Destruction of Japanese Abandoned Chemical Weapons Discovered in China: Progress and Challenge

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Contents

- JACW discovered in China
- New Discoveries in 2015
- Destruction Review: Progress and Challenge
Introduction: JACWs is a problem left over by the history

- Crimes committed by the former Japanese military regime against the Chinese people
- No detailed abandonment information provided
Introduction: JACW remains a real problem to the life and property of the local people and environment

- Resulted in more than 2,000 casualties since the founding of the PRC
- More frequent casualties reported in recent years, during the construction work and/or other activities
  - Qiqihar incident in August 2003: one dead, 41 injured
Introduction: Destruction of JACWs - Obligations under the CWC

- “Each State Party under takes to destroy all chemical weapons it abandoned on the territory of another State Party, in accordance with the provisions of this Convention.” (Para. 3, Article I, CWC)

- For the purpose of destroying abandoned chemical weapons, the Abandoning State Party shall provide all necessary financial, technical, expert, facility as well as other resources. The Territory State Party shall provide appropriate cooperation. (Para. 15, Part IV (B), V.A. CWC)
Introduction: Bilateral cooperation for the purpose of destruction of JACWs

- Two Memorandums signed by China and Japan

- Cooperation and assistance have been consistently provided by China at each stage of JACW’s disposal program (discovery, on-site investigation, excavation and recovery, identification and over packing, and destruction)
Fact Sheets: JACWs discovered in China

- JACWs have been discovered at more than 90 sites in 18 provinces, throughout China
  - Discovered in construction sites, densely populated areas, natural reserves, and in rivers and lakes as well as in off-shore waters
  - Many of the discovered JACWs are deformed, damaged, or leaking
- To date, nearly 50,000 recovered and 330,000 yet to be recovered JACWs have been declared to the OPCW
Fact Sheets: Types of JACWs discovered in China

- Chemical projectiles: 75mm, 105mm, 150mm
- Chemical mortar: 90mm
- Chemical aerial bombs: 15kg and 50kg
- Toxic canisters: small/medium/large gas pot
- Containers: drum can for yellow agents
- Misc. components: burster tubes and booster tube
Fact Sheets: Types of JACW agents discovered in China

- Mustard gas (Yellow Agent)
- Lewisite (Yellow Agent)
- Mixture of mustard and Lewisite mixture (Yellow Agent)
- Diphenylchloroarsine (DA) (Red Agent)
- Diphenylcyanoarsine (DC) (Red Agent)
- Phosgene (Blue Agent)
- Trichloroarsine (White Agent) (used in mixture with Blue)
Fact Sheets: the largest JACW burial site discovered in China

**Haerbaling**
- 1,300 km from Beijing - north east of China
- An estimated 330,000 items JACWs buried
- JACW Recovery Facility completed in 2012, and a bilateral recovery operation conducted in 2013
Fact Sheets: all JACWs discovered by accident

- **Internal Identifications**
  - In the case of any reported suspected discoveries, Chinese chemical experts will be sent to the site for internal identification.
  - If confirmed by the experts, the suspected JACWs will be secured, and relevant information will be recorded and provided to the Japanese side through the diplomatic channels.
Fact Sheets: bilateral Identification and Excavation

- **Bilateral Identification**
  - To confirm the discovered CWs as Japanese origin

- **Bilateral Excavation**
  - Japan, in cooperation with China, will conduct on-site investigations at a bilateral agreed time
    - to confirm the origin of suspected discoveries (appearance, X-ray etc.)
    - to seal and over pack confirmed JACWs
    - to discuss further recovery plans, if needed
Updates 2015: the new discoveries

- Total of 768 JACWs recovered and confirmed
  - 9 bilateral investigations or excavation operations conducted at 10 different locations in 6 provinces

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Taiyuan Bilateral Excavation Operations

