# **Country Profile**

# An Assessment of Iran's Chemical and Biological Weapons

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#### Summary

Western intelligence agencies believe that Iran developed chemical and biological weapons during the Iran-Iraq war (1980-88) and has probably preserved these capabilities till today. Iran has never appropriately confirmed its holdings of chemical and the status of its biological weapons programs. The 2005 Noncompliance Report judges from available information that Iran's nasty programme appears to be maturing, with a swiftly evolving capacity for the delivery of nuclear, chemical, and biological weapons in a variety of ways. However, one thing is clear that allegations regarding Iran's chemical and biological weapons (CBW) are mostly based on intelligence and cannot be assessed by independent analysts.

The scope and status of Iran's chemical and biological weapons programmes are still unclear. Iran agreed to the Geneva Protocol in 1929 and joined the Biological and Toxin Weapons Convention (BTWC) in 1973 and the Chemical Weapons Convention (CWC) in 1997. Western intelligence agencies consider that Iran developed chemical and biological weapons during the Iran-Iraq war (1980-88) and has possibly conserved these capabilities even today.

# **Chemical Weapons**

Iran's chemical weapons (CW) program was launched during the Iran-Iraq War in response to use of Iraqi CW against Iran. Iran suffered severe losses from the use of Iraqi chemical weapons. As a result, Iran has had a great deal of experience in the effects of chemical warfare. Iran is party to the Geneva Protocol, which excludes the use of CW. CW engages utilising the toxic properties of chemical substances as weapons to kill, injure, or incapacitate an enemy. Chemical weapons are different from employing conventional weapons because the destructive consequences of CW are not mainly due to their explosive force.

CW is categorized as weapons of mass destruction by the United Nations, and their production and stockpiling was prohibited by the Chemical Weapons Convention (CWC) of 1993. Iran has been an active participant in the work of the Organisation for the Prohibition of Chemical Weapons (OPCW). The Convention gave for the possibility of a one-time extension of the final chemical weapons destruction deadline up to 5 years, to 2012. On endorsement the CWC, Iran opened its facilities to international inspection and claimed that all offensive CW activities had been suspended and the facilities smashed prior to the treaty's entering into force.

The United States (US) has constantly accused that Iran maintained an active programme for the expansion and production of CW. The programme contained production of important quantities of sarin, mustard, phosgene, and

hydrogen cyanide. Reports of transactions of various dual-use materials are publicly known. Imports such as thiodyglycol and thionyl chloride can be applied towards legitimate reasons such as dyes, textiles, and pesticides or can be diverted towards an illicit CW program. Iran also brought several tons of phosphorus pentasulfide, which is on the Australia Group's watch list for controlled chemical forerunners, butnotontheCWCSchedulelists.Thecompound has several genuine uses in the agricultural industry, specially linking to pesticides, but is also an initial point for nerve agents such as VX. Based on such information, some plan of Iran's CW status can be determined. However, open-sources did not provide strong support to the US allegations. As of 2008, US government accuses Iran of having a huge and rising commercial chemical industry that could be used to support a chemical agent mobilization capability. On February 5, 2008, McConnell, Director of National Intelligence said that "we know that Iran had a chemical warfare program prior to 1997, when it declared elements of its program. We assess that Iran maintains dualuse facilities intended to produce CW agent in times of need and conducts research that may have offensive applications. We assess Iran maintains a capability to weaponize CW agents in a variety of delivery systems."1

Recently, Jane's Defence Weekly reported that an explosion occurred in Syria and dozens of Iranian engineers and 15 Syrian officers were killed, when the joint Syrian-Iranian team was attempting to accumulate a chemical warhead on a Scud missile. From the explosive site lethal chemical agents, including sarin nerve gas were found.<sup>2</sup>

It was assumed that Iran manufactured weapons for blister, blood, and choking agents. It was also believed to be performing research on nerve agents. Its manufacture capacity was projected at 1000 tons a year, with major manufacture facilities situated at Damghan, 300 km east of Tehran. Other facilities were believed to be located at Parchin, Qazvin, Abu Musa Island, Engineering Research Center for the Contruction Crusade (Jihad-e Sazandegi), Isfahan, Karaj, and Marvdasht, Melli Agrochemicals (National Agrochemicals). Iran is dedicated to the growth of its civilian and military industries to engage an ongoing process of modernization and development of the chemical industry aimed at minimizing dependence on foreign countries for the materials and technology. China, as well as Russia are important suppliers of technologies and equipment for Iran's chemical weapons program.<sup>3</sup>

