Itochu, Sumitomo, Nissho Iwai, Mitsui, Mitsubishi, Marubeni, Hitachi, Komatsu, JGC and Mitsui Engineering and Ship-building.<sup>129</sup> However, these bids were rejected due to the closed nature of the bidding process. After significant delays, the contract was given to the Japanese company Abandoned Chemical Weapons Disposal Corporation (ACWDC), which has had a historically close relationship with the government. ACWDC was awarded a contract of just under ¥8 billion (approximately US \$80 million) to be the sole firm responsible for carrying out destruction of the ACW.<sup>130</sup> However, awarding the contract was only one delay in the process, which was eclipsed by a scandal in 2007 with ACWDC.

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<sup>123</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan’s Efforts Toward Early Destruction of ACW In China.”

<sup>124</sup> M Mitsubishi, “Japanese Chemical Weapons in China: Erasing a Wartime Legacy.”

<sup>125</sup> Japanese Newspaper: Sankei Website. February 1, 2011.

<http://sankei.jp.msn.com/politics/news/110120/plc11012013570073-n1.htm>

<sup>126</sup> M Mitsubishi, “Japanese Chemical Weapons in China: Erasing a Wartime Legacy.”

<sup>127</sup> John Hart, “Looking Back: The Continuing Legacy of Old and Abandoned Chemical Weapons.”

<sup>128</sup> Oliver Meier, “No Time for Complacency: Tackling Challenges to the Chemical Weapons Convention,” *Presentation at the conference: The OPCW’s Contribution to the International Security Dimension: Achievements and Challenges*. June 8, 2010. <http://www.armscontrol.org/events/2010OPCWConfRemarks#4>

<sup>129</sup> M Mitsubishi, “Japanese Chemical Weapons in China: Erasing a Wartime Legacy.”

<sup>130</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

### 5.1 Scandal and Corruption Issues

The scandal surfaced in October 2007, when Japanese authorities raided the headquarters of ACWDC on suspicion that the firm and its parent company, Pacific Consultants International (PCI), misused public funds. The company and its parent were accused of skimming funds by padding bills sent to the Japanese government through the inclusion of “expenses” for the work of phony subcontractors.<sup>131</sup> The investigations revealed that PCI and ACWDC misappropriated approximately 100 million yen (\$1 million) of public funds.<sup>132</sup> Additionally, PCI funneled ¥300 million to Pacific Program Management, PCI’s management group company, as a reward for securing the contract.<sup>133</sup>

The scandal raised questions over the Japanese Government’s commitment to removing the weapons, because the government had awarded the contract for the disposal project to ACWDC without a public bidding process. This led to accusations of corruption and bias within the government during the bidding process. Tamio Araki, former PCI president, claimed that the contracts were awarded solely to ACWDC because of his “strong personal contacts with the government.”<sup>134</sup> In March 2008, as more indictments loomed, ACWDC and PCI officially withdrew from the ACW disposal contract. The scandal and the loss of ACWDC, put construction of the destruction plant on hold while delaying excavation and recovery progress.

The scandal not only delayed the destruction progress, but it also raised concerns over Japan’s commitment and oversight of the project. After the scandal, critics blamed the Japanese government, “for a failure of oversight that allowed the misappropriation of funds.”<sup>135</sup> This is because the Cabinet Office had awarded the sensitive project to ACWDC without an open bidding process, despite past problems of PCI, including an earlier accusation of misusing public funds. The Japanese Daily claimed that The Cabinet Office ignored PCI’s stained reputation and left the project entirely to the company because it “was the easiest option.”<sup>136</sup> The misappropriation of funds allowed by a lack of government oversight and a closed, biased bidding process slowed down the destruction process while increasing costs.<sup>137</sup> Following the scandal, the government took months to re-open the bidding process or express any plans to get the project back on track.<sup>138</sup>

### 5.2 Japanese Commitment Issues

As noted earlier, historical issues between China and Japan have colored the entire destruction project and complicated and slowed progress. China has not forgotten Japan’s delayed acknowledgement of chemical weapons use and it remains skeptical of Japan’s commitment to weapons destruction. Tensions over historical issues were renewed following the scandal in 2007. Critics in China have suggested that the ACWDC scandal served as an excuse for the Japanese government to further delay a process to which it has not been fully

<sup>131</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>132</sup> Andrew Monahan, “Japan’s China Weapons Cleanup Hits a Snag,” Time. March 31, 2008.  
<http://www.time.com/time/world/article/0,8599,1726529,00.html>

<sup>133</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>134</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>135</sup> Andrew Monahan, “Japan’s China Weapons Cleanup Hits a Snag.”

