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**ANALYSIS OF SYRIA'S CHEMICAL
AND BIOLOGICAL THREAT**

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ANALYSIS OF SYRIA'S CHEMICAL AND BIOLOGICAL THREAT

Abstract:

The recent Syrian uprising and the possible chemical and biological capability of the Syrian regime have raised additional concerns in an already difficult situation generated by the outbreak of unrest in the Arab world. These concerns go beyond the Middle East region due to the fact that the collapse of the Bashar al-Assad regime could lead to an international security problem if non-conventional weapons were to fall into the hands of terrorist groups or enter the illicit arms trafficking networks.

Keywords:

Syria, weapons of mass destruction, chemical weapons, biological weapons, Chemical Weapons Convention, Biological and Toxin Weapons Convention.

***NOTE:** The responsibility of the ideas expressed in the **Opinion Documents** is assumed by their authors and do not necessarily reflect the views of the IEEE or the Spanish Ministry of Defence.

INTRODUCTION

The uprisings and confrontations against the Syrian regime, which started in 2011, have led to an increasing worry about the chemical and biological threat in Syria. This worry alludes not only to an eventual use of armaments against its own population or even against an international coalition force that could be deployed in the future, but also to the fate the arsenals of non-conventional weapons could suffer in the event of the collapse of Bashar al-Assad's regime.

MOTIVATIONS AND INTENTIONS

Syria's interest in chemical weapons seems to appear after the defeat of the Six-Day War in 1967, where Israel's military superiority and the necessity of finding an effective deterrent became evident. The subsequent defeats in the Yom Kippur War (1973) and Lebanon (1982), not to mention Israel's nuclear capability, would only have shown an urgent need of a non-conventional deterrent. The chemical or biological options are easier to acquire in comparison to nuclear options.¹

This would explain the fact that Syria is one of the few countries that does not belong to the Chemical Weapons Convention (CWC), and to Biological and Toxin Weapons Convention (BTWC), that entered into force in 1997 and 1975,² respectively. The Syrian Government has justified on several occasions its non-membership of the aforementioned conventions by the fact that Israel has not signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)³ or by claiming "regional security considerations", calling for the creation of a zone free of weapons of mass destruction in the Middle East⁴.

The statements made by the Syrian Government concerning its chemical and biological capability are highly ambiguous. They have sometimes denied possessing them and sometimes they show the opposite. The clearest statement in which they deny being in possession of that kind of armament is maybe the report which refers to the United Nations Security Council Resolution 1540 in 2005⁵: "The Syrian Arab Republic does not possess any chemical weapons, their means of delivery, or any related materials"⁶. A similar sentence is used to refer to biological weapons⁷.

¹ For this reason, biological and chemical weapons are usually called "The Poor Man's Atomic Bomb".

² Syria signed but did not ratify the BTWC and joined the 1925 Geneva Protocol in 1968. This Protocol prohibits "the use in war of asphyxiating, poisonous or other [*similaires* in the French version and *similares* in the Spanish version] gases, and of bacteriological methods of warfare"

³ See, for example, "Egypt, Syria presidents urge Mideast free of weapons of mass destruction", Agence France Press (24.12.2003). Israel is neither a Member State of the CWC nor of the BTWC.

⁴ Syria submitted this proposal as a draft resolution in the UN Security Council in 2003.

⁵ The UN Security Council adopted the 1540 resolution on 28 April 2004, which binds the States to prevent non-state actors from having access to nuclear, biological and chemical armaments, through suitable laws and controls.

⁶ Annex to the note verbale dated 7 November 2005 from the Permanent Mission of the Syrian Arab Republic

Notwithstanding the clear rejection of weapons of mass destruction announced by Syria in its report in 2005, several and different statements about its capabilities and non-conventional intentions have been made by Bashar al-Assad himself. In 2004, he declared that “Syria is fully within its rights to defend itself by obtaining its own chemical and biological deterrence”, and he also added that any agreement for the destruction of its chemical and biological capability depends on Israel’s decision of leaving its non-declared nuclear arsenal⁸. More recently, in January 2009, al-Assad denied that the Dair Alzour installations, which were destroyed in an air strike in September 2007, was a nuclear reactor. He was asked about his intention to produce other weapons of mass destruction, such as chemical weapons, and he answered: “Chemical weapons, that is another matter. However, you don’t really expect me to show you our weapon program here, do you? We are in a state of war”⁹.

