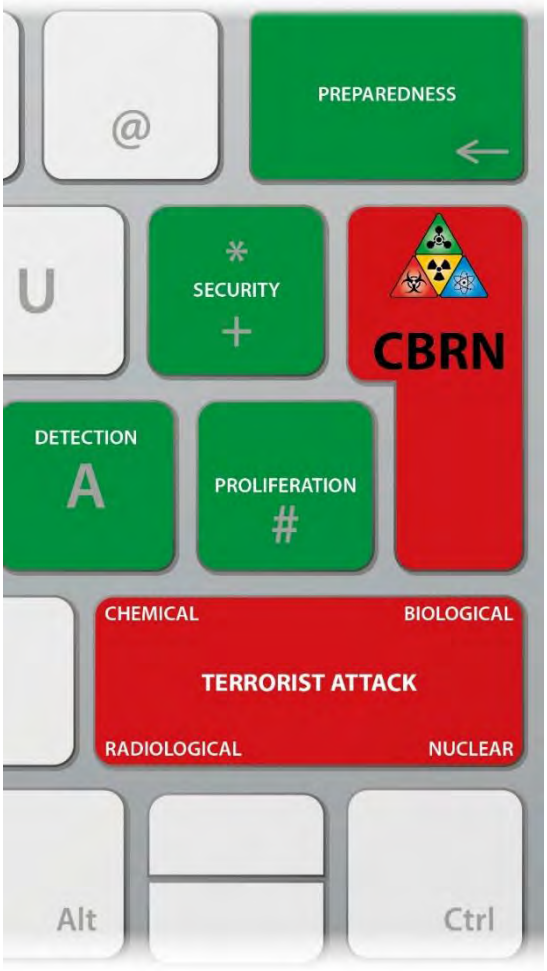
IN-DEPTH ANALYSIS
for the TERR committee

European Parliament

EU Civil Protection Responding to CBRN Incidents and Attacks

Terrorism



Policy Department for Citizens' Rights and Constitutional Affairs
Directorate General for Internal Policies of the Union
PE 604.964- April 2018

EN

EU Civil Protection Responding to CBRN Incidents and Attacks

IN-DEPTH ANALYSIS

Abstract

The threat posed by terrorist attacks involving chemical, biological, radiological or nuclear (CBRN) agents or materials is existential for both the EU as a whole and its individual Member States. Therefore the importance of creating, maintaining and effectively employing pre-emptive, preventive, timely responsive countering means is of vital for the protection of EU citizens and the maintenance of peace and security. This in-depth analysis, commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs at the request of the Special Committee on Terrorism of the European Parliament (TERR), aims to examine the efficacy of the Union Civil Protection Mechanism (UCPM) in the event of CBRN terrorist attacks. Although the UCPM is presented as the main emergency management instrument of the EU, it is mainly a post-incident handling tool; hence its preparedness for CBRN terrorist attacks is underdeveloped and requires an immediate improvement. Thus by understanding these shortfalls can Europe collectively be prepared against the threat of CBRN attacks.

604.964 EN

ABOUT THE PUBLICATION

This research paper was requested by the European Parliament's Committee on Constitutional Affairs and was commissioned, overseen and published by the Policy Department for Citizens' Rights and Constitutional Affairs.

Policy Departments provide independent expertise, both in-house and externally, to support European Parliament committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU external and internal policies.

To contact the Policy Department for Citizens' Rights and Constitutional Affairs or to subscribe to its newsletter please write to: poldep-citizens@europarl.europa.eu

RESPONSIBLE RESEARCH ADMINISTRATOR

Eeva ERIKSSON
Policy Department for Citizens' Rights and Constitutional Affairs
European Parliament
B-1047 Brussels
E-mail: poldep-citizens@europarl.europa.eu

AUTHOR

Professor Christian KAUNERT, University of South Wales
Dr Sarah LEONARD, Vesalius College, VUB
Dr Ikrom YAKUBOV, University of South Wales

LINGUISTIC VERSION

Original: EN

Manuscript completed in April 2018

This document is available on the internet at:
http://www.europarl.europa.eu/supporting-analyses

DISCLAIMER

CONTENTS

EXECUTIVE SUMMARY

This report provides an analysis and an evaluation of the efficacy of the Union's Civil Protection Mechanism (UCPM) in the event of major terrorist attacks that involve CBRN. The method of analysis applied in this report is a blended technique that includes a critical analysis, a descriptive approach as well as an all sources analysis. The results of the data scrutinising the role of the UCPM explicitly indicates that it has managed to emerge as an effective crisis management tool since its establishment. Moreover, the UCPM has been activated three hundred times overall to tackle the outcomes of natural and man-made disasters, both internally and externally. However, the question whether the UCPM is an effective instrument in the case of CBRN terrorist attacks remains unanswered. This is due to the fact that no terrorist attacks with CBRN weapons has taken place so far on the soil of the EU. Thus, the UCPM has never dealt with the consequences of such terrorist offensives.