<sup>136</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>137</sup> Andrew Monahan, “Japan’s China Weapons Cleanup Hits a Snag.”

<sup>138</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>138</sup> Andrew Monahan, “Japan’s China Weapons Cleanup Hits a Snag.”

committed.<sup>139</sup>

There is mixed support for the CWC within Japan's government. Japan was slow to acknowledge chemical weapon attacks during WWII and many upper level politicians still deny fatalities due to chemical weapons during the war.<sup>140</sup> There is support, drawn by both the ruling Japanese political party and its opposition, from organizations that downplay or deny Japanese use of chemical or biological weapons against China. The conservative leaning Liberal Democratic Party, out of power since 2009, drew important support from these organizations.

There are also chemical weapon skeptics in Japan's ruling Democratic Party. For example, Jin Matsubara, used his speaking time at a 2008 Diet session dedicated to discussing the weapons to "question their very existence."<sup>141</sup> This official has also denied the killing of Chinese civilians by the Japanese Imperial Army in Nanjing in 1937-1938.<sup>142</sup> Japan has not allowed the issue of chemical weapons programs to be included in Japanese text books arguing that "no credible scholarly research, articles or book, have yet been published on this issue."<sup>143</sup> Skepticism in the Japanese government over chemical weapons uses, the ACWDC scandal, and the delayed pace of destruction progress further harmed diplomatic relations between China and Japan and contributed to further delays.

### 5.3 Reparation Issues

Accidents from chemical weapons and Japan's unwillingness to assume the costs for the victims fray the already tense political relations between the two countries. Abandoned weapons have been accidentally unearthed, opened or ruptured by Chinese citizens, exposing individuals to the chemical agent. It is widely believed that approximately 2000 people have been victims of abandoned weapons.<sup>144</sup> In 2003, over 40 people were injured after an accident involving metal barrels containing sulphur mustard found at a construction site. In addition to the workers who initially excavated the bulk containers, "individuals outside the construction site were exposed including nearby school students."<sup>145</sup>

Then in 2004, two boys, age 12 and 8 at the time, were injured by Japanese abandoned chemical weapons. Zhou Tong and Liu Hao were playing in a river in northeastern China's Jilin Province, when they came into contact with toxins that had leaked from the abandoned weapons. The boys lived, but the illness induced by their exposure forced them to drop out of school. The victims sued the Japanese government, which refused to pay damages to the boys' families, despite acknowledging that abandoned chemical weapons had been the cause of their sickness.<sup>146</sup> These cases of harm from chemical weapons inflamed bitterness between China and Japan.

Citizens in China are well aware of the accidents surrounding abandoned chemical weapons on their territory and consistently pressure the Japanese government to resolve the problem. Abandoned chemical weapons incidents are widely reported in a variety of Chinese newspapers. A Qiqihar citizen was quoted in a Chinese newspaper saying the "chemical weapons abandoned by Japanese should have been destroyed a long time ago."<sup>147</sup>

<sup>139</sup> Andrew Monahan, "Japan's China Weapons Cleanup Hits a Snag."

<sup>140</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy."

<sup>141</sup> Andrew Monahan, "Japan's China Weapons Cleanup Hits a Snag."

<sup>142</sup> Andrew Monahan, "Japan's China Weapons Cleanup Hits a Snag."

<sup>143</sup> Shamshad A. Khan, "Japan: CBW."

<sup>144</sup> Ramesh Thakur & Haru Ere, *The Chemical Weapons Convention: Implementation, Challenges, Opportunities*. Pearson Education India, Political Science. 2007. 138.

[http://books.google.com/books?id=EDfs0bzYi7kC&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](http://books.google.com/books?id=EDfs0bzYi7kC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false)

<sup>145</sup> Ramesh Thakur & Haru Ere, *The Chemical Weapons Convention: Implementation, Challenges, Opportunities*. 138.

<sup>146</sup> Andrew Monahan, "Japan's China Weapons Cleanup Hits a Snag."

<sup>147</sup> Ramesh Thakur & Haru Ere, *The Chemical Weapons Convention: Implementation, Challenges, Opportunities*.