Therefore, the Syrian government’s stance towards chemical and biological weapons is a strategic deterrence use of these capabilities. Nevertheless, its tactical use seems to be more restricted since the enemy’s conventional and non-conventional superiority should be taken into account, which could lead to/culminate in retaliatory actions. This strategic deterrence¹⁰ would even be pursued in the publication of articles in Syrian military journals concerning the doctrine of tactical use. In fact, a member of the Syrian government admitted in September 2007 that chemical weapons against Israel wouldn’t be very effective, given its nuclear capability¹¹.

CHEMICAL CAPABILITY

The available information concerning the chemical capability in open sources is rather low. There is a predomination of Humans Intelligence (HUMINT) and Imagery Intelligence (IMINT) sources obtained from American (CIA) and Israeli intelligence services. However, the reports on Syrian chemical capability are more cautious, since some mistakes made in the Intelligence received regarding the Iraqi chemical weapons program were detected before the military intervention in 2003. For instance, the last report of the Director of National Intelligence, made in 2012 (referring to 2011), shows that Syria has been storing chemical weapons¹², without providing any specific details, while a storage of sarin and a

to the United Nations addressed to the Chairman of the Committee, United Nations Security Council S/AC.44/2004/(02)/70/Add.3, 10 november 2005, 6.

⁷ Ibid. 7

⁸ BROGAN, Benedict, “We won’t scrap WMD stockpile unless Israel does, says Assad. The Syrian President talks exclusively to Benedict Brogan in Damascus”, *The Daily Telegraph* (06.01. 2004).

⁹ “Peace without Syria is unthinkable. Spiegel interview with Syrian President Bashar Assad”, *Spiegel* (19.01.2009). Also, in an interview in television in August 2011, al-Assad said he had an unknown military capability. Several analysts interpreted a possession of chemical weapons from this statement.//interpreted this statement as a possession of chemical weapons

¹⁰ DIAB, M. Zuhair, “Syria’s chemical and biological weapons: assessing capabilities and motivations”, *The Nonproliferation Review*, vol. 5, n^o. 1, autumn 1997, 104-111.

¹¹ HERSH, Seymour M., “A strike in the dark. What did Israel bomb in Syria?”, *The New Yorker* (11.02.2008).

¹² Director of National Intelligence, *Unclassified report to Congress on the acquisition of technology relating to weapons of mass destruction and advanced conventional munitions, covering 1 January to 31 December 2011*,

development of VX (both being warfare nerve agents) were explicitly mentioned in previous reports¹³.

The first Syrian chemical weapons were provided by Egypt at the beginning of the Yom Kippur war¹⁴. After the war, Syria started its own program, which would be intensified after the Camp David Agreements in 1978 and the Israeli-Egyptian Peace Treaty in 1979. These treaties involved a significant loss of military support and made Syria play a more responsible role in the maintenance of the strategic balance in the Arab-Israeli conflict. Despite the fact that Syria has always pursued the objective of having its own production, its chemical program has always depended on previous importations from other countries. And this need has increased due to the growing difficulties over importations¹⁵. Even if China, North Korea, Iran and Russia (including the former Soviet Union) were its main material suppliers, several Western companies played a very important role before the adoption of national measures on export control, such measures having emerged in the Australia Group¹⁶ or having been adopted along with the entry into force of the CWC¹⁷.

According to the James Martin Center for Nonproliferation Studies (CNS), Syria might have four plants to produce nerve (sarin and VX) and blister (yperite) agents, located in al-Safirah, Hama, Homs and Latakia. Syria might also have many storage facilities (there would be at least three in al-Furqlus, Dumayr and Khan Abu Shamat) as well as a Research and Development Unit in the Scientific Studies and Research Centre (SSRC) in Damascus¹⁸.

The SSRC plays the key-role in the search for the autonomy of the Syrian chemical program. This is the reason why its activities have been one of the main targets of the intelligence services. In fact, The United States discovered Syria's connection with the SSRC, more

Washington, District of Columbia, Office of the Director of National Intelligence, 2012, 7.