The main finding of the report is the fact that the UCPM is only a post-incident handling tool whose role in the event of a major CBRN terrorist attacks is confined to preparedness and response. Moreover, the report has also determined that the UCPM's effective instrumentality in emergency management is undermined due to lack of its limited agency in crisis management. In other words, the UCPM is excluded from all relevant decision-making processes that have an immediate impact on its activities as it is primarily regarded as a tool. Furthermore, the report has established that the UCPM is not ready to deal with CBRN terrorist attacks in which terrorists employ novel offensive tactics and strategies. As an example, terrorists may use their own bodies as CBRN delivery means or launch massive CBRN attacks with a swarm of drones within the EU. Therefore, it is highly recommended that the UCPM readies itself for such attacks as well as training its personnel and representatives of participating countries to cope with the consequences of novel CBRN terrorist attacks.

The report concludes with the limitations of the analysis, related to the limited data, budget and time. Therefore, a more in-depth study on the role of the UCPM in the event of CBRN terrorist attacks with increased time and budgets would be very beneficial to follow up on these limitations.

INTRODUCTION

The recent poisoning case in which a former Russian military-Intelligence officer Skripal and his daughter have been infected with a military-grade "Novichok" nerve-agent[1] on the soil of a European Union (EU) Member State (i.e., Britain) indicates that CBRN remains a major threat to the EU. Given the fact that there are a number of actors (both state and non-state) in the world who may have access to CBRN, fighting against the creation, stockpiling and use of CBRN by these actors is a prioritised task for the EU.[2] Although terrorist groups have not used CBRN agents in Europe, there are substantial signs, which are supported with tangible evidence, that terrorist organisations (particularly religion based) are attempting to acquire CBRN materials or weapons and are enhancing the skill and capacity to employ them.[3] For instance, religiously driven terrorist organisation DAESH employed chemical weapons in Syria and Iraq and experts came to conclusion that it is in a position to produce and use such weapons (mainly chemical).[4] It is pertinent to mention here that it was again a religiously motivated cult in Japan that employed CBRN against civilians on 20 March 1995. One could argue that the rationale behind the argument that religiously motivated extremists and terrorists are more prone to the use of CBRN is: if the adherents of traditional forms of terrorism (e.g., right-wing, left-wing, white supremacy and racial, ethno-nationalist) believe that there is a flaw in existing order and aim to rectify this flaw with a

[1] The chief-executive of the Defence Science and Technology Laboratory (DSTL) at Porton Down told that the substance required "extremely sophisticated methods to create something only in the capabilities of a state actor. We were able to identify it as novichok, to identify that it was military-grade nerve agent". For overview see Paul Kelso, "Porton Down experts unable to identify 'precise source' of novichok that poisoned spy," *Sky News*, published 4 April 2018, accessed 4 April 2018, https://news.sky.com/story/porton-down-experts-unable-to-identify-precise-source-of-novichok-that-%20%20%20%20poisoned-spy-11315387

[2] For overview see *Action Plan to Enhance Preparedness Against Chemical, Biological, Radiological and Nuclear Security Risks* (APEPACBRNSR) 18 October 2017, European Commission's (EC) Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2017) 610 final https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-security/20171018_action_plan_to_enhance_preparedness_against_chemical_biological_radiological_and_nuclear_security_risks_en.pdf

[3] For overview see Europol, Terrorism Situation and Trend report (TE-SAT) 2017, page-16, available at: www.europol.europa.eu/sites/default/files/documents/tesat2017.pdf. See also the statements by the Director-General of the OPCW: www.globaltimes.cn/content/1044644.shtml; Cynthia C. Combs, *Terrorism in the Twenty-First Century*, 8th edition, (Routledge, Taylor & Francis group : New York, 2018), pages 363-393.