The involvement of Chinese citizens in chemical weapons issues has principally taken the form of litigation aimed at the Japanese government for injuries sustained from exposure to abandoned weapons. The incidents have prompted several private law suits against the Japanese government for compensation, but none were successful. Tokyo argued that under the 1972 Sino-Japanese Normalization Treaty, China has officially waived any right to compensation arising from war-related claims.<sup>148</sup> The lack of reparations suggests to China that Japan is trying to meet the minimum of its responsibilities without bearing the extreme cost of the project.<sup>149</sup>

#### 5.4 Administrative Issues

The Japanese government has been chronically plagued with administrative obstacles and inefficiencies since the restructuring of their government following WWII. Japan's experience destroying their own ACWs highlights Tokyo's difficulties in achieving necessary internal government coordination. For example, in 1995, poison gas canisters were discovered in a lake on the northern Japanese island of Hokkaido. Newspapers reported a "shocking lack of urgency on the part of Japanese officials."<sup>150</sup> The Japanese government did not act to destroy or recover the weapons due to confusion over jurisdiction. Representatives from the Defense Agency, the Construction Ministry and the Prime Minister's office all refused to accept any formal responsibility for the problem.<sup>151</sup> In spite of protests from residents and the clear danger from the weapons, it took the government months to respond to the problem.

Despite such initial administrative shortcomings, there has been some progress in streamlining the government structure for chemical weapons issues. In April 1999, an ACW office was established within the Prime Minister's Office, intended to provide coordination between the various ministries and agencies of the government.<sup>152</sup> However, the process is still hindered by bureaucratic inefficiencies and administrative obstacles.

Carrying out the basic framework for the destruction of the ACWs memorandum between the Japanese and Chinese governments is difficult. Since the Memorandum of Understanding in 1999, the excavation and recovery operations have been implemented by a complicated network of government officials including defense officials second to the Cabinet Office, and private sector experts, with the cooperation of the Chinese Government.<sup>153</sup> The Japan-China Joint Organization was added to the bureaucratic scene in April 2007 as the implementing body of the Haerbaling Project.<sup>154</sup> The complicated nature of the project and the large number of agencies and players involved in the project has further hindered rapid progress.

#### 5.5 Foreign Relations Issues

China's public actions exacerbate the already tense political relations between the two countries. Issues over reparations, corruption, lack of oversight and administrative difficulties suggest to China that Japan is not fully committed to destroying weapons. As a result, China has been critical of the limited progress made by Japan. China has told the OPCW that the proper "disposal and safe destruction of Japanese ACWs is thus a matter which must be addressed

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<sup>148</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy."

<sup>149</sup> Ramesh Thakur & Haru Ere, *The Chemical Weapons Convention: Implementation, Challenges, Opportunities*.

<sup>150</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy."

<sup>151</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy." 2.

<sup>152</sup> M Mitsubishi, "Japanese Chemical Weapons in China: Erasing a Wartime Legacy." 2.

<sup>153</sup> Ministry of Foreign Affairs of Japan, "Japan's Disarmament and Non-Proliferation Policy." MOFA. March 2008 <http://www.mofa.go.jp/policy/un/disarmament/policy/pamphlet.html>

<sup>154</sup> Ministry of Foreign Affairs of Japan, "Japan's Disarmament and Non-Proliferation Policy."

without delay.”<sup>155</sup> Despite excavation and recovery efforts, China remains critical of Japan for not destroying a single weapon until 2010.<sup>156</sup>

China uses the destruction of chemical weapons as an opportunity to determine and publicize the full extent of Japanese use of chemical weapons. China frequently condemns Japan for WWII and consistently refers to WWII as Japan’s “war of aggression against China.”<sup>157</sup> In a presentation to the OPCW in 2008, China stressed the harm caused by repeated chemical weapon attacks and the “large numbers of deaths and injuries among the Chinese military and civilians.”<sup>158</sup> The Chinese have also emphasized the “continuing illness and death of Chinese citizens caused by the existence of the abandoned weapons.”<sup>159</sup>

Economic, social, and political disagreements have also slowed down negotiations and hindered destruction. There are areas of contention ranging from territorial disputes over uninhabited islands in the East China Sea, known as the Senkakus in Japan and the Diaoyus in China, to energy disagreements as China’s exploration for natural gas in the East China Sea near an area Japan claims as its exclusive economic zone. Japan has also repeatedly expressed concerns about China’s military buildup, and China’s treatment of Taiwan.<sup>160</sup>

These areas of contention have manifested themselves in conflicts over chemical weapons destruction and have slowed down progress. For example, in September 2010, Beijing detained and investigated four Japanese citizens suspected of entering a military zone without authorization and illegally filming military facilities. The four citizens were employees of a Japanese construction company, Fujita Corp, which was working to prepare a bid for a project to dispose of chemical weapons. The employees were detained after disputes involving an incident between the Japanese and Chinese at sea. A Chinese citizen, Zhan, was arrested on September 8, 2010 after his boat collided with two Japanese patrol vessels near The East China Sea chain of islands. The islands, about 120 miles (190 kilometers) east of Taiwan, are controlled by Japan but are also claimed by Taiwan and China.<sup>161</sup> Incidents like these have often derailed negotiations, increased tensions, and slowed down the destruction of chemical weapons.