However, Iran always denied producing or possessing chemical weapons in violation of CWC obligations. On January 23, 2008, Iranian chief nuclear negotiator, Saeed Jalil stated that "I assure you that the (chemical) weapons have no place in our defense doctrine."<sup>4</sup>

## **Biological Weapons**

There is very limited information available to determine whether Iran is pursuing a biological weapons program. Western sources believe that Iran first developed its Biological Weapons (BW) in 1980s, and it continues to pursue a nasty biological program associated to its civilian biotechnology activities. The US charges that Iran may have began to develop small quantities of agents, possibly including mycotoxins, ricin, and the smallpox virus. In 1996 report to the US Senate, the Central Intelligence Agency (CIA) claimed that "Iran has had a biological warfare program since the early 1980s."5 Currently, Iran's growing biotechnology industry does have the potential to divert dual-use agents for illicit warfare purposes.

Iran has revealed an interest in obtaining BW agents from foreign sources. Canadian and Netherlands scientists were contacted by Iranian personnel appearing to acquire mycotoxinproducing fungi *(Fusarium spp.)* in 1989. Several dual-use items have been imported into Iran from Western countries. In early 1980s, with the approval of the World Federation of Culture Collections, the Iranian Research Organisation for Science and Biotechnology set up a 600-strain Persian Type Culture Collection to support Iran's biotechnology industry. Here it must be noted that Bruno Schiefer, the Canadian toxicologist contacted by Iran, was doubtful Iran would use the strains for illicit BW purposes. He speculated that the Iranians were most likely trying to acquire the fungi for defensive purposes, like developing gas masks that would be protective in the event of its offensive use.

The most common agents that are connected with the Iranian BW program in the open text are B. anthracis, botulinum toxin, ricin, T-2 mycotoxin, and Variola virus, the causative agent of smallpox. Some experts articulate that Iran is developing the capability to deliver biological agents by Scud missiles, aircraft, or other aerosolization techniques. According to the CIA, the Iranian Shahab missile is reportedly competent of carrying biological warheads.

On March 3, 2008, the US Office of the Director of National Intelligence (ODNI) released its Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions. The report states "our assessment of Iran's biotechnology infrastructure indicates that Iran probably has the capability to produce large-quantities of some Biological Warfare (BW) agents for offensive purposes, if it made the decision to do so."<sup>6</sup>

Iran's biological facilities are based in Amir Kabir University of Technology, Biotechnology Institute of the Iranian Research Organisation for Science and Technology, Damghan, Iranian Research Organisation for Science and Technology. In January 1997, Iran created an organisation called the Iranian Biotechnology Society (IBS), which provides an umbrella organisation to bring together various institutes and individuals focusing on biotechnology related research. IBS has several branches and over 350 members.

### **Endnotes:**

J. Michael McConnell, "Annual Threat Assessment of the Director of National Intelligence," Statement for the Record before the US Senate Select Committee on Intelligence, 5 February 2008, at http:// www.dni.gov/testimonies/20080205\_ transcript.pdf> "Dozens died in Syria-Iran missile test," JERUSALEM POST, Sep. 18, 2007, at http://www.jpost.com/servlet/Satellite?cid =1189411428847&pagename=JPost%2FJP Article%2FPrinter

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- 3 http://www.nti.org/e\_research/profiles/ Iran/index.html
- 4 "Jalili: Chemical weapons have no place in Iran's defense doctrine, "IRNA, January 23, 2008, at http://www2.irna.ir/en/news/ view/line-17/0801239430180425.htm
- 5 "Current and Projected National Security Threats to the United States and its Interests Abroad," CIA, at http://www.fas.org/irp/ congress/1996\_hr/s960222c.htm.)
- 6 "Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions for the period January 1to 31 December 2006, " (Washington, DC: Office of the Director of National Intelligence, 2008), p. 4, at www. dni.gov.