[4] Interpol – Assessment of ISIL Chemical Weapons Threats outside of Iraq and Syria, 7 February 2017; Moreover, see also the UN Security Council 8090th Meeting – Government, 'Islamic State' Known to Have Used Gas in Syria, Organisation for Prohibition of Chemical Weapons Head Tells Security Council – UN, SC/13060, published 7 November 2017, accessed 11 February 2018, available at : https://www.un.org/press/en/2017/sc13060.doc.htm

conventional violent means, then the followers of unconventional form of terrorism (i.e., religion-based) aim to uproot the existing order and replace it with a suitable system for themselves. In addition, they can employ any means, including CBRN, to attain their goals since they claim that legitimacy for the use of any means is derived from divine scriptures and God.[5]

However, the threat of the potential use of CBRN in the EU should not be confined to terrorist groups or lone wolves. This is because there are certain state actors within the international system who, in fact, are in a position to create, develop, stockpile and effectively employ more lethal and sophisticated forms of CBRN. For instance, US, Russia, France, Britain, India, China, Israel, Pakistan, and North Korea belong to this state group and these state actors already have sophisticated CBRN and delivery means in their possessions and are further working on enhancing the both CBRN and delivery means.[6] The revisionist geopolitical and foreign policy objectives of certain actors (particularly Russia and China) with WMDs and sophisticated delivery means making international relations more complicated and inducing a new arms race.[7]

Bearing in mind these caveats, this in-depth analysis aims to study the effectiveness of the existing protection mechanisms of the EU in the event of CBRN attacks. To be precise, it will, firstly, scrutinise the efficacy of the Union Civil Protection Mechanism (UCPM) in the event of CBRN attacks on the soil of member states; secondly, evaluate the proposed changes by the European Commission and their value to the protection from CBRN attacks; thirdly, determine other existing national and cross-border protection, communication and coordination methods and their added value at the EU level in the case of an CBRN offensive; and, lastly, suggest policy recommendations for the EU institutions and the member states on how to enhance the Union Civil Protection

[5] The propensity of practitioners of religiously motivated terrorism to the use of unconventional means in order to shed more blood and cause destruction was also noted by Hoffman. For overview see Bruce Hoffman, *Inside Terrorism*, revised and expanded edition, (Columbia University Press: New York, 2006), see pages 83, 88 and 89; Konrad Kellen, *On Terrorists and Terrorism*, RAND Corporation (RAND, 1982), 9; Brigitte L. Nacos, *Terrorism and Counterterrorism*, 5th edition, (Routledge: New York, 2016), 112-113; Friedrich Steinhauster, "What it Takes to Become a Nuclear Terrorist," in *The New Era of Terrorism: Selected Readings*, ed. Gus Martin (Thousand Oaks, Calif.; London: Sage, c2004), pages 125-133; Steven Simon, "The New terrorism: Securing the Nation against a Messianic Foe," in *The New Era of Terrorism: Selected Readings*, ed. Gus Martin (Thousand Oaks, Calif.; London: Sage, c2004), 168; Jessica Stern, *Terror in the Name of God: Why Religious Militants Kill*, 1st ed. (New York: Harper Collins Publishers Inc, 2004), I.

[6] For overview see The Hague Centre for Strategic Studies *Report on The Future of CBRN*, 12/3: (2010), pages 28 and 31.

[7] BBC, Mattis : US National Security Focus No Longer Terrorism. *BBC News Canada & America*, published 19 January 2018, accessed March 20 2018, available at: http://www.bbc.co.uk/news/world-us-canada-42752298; Helene Cooper, Military Shifts Focus to Threats by Russia and China, Not Terrorism *The New York Times*, published 19 January 2018, accessed 20 March 2018, available at: https://www.nytimes.com/2018/01/19/us/politics/military-china-russia-terrorism-focus.html

Mechanism in the EU in the case of CBRN attacks. Moreover, this in-depth analysis will also look into the efficacy of other existing protection and coordination methods.