## 5.6 Technical Treaty Issues

There are also problems with the CWC that have made the destruction process more difficult and hindered Japan and China’s progress. International treaties are far from perfect because they require a lot of negotiation and international agreement from a wide variety of parties. Arms control negotiations are often circular affairs and progress frequently collapses when negotiators play one issue off against another. The CWC negotiations were especially contentious leading to omissions, for example, the exclusion of text on sea-dumped chemical weapons dumped prior to 1985 and unrealistic timelines. Together with the unsettled Sino-Japanese situation, this makes the convention’s implementation even more difficult.<sup>162</sup> The CWC does not specify how abandoned weapons should be destroyed, only that the “destruction must

<sup>155</sup> Organization for the Prohibition of Chemical Weapons Official Website, “China: Position Paper: Chemical Weapons Abandoned by Japan in China.” 1-2.

<sup>156</sup> Shari Oliver & Stephanie Lieggi, “Program to Clean-up Abandoned Chemical Weapons in China Moves Sluggishly.”

<sup>157</sup> Organization for the Prohibition of Chemical Weapons Official Website, “China: Position Paper: Chemical Weapons Abandoned by Japan in China.”

<sup>158</sup> Organization for the Prohibition of Chemical Weapons Official Website, “China: Position Paper: Chemical Weapons Abandoned by Japan in China.”

<sup>159</sup> Wendy Frieman, China, arms control, and nonproliferation.

<sup>160</sup> REUTERS, “Points of Conflict Between China and Japan,” *NZ Herald*. April 19, 2005. [http://www.nzherald.co.nz/world/news/article.cfm?c\\_id=2&objectid=10121139](http://www.nzherald.co.nz/world/news/article.cfm?c_id=2&objectid=10121139)

<sup>161</sup> Yuri Kageyama & Malcolm Foster, “Japan rejects China’s demand for apology, compensation over arrest of boat captain.” Fox News. September 24, 2010. <http://www.foxnews.com/world/2010/09/24/japan-releases-chinese-captain-territorial-dispute-china-demands-apology/>

<sup>162</sup> Amy Smithson, “Chemical Weapons: The End of the Beginning.” Pg 39.

begin one year after ratification and end within ten years.”<sup>163</sup> This lack of direction resulted in Japan and China needing to negotiate on a huge number of issues.

Furthermore, Japan has repeatedly stated that other parts of the treaty are too inflexible or inappropriate. In 2003, the delegation from Japan submitted a statement claiming that the “provisions of Article IV and Part IV (A) of the Verification Annex concerning destruction of chemical weapons and its verification could be applied more flexibly to Japanese ACWs than to stockpiled chemical weapons.”<sup>164</sup> Japan feels that the possibility of these munitions being used as chemical weapons is very small so the verification procedures do not need to be as strict. Thus, Japan has argued that the treaty applied to Japanese ACWs could be “streamlined as compared to the regime for stockpiled chemical weapons.”<sup>165</sup> While Japan and China have been cooperating to investigate, excavate and recover ACWs, there still remain a large number of ACWs buried underground, and there is a possibility that new ACWs will continue to be found in unknown locations. Therefore, the detailed and phased destruction timelines that apply to stockpiled chemical weapons are difficult to apply to Japanese ACWs.<sup>166</sup>

As has also been claimed, the 2012 deadlines created by the treaty for completing chemical weapons destruction is unrealistic and it is unfair to hold countries to the deadline. The 2012 deadline was the “best guess for a realistic deadline.”<sup>167</sup> In 2008, Donald A. Mahley, who was Acting Deputy Assistant Secretary of State for Threat Reduction, Export Controls and Negotiations and managing director of the United States National Authority, which is responsible for the implementation of the CWC, claimed that the 2012 deadline was an arbitrary date that “the best minds looking at the best technologies thought was extraordinarily long in terms of destroying chemical weapons.”<sup>168</sup> Since the deadline was set in 1992, the world discovered that destroying chemical weapons is far more complicated than anticipated especially if stockpiles are destroyed in an ecologically safe and secure fashion.