¹³ See, for example, Director of National Intelligence, *Unclassified report to Congress on the acquisition of technology relating to weapons of mass destruction and advanced conventional munitions for the period 1 January to 31 December 2006*, Washington, District of Columbia, Office of the Director of National Intelligence, 2007, 6.

¹⁴ See BURCK, Gordon M. y FLOWERREE, Charles C., *International handbook on chemical weapons proliferation*, New York, Greenwood Press, 1991, 213.

¹⁵ PITA, René, *Armas químicas: la ciencia en manos del mal*, Madrid, Plaza y Valdés, 2008, 280.

¹⁶ The Australia Group is an informal consultation and agreement system whose aim is to coordinate the control of materials and dual-use equipments export that can be used to produce chemical and biological weapons. In other words, it is an informal group since each the Government of each country is responsible not only for controlling the export licence applications but also for applying the necessary sanctions, according to their national legislation.

¹⁷ See, for example, BARNETT, Antony, "Ministers face probe on UK arms for Syria", *The Observer* (06.04.2003); FIALKA, John J., "Fighting dirty: Western industry sells Third World the means to produce gas", *The Wall Street Journal* (16.09.1998); LAMBRECHT, Rudolf y MÜLLER, Leo, "Giftgas gegen Israel", *Stern*, núm. 25, 6 June 1996, 6-21; OTTAWAY, David B., "Syria included in ban of chemical arms ingredients", *The Washington Post* (06.06.1986); ROTEM, Michael, "Indian chemical company won't stop shipment to Syria", *The Jerusalem Post* (22.08.1992), y "Syria's secret poison gas plants", *Jane's Foreign Report* (10.09.92).

¹⁸ *The sources on which the CNS is based are detailed in James Martin Center for Nonproliferation Studies (CNS), Syria chemical chronology*, October 2008, available on http://www.nti.org/media/pdfs/syria_chemical.pdf. Visit date 13.04.2012.

specifically, with its non-conventional weapons and ballistic missiles program, and froze its bank accounts in the different Syrian institutions. However, Syria has not obtained the desired production autonomy, in spite of the work it has done in the SSRC. The last report of the U.S. director of national intelligence, like the preceding ones, claims that, in 2011, the chemical program still depended on the purchase of materials and precursors from other countries¹⁹.

Novichok Agents Production

Syria and the Soviet Union signed a cooperation agreement in 1992 in order to provide Syria with materials for the production of warfare nerve agents²⁰. This agreement was masked inside a cooperation programme to create an alleged environment protection centre, in which the SSRC and the State Scientific Research Institute of Organic Chemistry and Technology (GosNIIOKhT) would participate. The GosNIIOKhT was the main body responsible for the Soviet programme, Foliant, whose function since the 1960s was to develop new nerve agents called Novichok.

Syria could have a particular interest in some Novichok since the precursors needed for its synthesis are neither included in the list of chemical substances submitted to the CWC verification measures, nor in the verification inspections of the Organisation for the Prohibition of Chemical Weapons (OPCW). Therefore, its importation or even the autonomic production would be easier in comparison to the production of other warfare nerve agents.

In 1995, a few years after the agreement with Syria was signed, the Russian General, Anatoly Demyanovich Kuntsevich, was dismissed from his position as president of the Presidential Committee on Problems associated with Chemical and Biological Weapons Conventions, accused of transferring material and information to the Syrian chemical programme in 1993²¹. From 1975 to 1983, Kuntsevich managed the Soviet chemical weapons testing centre in Shikhany, where Novichok agents were tested, and he also established contacts with the GosNIIOKhT. Nevertheless, it is recognised that the goal of that transfer was just the production of sarin and not of other warfare nerve agents. The only information, through which an eventual transfer of know-how for Novichok production from Russia to Syria could be seen, appeared in an article published in Jane's Foreign Report in May 1998, in which

¹⁹ Director of National Intelligence (2012), op. cit., 7. In this regard, the Turkish Government has stated on several occasions that it had intercepted some shipments of precursors and materials for the production of chemical weapons from Iran to Syria. For a recent example, see "Turkey intercepts Iranian missiles, chemical weapons at Syrian border", World Tribune (24.01.2012), available on <http://www.worldnewstribune.com/2012/01/24/turkey-intercepts-iranian-missiles-chemical-weapons-at-syrian-border/> and "Turkey intercepts chemical weapons components", The Yeshiva World News (01.04.2012), available on <http://www.theyeshivaworld.com/article.php?p=123274>. Visit date 13.04.2012.