1. HISTORICAL ROOTS OF THE EU'S COMMON RESPONSE TO DISASTERS AND THE EMERGENCE OF THE UNION CIVIL PROTECTION MECHANISM

1.1. Historical context

The roots of the Union Civil Protection Mechanism should be sought from the EU's strive to be an effective crisis manager both at domestic and international levels.[8] The propulsion for the EU's attempt to emerge as an effective crisis manager was natural and man-made disasters – the disaster in Seveso (Italy) industrial chemical plant in 1976, the Chernobyl (the former USSR) nuclear plant disaster in 1986, the outbreak of BSE (mad cow disease) 1996, the flooding in Central Europe in 2002, the outbreak of Severe Acute Respiratory Syndrome in 2003, the Avian flu as well as the Ebola virus outbreak in Africa – that occurred either on European soil or could easily reach the European territories.[9] In April 1985, the European Commission's Directorate General for Environment hosted the first meeting dedicated to common efforts on civil protection. In May 1985, for the first time in the history of the EU, individual Member States agreed to coordinate their civil protection capacities in the event of major natural disasters. An early interest was more oriented to the effects of natural disasters. However, the Chernobyl nuclear disaster proved the devastating repercussions of technological calamities and the Member States became more sensitive towards possible man-made disasters.[10] Consequently, Member States decided to create both political and legal groundwork for an elaborate and a common response to calamities at European level. Thus, in late 1980s and in early 1990s, various research programmes and policy instruments were crafted and employed in order to establish operational tools for the

[8] A. Boin, M. Ekengren and M. Rhinard, *Protecting the European Union: Policies, Sectors and Institutional Solutions*, National Defence College, Stockholm 2006; A. Boin, M. Ekengren and M. Rhinard, *The European Union as Crisis Manager* (Cambridge University Press: Cambridge, 2013); A. Boin and M. Rhinard, "Managing Transboundary Crises: What Role for the European Union?," *International Studies Review* 10/1, (2008): 1–26; A. Boin, M. Ekengren and M. Rhinard, "Managing Transboundary Crises: The Emergence of EU Capacity," *Journal of Contingencies and Crisis Management* 22/3, (2014): 131–142.

[9] For overview see F. Casolari, "The External Dimension of the EU Disaster Response," in *International Disaster Response Law*, ed. A. De Guttry, M. Gestri and M. Venturini (Springer, 2012), 130-154; C. Adinolfi, *Humanitarian Response Review*-2005, Office for the Coordination of Humanitarian Affairs OCHA; T. Ahman et al., "The Community Mechanism for Civil Protection and the European Union Solidarity Fund," in *Crisis Management in the European Union: Cooperation in the Face of Emergencies*, ed. P. Olsson (Springer, 2009), 83-107; P. Larsson, "Understanding the Crisis Management of the European Union," in *Crisis Management in the European Union: Cooperation in the Face of Emergencies*, ed. P. Olsson (Springer, 2009), 1-16; Susanna Villani, *The EU Civil Protection Mechanism: Instrument of Response in the Event of a Disaster*, Universidad Nacional de Educacion a Distancia, UNED and Universita di Bologna, September 2016, pages 122-148.

[10] Villani, *The EU Civil Protection Mechanism*, 127.

preparedness of the participants involved in civil protection and response in the event of a calamity.

1.2. Creation of a common civil protection mechanism

Nonetheless, the early aim of the civil protection programme was tackling big natural disasters in order to protect environment, human and commercial interests of the EC hence its scope was confined to the then Community territory. Although there were various political and legal obstacles (e.g., no legal basis existed for common response at EU level thus tools were in their infancies and non-binding), gradually Member States became more interested in establishing a comprehensive system through which they could better manage natural and man-made calamities. The first step towards the creation of a common response and the civil protection mechanism was made via adopting the Treaty of Maastricht in 1992. This is because such a Treaty introduced a new institutional structure that comprised new pillars, new polices and forms of cooperation.[11] In 1997, on a proposal of the European Commission, the European Council adopted a Decision establishing a Community Action Programme in the field of civil protection[12]. The main objective of the Decision was to support and improve Member States' activities at both national and sub-national levels through various cooperation projects with specific focus upon preparedness, smooth information exchange and increase public awareness and knowledge on natural and technological calamities.

On the one hand, stimulated by the adoption of the Action Programme and, on the other hand, compelled by the disturbing disasters (earthquakes) in Turkey and Greece in 1999, in September 2000, the Commission proposed the adoption of a Decision forming a Community Mechanism for the coordination of civil protection intervention in the case of calamities.[13] With the receptivity of the European Parliament towards its proposal as well as positive support from the Economic and Social Committee and the Committee of the Regions, on October 23 2001, the Council adopted the Decision 2001/792/EC establishing the first mechanism to facilitate reinforced cooperation

[11] Villani, *The EU Civil Protection Mechanism*, 127.

[12] 98/22/EC: Council Decision of 19 December 1997 establishing a Community action programme in the field of civil protection, OJ L 8, 14. January 1998, p. 20–23.