This has resulted in increased debate over the threatening nature of stockpiles that could remain after 2012. Some argue that these remaining stockpiles do not pose a risk if possessor states maintain their commitment toward the rapid and complete destruction of those chemicals in a regulated and ecologically safe fashion. They believe that if those stockpiles are identified, secured and under constant supervision from the OPCW, then they might not constitute a “particularly acute threat with respect to chemical weapons proliferation.”<sup>169</sup> Although the CWC treaty has been extremely successful, it is prone to limitations that have led to delays in destroying abandoned chemical weapons stockpiles.

## 6. Recent Progress

The excavation and recovery efforts are progressing slowly and it will take a number of years before destruction is complete. In the fall of 2008, 419 items suspected of being Japanese ACWs were recovered in Lianhuapao Dunhua City.<sup>170</sup> In 2010, several hundred more items were

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<sup>163</sup> Wendy Frieman, China, arms control, and nonproliferation.

<sup>164</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China.”

<sup>165</sup> Organization for the Prohibition of Chemical Weapons Official Website, “Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China.” 3.

<sup>166</sup> The Nuclear Threat Initiative. “Delegation of Japan: Chemical Weapons Convention Review Conference: Abandoned Chemical Weapons in China.”

<sup>167</sup> An Arms Control Today Reader, “The 2008 Chemical Weapons Convention Review Conference: A Collection of Articles, Essays, and Interviews on Tackling the Threats Posed by Chemical Weapons.”

<sup>168</sup> An Arms Control Today Reader, “The 2008 Chemical Weapons Convention Review Conference: A Collection of Articles, Essays, and Interviews on Tackling the Threats Posed by Chemical Weapons.”

<sup>169</sup> An Arms Control Today Reader, “The 2008 Chemical Weapons Convention Review Conference: A Collection of Articles, Essays, and Interviews on Tackling the Threats Posed by Chemical Weapons.”

<sup>170</sup> Japanese Cabinet Office Website, “Updated Japanese ACW operation in China.”

<http://www.cao.go.jp/acw/jigyobetsu/jigyobetsu.html>

excavated and recovered in Jilin Province.<sup>171</sup> Out of the estimated 300,000 – 400,000 chemical weapons in China, only 47,000 weapons have been excavated and recovered.<sup>172</sup> The recovered weapons are then destroyed by Kobe Steel and Kawasaki Heavy Industry, which hold the contract for AWC disposal.<sup>173</sup>

There are two parts to the destruction effort. The first is the Mobile Destruction Facility (MDF), which destroys various chemical weapons outside of Haerbaling. From October 12th to November 16th, 2010, the facility destroyed 4,100 chemical munitions in Nanjing. It is estimated that the MDF should be able to destroy the 36,000 chemical weapons in Nanjing, within a year.<sup>174</sup> After Nanjing, the MDF should be able to incinerate all the chemical weapons in Wuhan within the following year.

The weapons located in Haerbaling are destroyed by a chamber built by Kobe Steel known by the acronym, DAVINCH, for Detonation of Ammunition in a Vacuum Integrated Chamber. On September 1st, 2010, the Japanese Government finished the construction of the chemical weapon treatment facility and started destroying chemical weapons on October 12th, 2010.<sup>175</sup> The system destroying the weapons is nearly identical to one used by the United States in Utah. The recovered munitions are wrapped with explosives and detonated inside a chamber engineered to safely contain the explosion.<sup>176</sup> The system consists of two compartments, one resting inside the other, with a total weight of 160,000 pounds. The door alone weighs 30,000 pounds.<sup>177</sup> The chamber is fitted with an elaborate filtration system to handle any gases produced by the explosion.<sup>178</sup> It is predicted that the system will only be able to destroy 10,000 chemical weapons a year.<sup>179</sup> Since the Japanese government estimates the number of ACWs in Haerbaling as 300,000 to 400,000, it is possible that it could take 10 - 30 years to finish incineration. Japan and China have recently agreed to establish three mobile destruction facilities which could increase annual destruction to 30,000 munitions. Nevertheless, China and Japan will ultimately fail to meet the 2012 deadline and continue to destroy weapons far past the time allowed by the CWC.