- Taiyuan -- capital city of Shanxi province, about 500 km south west of Beijing
- JACW was first discovered in Feb 2014 during construction work in an residential area
- The discovery site is only 5 km from the downtown city of Taiyuan city
Case Study I
Taiyuan Bilateral Excavation Operations

- Three bilateral excavation operations conducted with total of 530 JACWs recovered
  - Phase I: 22 Dec 2014 – 11 Feb 2015
  - Phase II: 16 April – 9 June 2015
  - Phase III: 25 June – 15 August 2015
- 220JACWs has been transported Shijiazhuang Mobile Destruction Facility which is scheduled to start destruction operation in June
- Fused and phosgene items will be left at the site and to be destroyed at later stage
Jiamusi Underwater Trial Excavation & Recovery Operations

- Jiamusi – 1500 km northeast Beijing, a border city with Russian Federation – Ussuri River
- Several JACWs were recovered in June 2006 in Songhua River during the sand recovery operation on the River
- 7 bilateral investigations/surveys conducted from 2006 to 2010
- An area of 480,000 m² (1600mX400m) was detected with 841 points found to be abnormal and 4 points suspected to be high density area
Case Study II
Jiamusi Underwater Trial Excavation & Recovery Operations

- 2 -30 September 2015
- Test cofferdam operation area: 2200 m²
- Recovered items: two 105mm yellow shell

- 2 Sep. - 3 Nov. 2015
- Test diving operation area: 8000 m²
- Recovered items: four 105mm yellow shell

Cofferdam Operation

Diving Operation
Updates 2015: JACW Storage

- **25 JACW's Storage Facilities in operation:**
  - **10 Trust Warehouses:** Shenyang, Haerbaling, Haerbin, Qiqihaer, Yichun, Jiamusi, Ningan, Guangzhou, Shijiazhuang and Nanjing
    - 11,451 items of JACWs & 201,345 kg contaminated material stored.
  - **15 Temporary Trust Warehouses:** Anqing, Bayandaoer, Beian, Dalian, Hangzhou, Hulunbeier, Hunchun, Jixi, Longjin, Naning, Nianzhishan, Shangzhi, Taiyuan, Tonghua and Liaoyuan
    - 2505 items of JACWs, 74 tons preliminary disposed agents and 450.7 kg contaminated material stored.
Updates 2015: OPCW inspections

- Total of 7 OPCW inspections to JACWs sites
  - 4 JACW storage inspections
    - Wuhan and Shangzhi
    - Shijiazhuang and Haerbin
  - 2 inspections at MDF Shijiazhuang and test destruction Facilities at Haebaling
  - 1 invited inspection at Taiyuan JACW Excavation site
Destruction Review: the destruction plan

- Missed deadline for the destruction of JACWs: 29 April 2012
- The EC of the OPCW endorsed the bilateral destruction plan at its 67th session with a decision on “THE DEADLINE OF 29 APRIL 2012 AND FUTURE DESTRUCTION OF THE CHEMICAL WEAPONS ABANDONED BY JAPAN IN THE PEOPLE’S REPUBLIC OF CHINA” (EC-67/Dec.)
  - Mobile Destinations -- 2016
    - Southern route: Nanjing – Wuhan – Guangzhou
    - Northern route: Shijiazhuang – Harbin
  - Excavation, Recovery and Destruction in Haerbaling --2022
  - Other to be recovered JACW will be destroyed according to the provisions of the CWC by the Abandoning State Party
Destruction Review – Cooperation Efforts

- Bilateral cooperation is indispensable to the success of the destruction program
- Consistent efforts and assistance provided by China to the JACWs destruction program
  - Coordination with the local government
  - Destruction site preparation and ground construction
  - Speedy customs clearance procedures
  - Purchasing and transporting explosives and detonators
  - Delivering the destruction objectives
  - Decontamination support
  - On-site medical support
**Mobile Destruction Facility in Nanjing**