²⁰ MIRZAYANOV, Vil S., *State secrets: an insider's chronicle of the Russian chemical weapons program*, Denver (Colorado), Outskirts Press, Inc., 2009, 140-141.

²¹ The charges against Kuntsevich were finally dropped PITA (2008), op. cit., 280 and GARRETT, Benjamin C. and HART, John, *Nuclear, biological, and chemical warfare*, Lanham (Maryland), Scarecrow Press, Inc., 2007, 125-126.

Israeli military intelligence sources were mentioned and who claimed that Syria was carrying out an investigation of its production²².

Transfer of Chemical Weapons from Irak before March 2003

In October 2003, General James R. Clapper Jr., at the time Director of the National Geospatial-Intelligence Agency, and now, Director of US National Intelligence, claimed that some IMINT products, supported by other intelligence products, indicated that an eventual transfer of chemical armaments from Iraq to Syria was produced shortly before the military intervention²³. Moreover, George Sada, a former General of the Iraqi Air Force, also declared that these armaments had been transferred to Syria by aircraft and by land transport since 2002, taking advantage of an aid request made by Syria for the civilian population after a great flood²⁴.

But the final report of the ISG (*Iraq Survey Group*), responsible for the search for chemical and biological weapons in Iraq, concluded that, although these arsenals might have been transferred to another country before the war (Syria is mentioned in the report), this is highly unlikely²⁵. The fact that the aforementioned transfer did not leave any trace for the ISG to discover is rather strange and the main argument to refute the hypothesis²⁶.

BIOLOGICAL CAPACITY

The available information regarding the chemical programme is limited, but it is even more regarding the biological programme²⁷. As we can read in the 2011 report of the U.S. Director of National Intelligence, the only reference about a biological programme is that Syria would be capable of developing biological weapons thanks to its biotechnological industries²⁸. The importance of the Syrian pharmaceutical industry should also be noted. The country gets the required materials for its manufacture²⁹ from North Korea, Russia and Europe.

²² "Syrian scuds move south. We reveal what target in Israel they will be able to hit", *Jane's Foreign Report* (07.05.1998). Mentioned in James Martin Center for Nonproliferation Studies (CNS) (2008), op. cit., 22.

²³ JEHL, Douglas, "The struggle for Iraq: weapons search; Iraqis removed arms material, U.S. aide says", *The New York Times* (29.10.2003).

²⁴ SADA, Georges, *Saddam's secrets*, Brentwood (Tennessee), Integrity, 2006, 258-261. Sada said that two captains of civil aircraft who participated in these transfers under the direction of General Ali Hassan al-Majid, better known as "Chemical Ali" STOLL, Ira, "Iraq's WMD secreted in Syria, Sada says", *The New York Sun* (26.01.2006).

²⁵ Special Advisor to the DCI on Iraq's WMD, *Addendums to the comprehensive report*, 1 March 2005.

²⁶ See also BLIX, Hans, *Disarming Iraq: the search for weapons of mass destruction*, Londres, Bloomsbury, 2004, 256.

²⁷ The available information from open sources that detail a biological program raises questions about the credibility and reliability of the sources NORMARK, Magnus, LINDBLAD, Anders, NORQVIST, Anders, SANDSTRÖM, Björn y WALDENSTRÖM, Louise, *Syria and WMD incentives and capabilities*, FOI-R-1290-SE, Umeå, Swedish Defence Research Agency (FOI), June 2004, 32-33

²⁸ Director of National Intelligence (2012), quote 7.

²⁹ See also, for example, KUTAINI, Dirar, "Pharmaceutical industry in Syria", *Journal of Medicine and Life*, vol. 3, number 3, July-September 2010, 348-350.

Therefore, the possibility of hiding an offensive biological programme in pharmaceutical and biotechnological facilities exists and would be hard to detect by the intelligence service³⁰ if it were to exist. That being said, there are no signs of such activities in Syria.