[13] For overview see European Commission, Proposal for a Council Decision Establishing a Community Mechanism for the Coordination of Civil Protection Intervention in the Event of Emergencies (2001/C 531 E/17), *COM (2000) 593 final 2000/0248 (CNS)*, 29 September 2000.

between the Community and the member states in the area of civil protection in the case of major emergencies.[14]

The Community Civil Protection Mechanism (previous name of the Union Civil Protection Mechanism) laid a groundwork for the progressive development of Member States' collaboration in disaster response through including various relevant issues. This mechanism was an operational means aimed at developing and enhancing the mobilisation of assistance in the event of major calamity as well as improving preparedness of the authorities of the participating States in cooperation with the Community Institutions. The essential element for the smooth functioning of the Civil Protection Mechanism (hereafter, CPM) was the creation of a Monitoring and Information Centre (previous name of the Emergency Response Coordination Centre – ERCC) headquartered in Brussels. This centre was an essential hub for communications between member states since the member states had a direct access to the database of the Common Emergency Communication and Information Centre that enabled them to exchange important information quickly and securely between the Monitoring and Information Centre and the contact points of the Member States.

1.3. The UCPM: A Symbol of European Solidarity

A meticulous analysis of the then Community Civil Protection Mechanism indicates that it became an important crisis management and coordinated response instrument not only at the European Community level, but also at international level. For instance, the CPM played a key operational instrument role during the flooding in Eastern Europe in 2002, the Prestige accident in 2002 and during the devastating Southeast Asia tsunami in 2004. After these calamities, the EU Institutions decided to re-assess the CPM and reinforce its instrumentality through granting more powers for its crisis management operations. In 2007, the European Council proposed to adopt the Decision 2007/779/CE that aimed to amend certain substantial points of the Decision 2001.[15] Moreover, the European Council adopted a second measure in March 2007 – Decision 2007/162/CE established a Civil Protection Financial Instrument (CPFI),[16] which was essential for further enhancement of the

[14] For overview see European Council Decision on Establishing a Community Mechanism to Facilitate Reinforced Cooperation in Civil Protection Assistance Interventions (2001/792/EC, Euratom), *OJL/297/7* , 15 November 2011. *Article 1.*

[15] For overview see the European Council Decision of 8 November 8 2007, which established a Community Protection Mechanism (2007/779/EC, Euratom), OJL314, 1 December 2017.

[16] For overview see the European Council Decision of 8 March 2007 that established a Civil Protection Financial Instrument (2007/162/EC, Euratom) OJL71, 10 March 2017.

CPM. The CPFI provided the necessary support in the field of prevention and preparedness as well as response by funding cooperation projects on disaster risk reduction and early warning, exercises, exchanges of modules and experts, argued Villani.[17]

The Lisbon Treaty laid the first comprehensive basis for the activation of the CPM as a common instrument to tackle the consequences of terrorist attacks on the soil of the member states. The Treaty recognised civil protection as a formal policy area creating a legal basis for civil protection as competence of the Union. Moreover, this particular Treaty also introduced a solidarity clause requiring both the Union and Member States to act jointly.[18] A thorough study of the 2006 Report on "An European Civil Protection Force" as well as the Lisbon Treaty urged the Commission to trigger new initiatives on civil protection from legal and operational perspectives. Consequently, the Commission submitted the proposal for a decision on the establishment of a Union Civil Protection Mechanism in December 2011, and the Decision 1313/2013/EU was adopted by the European Council and Parliament on 17 December 17 2013. On 16 October 2014, the implementation Decision (i.e., 2014/762/EU) on the functioning of the Union Civil Protection Mechanism was adopted.[19] It is pertinent to acknowledge here that the Decision 1313/2013/EU expanded the area of operations of the UCPM enabling it to be one of the key instruments in dealing with repercussions of terrorist outbreak that involves CBRN.[20]

1.4. The Emergence of the Contemporary UCPM

As it can be seen from the above analysis, the Union Civil Protection Mechanism was subject for constant legal and political enhancement and still is in the process of emerging as an effective disaster-tackling instrument. Moreover, this brief history of the UCPM also illustrates that there were factors (e.g., natural and man-made disasters) that played a key role in the emergence of the UCPM as an instrument of a disaster management. It is obvious that the UCPM came into being as a post-incident handling tool, not a pre-emptive means and until today remains as it is. Moreover,

[17] Villani, *The EU Civil Protection Mechanism*, 129.