- **Mission Completed**
  - 12 Oct. 2010: Start of the destruction
  - 11 June 2012: Completion of the destruction
  - Within 20 months: Total of 35,681 declared JACWs destroyed
  - Destruction unit has redeployed to Wuhan;

- **Challenges**
  - Contaminated wastes generated from the destruction process (after further treatment) are still kept at the site
  - Final resolutions to these wastes (including arsenic containing wastes) is still pending
Destruction Review: Mobile Destruction Facility in Wuhan

- **Mission Completed:** Total of 264 JACWs discovered in Wuhan and nearby provinces were destroyed.
  - 30 November 2014 started destruction
  - Two phases of operation:
    - Phase I: 23 Dec. – 25 Dec. 2014, 121 JACWs destroyed
    - Phased II: 13 April – 8 May 2015, 143 JACWs destroyed

- **Challenges:**
  - Contaminated wastes pending further disposal
Destruction Review: MDF in Guangzhou

- **Status of the facility:** The precise location of the destruction facility has not been bilaterally agreed.

- **Challenges:**
  - **The Plan** -- “A third MDF deployment location is expected to be in Guangzhou (Guangdong Province). The Government of Japan and the Government of the People’s Republic of China are currently discussing the details including the timing for the start of the destruction operations.”
  - **Reality** – Two candidate destruction sites in Guangzhou proposed but was not timely agreed, therefore, the proposed sites are all no longer available.
Mobile destruction program in Shijiazhuang

- 12 Dec. 2012 started one week destruction test-run, with destruction of 250 JACWs
- Phase I: 17 May – 15 July 2013, with destruction of 1,142 JACWs
- Phase II: Planned 15 Sept. – 8 Dec. 2014, suspended on Nov. 10 2014 due to two independent companies monitored dioxin exceeded the national environmental limit, with destruction of 309 JACWs
- Phase III & IV: 29 July to 17 September and 15 October to 2 December 2015 with destruction of 609 JACWs
- Phase V: to be resumed July this year to destroy 222 JACWs to be transported from Taiyuan and 4 barrels of yellow agent

Challenges:

- The facility has resumed destruction operation after the dioxin over limit suspension.
Destruction Review:
Haerbaling - the Greatest Challenges (1)

- Excavation & Destruction Facilities in parallel
- The excavation and recovery facility completed on 30 Nov. 2012
- Destruction facility started operation on 30 Nov. 2014
- 3 excavation operations and 4 operations planned for this year
  - Started operation in April

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Destruction Review:
Haerbaling - the Greatest Challenges (2)

- Detonation chamber and a static kiln detonation furnace as the technology for destruction.
- Limited capacities for the destruction is the great challenge.
Haerbing: International Monitoring

- The OPCW attaches great importance to the destruction of the JACWs in China – the issue regularly reviewed by the EC, CSP and the CWC Review Conference;
- EC delegation paid second visit to Haerbing from 6-11 June 2015 led by EC Chairperson Ambassador Francesco Azzarello
Haerbaling: Visit by DSTL experts

- DSTL has played constructive role in relation to the program of disposal of JACW both with Japan and China

- A team of three experts led by Mr. Mark Roger, facility manager of the UK OCW destruction facility at DSTL visited Haerbaling from 29 June to 2 July 2016

- DSTL to contribute further of its expertise in the recovery and destruction of JACW is welcomed

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Other Technical Challenges:

- Under water recoveries *(Jiamusi River, Heilongjiang Province)*
- Destruction of pre-treated agents mixtures *(74 tons at Liaoyuan, Jilin Province)*
- Recovered fused JACWs in Taiyuan
- Final disposal of contaminated soil and the wastes
- Destruction of JACWs of random discoveries - real mobile destruction device is needed
Conclusion

✓ **JAPAN**: Double efforts (budget and resources) are required to achieve early completion of the destruction of all JACWs in China in accordance with the CWC and the EC decisions

✓ **CHINA**: China will continue to provide all necessary cooperation for the purpose of destruction of JACWs
Thanks!

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Questions?