AMMUNITION FOR THE DISPERSION OF CHEMICAL AGENTS³¹

Several open sources confirm the execution of tests for the dispersion of chemical war agents in rockets, artillery projectiles and aviation bombs³², but since they are developed as a deterrent against Israel and the lack of a powerful air force, make it reasonable for the chemical weapons program to be linked to the development of ballistic missiles with range to reach the main Israel cities from the inland regions.

Short-range ballistic missiles

The technological capacity of Syrian missiles is characterized by its dependence on other countries³³. During the seventies and eighties the former Soviet Union was the main short-range missiles supplier. Initially Syria acquired FROG-7 missiles, but their range was of only 70 km and their accuracy low (CEP³⁴ of 500-700 m)³⁵. In 1974 Syria obtained Scud-B missiles and in 1983 SS-21 Scarabs, with ranges of 300 km and 70-120 km respectively, although the SS-21 had higher accuracy (CEP of 30-160 m as compared with the 450 m of the Scud-B).

In 1989 Syria established contacts with China in order to obtain M-9 missiles (range of 600km and CEP of 280-600m). It is not clear whether the missiles were actually supplied or China transferred the pertinent technology so that Syria could manufacture its own missiles. In the nineties Syria reached an agreement with North Korea for the supply of Scud-C missiles (range of 550-700km and CEP of 50-700m) and in the year 2000, Scud-D missiles were supplied (range of 700-1000 km and CEP 50-190m). This arrangement gave Syria the capacity of attacking the main Israeli cities. It is important to highlight the role of Iran, which

³⁰ See PITA's Iraqi biological program, René, *Armas biológicas: una historia de grandes engaños y errores*, Madrid, Plaza y Valdés, 2011, 134-146.

³¹ In the chemical and biological defense fields we usually talk about ammunition rather than vector, since the latter is used to refer to animals that can transmit infectious diseases produced by biological agents (for example, fleas are arthropods vectors of the bubonic plague). On the other hand, in social science we talk about vectors, vector systems or launching vector. This is limited to chemical war agents, although it is possible for chemical ammunition to have been modified in order to have biological charges, as was the case in the Iraqi program. Ibid.

³² James Martin Center for Nonproliferation Studies (CNS) (2008), op. cit.; MEISELS, Andrew, "Israel confirms Syria has chemical weapons", *The Washington Times* (03.12.1986), and "Syria's weapons of mass destruction", *Jane's Intelligence Digest* (26.06.2007).

³³ For more information about the evolution of Syrian ballistic missiles please read NORMARK et al., op. quot. 69-72 and CIRINCIONE, Joseph, WOLFSTAHL, Jon B and RAJKUMAR, Miriam, *Deadly arsenals: nuclear, biological and chemical threats* (second edition, reviewed and expanded), Washington, District of Columbia, Carnegie Endowment for International Peace, 2005, 111.

³⁴ *Circular Error Probable* (CEP) is the radius of a circle, in which the center is the target, in which the probability of the missile making impact is 50%.

³⁵ The range of CEP of certain missiles varies greatly depending on the source.

supplied technologies to develop propellants and maintain, modernize and produce missiles in Syria.

While Scud missiles could have chemical warheads, the warheads' number differs greatly according to the source asked³⁶. *Jane's Defense Weekly* informed on 26 July 2007 that, during a Scud-C missile test, a warhead charged with yperite exploded in a military facility in Aleppo³⁷. Even though the explosion happened in a laboratory, it affected an adjacent warehouse in which a breakup of sarin, VX and yperite killed fifteen Syrian soldiers and "dozens" of Iranian engineers.

DISCUSSION AND CONCLUSIONS

The review of the open sources provides indications that Syria has produced and stored chemical weapons, which could be charged in dispersal systems, but the number of weapons remains unknown³⁸.