## 7. Conclusion

Untangling the true reasons for the slow pace of chemical weapons destruction in China is an extremely difficult task, but one that deserves continuing attention. The Chemical Weapons Convention is a groundbreaking treaty that is championed as a prime example of the proper way to organize and implement an effective international arms control and disarmament treaty. While the treaty has been extremely successful in some areas, it is in danger of falling short of its major goals. The failure of some major signatories to abide by the treaty is disturbing and undermines the treaty's effectiveness and past achievements. China and Japan are two of the countries (along with Russia and the United States) that will fail to meet the 2012 deadline for the destruction of abandoned chemical weapons. Despite the significant harm this will have on the overall success

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<sup>171</sup> Japanese Cabinet Office Website, "Updated Japanese ACW operation in China."

<sup>172</sup> Japanese Cabinet Office Website, <http://www.cao.go.jp/acw/pdf/>. 21.

<sup>173</sup> Japanese Newspaper: Sankei Website. February 1, 2011.

<http://sankei.jp.msn.com/politics/news/110120/plc11012013570073-n1.htm>

<sup>174</sup> Japanese Cabinet Office Website. <http://www.cao.go.jp/acw/pdf/>. 2.

<sup>175</sup> Japanese Cabinet Office Website, <http://www.cao.go.jp/acw/pdf/>. 2.

<sup>176</sup> John Hollenhorst, "Army to use chamber to safely blow up unstable chemical munitions stored in Tooele," *Deseret News*. March 4, 2011.

<http://www.deseretnews.com/article/705367985/Army-to-use-chamber-to-safely-blow-up-unstable-chemical-munitions-stored-in-Tooele.html>

<sup>177</sup> John Hollenhorst, "Army to use chamber to safely blow up unstable chemical munitions stored in Tooele."

<sup>178</sup> John Hollenhorst, "Army to use chamber to safely blow up unstable chemical munitions stored in Tooele."

<sup>179</sup> Japanese Cabinet Office Website. <http://www.cao.go.jp/acw/pdf/>. 26.

of the treaty, Japan and China have disproportionately received little international criticism. This is due to acceptance that the situation in Japan and China is overly complicated and unique.

There are significant technical and logistical issues involved in the process of weapon destruction. Over 300,000 weapons remain scattered all over China in remote areas, which require complicated and extensive excavation and recovery efforts. Some of the weapons are heavily corroded, dangerous, contain explosive picrate, arsenic and other conventional explosives that make the weapons difficult and dangerous to retrieve, store and destroy. All of these physical and technical issues required studies and discussion to reach consensus on how best to proceed. However, the inherent uniqueness and complicated nature of the project are not the only reasons for the slow pace of weapon destruction. There are also a myriad of underlying reasons.

Primarily, Japan has been slow to acknowledge the use of chemical weapons during World War II and there are still officials who receive support from groups denying atrocities during the war. This makes the issue of chemical weapons very politically contentious within the Japanese government. The issue of chemical weapons is exacerbated by the huge financial costs of completing the project quickly. The contribution of financial concerns and political issues has manifested itself in the corruption scandal of 2007. Further underlying problems involve political difficulties between China and Japan. China frequently condemns Japan for atrocities during WWII, which makes negotiating between the two countries problematic. Every issue during the destruction process has required negotiation and agreement. The technical and logistical difficulties along with the underlying financial, political and negotiation issues are responsible for the failure of Japan and China to meet the 2012 deadline.

Understanding the issues behind the slow progress of chemical weapons destruction in China can make the path forward clearer. Solutions to speeding up the process are not easy but they must be attempted to prevent more human suffering and environmental harm. Thus far, the OPCW has focused its attention on the likely failure of the United States and Russia to destroy their existing stockpiled weapons by the 2012 deadline. However, the case of Japanese abandoned chemical weapons in China is an important project that also requires international attention. Japan must increase funding, personnel, and destruction facilities for the project. There are currently not enough excavation teams to quickly recover all of the weapons and there are not enough facilities to destroy the weapons on time. To do this, Japan must put aside its political and financial concerns to acknowledge the harm done to China during the war and to make reparations. China also needs to allow local outreach and greater transparency in regards to abandoned chemical weapons in order to facilitate local and regional consensus. Furthermore, it is necessary for China to resolve foreign relations issues with Japan while simplifying regulations, administrative burdens, and requirements on Japan. The inherent uniqueness of the project does not excuse the slow pace of destruction. Instead it must be acknowledged that there are underlying causes to the slow pace of destruction. It is necessary and realistic for both countries to increase their efforts toward chemical weapons destruction.

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