The Syrian chemical capacity is a dissuasive measure for an Israeli nuclear threat, but Syria is aware of the little tactical value these weapons would have in a conflict with Israel or against an international coalition force that might be deployed in the future³⁹. Therefore, it seems highly unlikely for Syria to strike first carrying out a chemical attack. Its use would be limited to situations in which the continuity of the Syrian regime were severely threatened, knowing that a nuclear retaliation might occur. Another option to this extreme situation could include supplying these weapons to terrorist organizations, since the Syrian Government has relations with groups such as Hezbollah, the Palestinian Islamic Jihad and Hamas⁴⁰.

A chemical attack against the Syrian population is not likely either, as it would probably entail the loss of the little international support that the regime still receives and could potentially accelerate a military intervention. Actually, the first allegations regarding the use of chemical weapons made by the Syrian opposition led to Russia denying the accusations

³⁶ BLAIR, Charles P., "Fearful of nuclear Iran? The real WMD nightmare is Syria", *Bulletin of the Atomic Scientists* (01.03.2012) and James Martin Center for Nonproliferation Studies (CNS), *Syria missile chronology*, available in http://www.nti.org/media/pdfs/syria_missile.pdf. Date Consulted: 13.04.2012.

³⁷ HUGHES, Robin, "Explosion aborts CW project run by Iran and Syria", *Jane's Defence Weekly* (26.09.2007). The accuracy of this information is discussed in BINDER, Markus, "Explosion at Syrian military facility: a chemical weapons accident?", *WMD Insights*, núm. 20, November 2007, 7-11.

³⁸ It should be noted that, until now, and differently to what happened with Iraq, nobody has ever doubted about Syria's chemical capacity.

³⁹ If the Syrian chemical weapons' doctrine allowed the initial deployment with the units, it would be possible to use them by an unilateral decision of the unit's leader, without an express authorization of his superiors, under extreme circumstances. This happened in WWII and, according to certain authors, it could have also happened during the Gulf War 1991. PITA (2008), op, quot. 138 and 311

⁴⁰ The relationship with Hamás started deteriorating by the end of 2011. GONZÁLEZ-ÚBEDA ALFÉREZ, María, *Hezbollah, Hamas y la Primavera Árabe (Opinion Document 30/2012)*, Instituto Español de Estudios Estratégicos, April 11 2012, available in:

http://www.ieeee.es/Galerias/fichero/docs_opinion/2012/DIEEEO30-2012_HezbollahHamasPrimaveraArabe_MGlez-Ubeda.pdf. Date consulted: 13.04.2012.

and rapidly cutting its links with the Syrian chemical programme⁴¹. So far, the aforementioned allegations appear to be propaganda seeking to win the international community's understanding, a rather common strategy in armed conflicts⁴². Another possibility is that the allegations are based on the use of antiriot agents by the Syrian Government and, as a matter of fact, a deserter declared that BZ-CS⁴³ had been used.

The main threat is where these arsenals would end if al-Assad's regime were to fall, especially taking into account what happened in the recent conflict in Libya, where many conventional weapon arsenals were looted and are now being sold through the illegal network of arms in the Sahel region⁴⁴.

With regard to chemical weapons, Syria's situation cannot be compared to Libya's, as the latter renounced to its mass destruction weapon programs in 2003 and entered the CWC⁴⁵ in 2004. Actually, the U.S. Secretary of Defense, Leon Panetta, described the arsenals' security problem as "a hundred times worse" when compared to Libya's⁴⁶. This is mostly, due to the difficulty that an international coalition force would encounter in Syria to localize all the non-conventional facilities and secure them before they were looted. It is well known that the arms traffic networks carry out vigilance and infiltration operations in conflictive states and countries with exploitation opportunities.

These arsenals may also be looted by groups related to Al-Qaida, especially Al-Qaida in Iraq, which are slowly taking positions as the uprisings take place and might already be infiltrated in the hierarchy of the Syrian opposition⁴⁷.

⁴¹ DEEN, Thalif, "Syria's chemical weapons trigger threats in war zone", IPS News (08.03.2012) and "Russia denies chemical weapons used in Syria", Agence France Press (15.02.2012).

⁴² PITA (2008) op. quot. 238. By 1982, Amnesty International accused the Syrian Government of using cyanide during the uprisings of the Muslim Brotherhood that took place in Hama in 1982. BURCK and FLOWERREE, op. quot. 209.

⁴³ IRIARTE, Daniel, "The Syrian opposition accuses the regime of using chemical agents against civilians in Homs", ABC (07.04.2012). CS gas is used as a tear gas and its not prohibited by the CWC when used to uphold public order, including domestic riot control. On the other hand, BZ gas is a disabling chemical agent with hallucinogenic effects which must be inspected and verified by the Convention. That being said, Syria is not a member state and knows that, before the Convention was adopted, certain countries used BZ as an antiriot agent (former Yugoslavia for example)".

⁴⁴ Regarding this matter, the report of UNO's mission in Libya from December 2011, should be read: *Report of the assessment mission on the impact of the Libyan crisis on the Sahel region, 7 to 23 December 2011*, United Nations Security Council S/2012/42, January 18 2012.

⁴⁵ However, by the end of 2011, small quantities of non-declared yperite and uncharged chemical ammunitions were discovered in Libya. "OPCW inspectors verify newly declared chemical weapons materials in Libya", Organisation for the Prohibition of Chemical Weapons, January 20 2012, available in <http://www.opcw.org/news/article/opcw-inspectors-verify-newly-declared-chemical-weapons-materials-in-libya/>. Date Consulted: 13.04.2012. Therefore, the worry of another Libyan undeclared chemical armament being transferred through the arms traffic networks does exist.

⁴⁶ "Shaheen continues to press military on safety of Syrian weapons arsenals", Office of Senator Jeanne Shaheen, March 7 2012, available in: <http://www.shaheen.senate.gov/news/press/release/?id=8c6e7965-fbef-4085-b2d9-354cfcb4ddec> Fecha de la consulta 13.04.2012.

⁴⁷ See also, ARANGO, Tim, "Syria's sectarian fears keep region on edge", *The New York Times* (28.02.2012); SCHMITT, Eric and SHANKER, Thom, "Sunni extremists may be aiding Al Qaeda's ambitions in Syria, analysts

It should also be noted that even nowadays improvised explosive devices (IED) are made with the materials obtained by looting Iraqi military facilities (for example, al-Qaqa) which happened after the fall of Saddam Hussein's regime. Likewise, they could access Syrian chemical arsenals and transfer these weapons across their own frontiers.

According to the U.S. Department of Defense, 75,000 soldiers would have to be deployed in order to secure the Syrian chemical facilities⁴⁸, although the frontiers would have to be guarded as well, so that the lootings that take place before the securing of the facilities can be intercepted.

In this regard, General James Mattis, Commander in Chief of the U.S. Central Command (CENTCOM)⁴⁹, declared that the security disappearance of the Syrian chemical arsenals would entail a "severe threat" that would require an effort by the international community⁵⁰.

With the exception of the moment in which the regime senses that its downfall is imminent, the main threat of Syrian non-conventional weapons is not using them in an armed conflict, but the security problem these arsenals entail, not only for the Middle East, but also for the rest of the world. This situation will require identifying and securing the non-conventional weapons facilities and recovering and destroying the already looted materials⁵¹.

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***NOTE:** The ideas contained in the *Opinion Documents* are responsibility of the authors, not necessarily reflecting the thoughts of the IEEE or the Ministry of Defense.

say", *The New York Times* (15.02.2012), and "Al-Qaeda probably responsible Syrian suicide bombings, US spy chief claims", *The Daily Telegraph* (17.02.2012).

⁴⁸ SOLOMON, Jay y BARNES, Julian E., "U.S., Jordan discuss securing Syria cache", *The Wall Street Journal* (08.03.2012).

⁴⁹ The CENTCOM is the U.S. Central Command and has an area of responsibility of 20 countries in the northeast of Africa, Middle East and Central Asia.

⁵⁰ "Shaheen questions Pentagon official about safety of Syrian weapons stockpiles", Office of Senator Jeanne Shaheen, March 6 2012, available in:

<http://www.shaheen.senate.gov/news/press/release/?id=0d0dc62d-d7e5-40da-8799-594747695dec> Date consulted: 13.04.2012.

⁵¹ It should be noted that, although Syria is not a member state of the CWC, the Convention establishes that all member states must declare the chemical weapons localized in any place under its jurisdiction or control to the OPCW, something that should be taken into account by the countries that were to participate in a potential international coalition force in Syria.