[18] M. Ekengren, N. Matzen, M. Rhinard, and M. Svantesson, "Solidarity or Sovereignty? EU Cooperation in Civil Protection," *Journal of European Integration*, 28/5, (2006): 457–476; S. Hollis, *The National Participation in EU Civil Protection*, Acta/B42, National Defence College, (2010) Stockholm.

[19] The European Commission's implementation Decision of 16 October 2014 paved the way for the implementation of Decision No: 1313/2013/EU of the European Parliament and the European Council on a Union Civil Protection Mechanism. This resulted in repealing the European Commission Decisions 2004/277/EC, Euratom and 2007/606/EC, Euratom 2014/762/EU.

[20] For overview see Article 1(2), Decision 1313/2013/EU.

the extent to which the UCPM could be an effective instrument, in the event of major terrorist outbreak that would involve CBRN or in the case of CBRN offensive by state actors, remain unanswered. This is because, firstly, although the EU was and is the main target for terrorist violence (currently, religion based), terrorists have not employed CBRN in their attacks on the European targets, so far. Secondly, state actors also have not used CBRN agents that caused a large-scale disaster.[21] Thirdly, after the Chernobyl nuclear plant disaster and an incident in chemical plant in Italy, the EU has not witnessed any large-scale natural or technological disasters that involved CBRN agents on its soil. The following section will assess the current capacity of the UCPM in disaster management focusing on to what extent the UCPM can be considered as an effective means in tackling the consequences of terrorist attacks that involve CBRN.

[21] However, Russia was twice accused of using CBRN agents to kill its former citizens in Britain by the UK government. In 2006, Litvinenko was poisoned with polonium and in March 2018, father and daughter Skripals were poisoned with a military grade 'novichok' agent and the British government put the blame upon Russia.

2. CBRN CRISIS MANAGEMENT AND THE UCPM

2.1. Is the UCPM an effective means of crisis management in the event of major terrorist attack involving CBRN?

The recurrent and resurgent terrorist attacks[22] with conventional weapons in the EU compelled various EU Institutions to be cautious and ponder over enhancing the existing common response mechanisms in order to effectively fight against such transnational issues.[23] Moreover, in the light of unhesitant behaviour of the contemporary terrorism (mainly religion based) the EU should think of prior to terrorist attacks that may involve CBRN. According to Europol, the potential use of CBRN by terrorists, fanatics and extremists in the EU is 'highly likely' hence this issue remains an existential threat to the EU.[24]

The contemporary civil protection assistance in the EU comprises governmental aid delivered in the immediate aftermath of a disaster. The UCPM includes thirty-four (34) countries and the main responsibility in the area of civil protection (e.g., protecting citizens and the environment) lies on the member states. The EU coordinates, supports and complements national actions related to risk prevention, preparedness and response to calamities. A thorough study shows that the main role of the UCPM is to facilitate cooperation in civil protection assistance interventions in the event of major emergencies that may require urgent response actions. These major emergencies are non-exhaustive and may include natural, technological, CBRN and environmental disasters as well as accidental marine pollution and terrorist acts that occur inside or outside the EU. In other words, if the scale of a disaster overwhelms the response capabilities of a country then the UCPM may be activated upon official request of that country or the United Nations (UN) and its agencies, as well as the International Federation of the Red Cross and Red Crescent (IFRC) or the Organization for the Prohibition of Chemical Weapons (OPCW). When this occurs, the Emergency Response Coordination Centre (ERCC), operating from within the Commission Directorate General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) in Brussels, acts as an operational hub, facilitating the coordination of the assistance made available by the UCPM's

[22] 142 victims died in terrorist attacks in member states, 379 people were wounded and overall 142 thwarted, failed or completed attacks were reported in 2016 Europol/TE-SAT. For overview, see *EU Terrorism Situation And Trend Report* 2017, page 10; Christian Kaunert (University of South Wales), Sarah Leonard (Vesalius College, VUB) and Ikrom Yakubov (South Wales University), *A Short Study on the Role of Europol in Coping with Terrorism*, January 2018.

[23] For overview see The European Commission (APEPACBRNSR) COM (2017) 610 final.

[24] Europol, TE-SAT/2017, page 16.

Participating States to the affected country. Requests for assistance through the UCPM can concern disasters and crisis of any type, both within and outside Europe.[25]

The UCPM also fulfils following tasks:

- To develop detection and rapid alert systems for catastrophes that may occur in Member States and to enable rapid response by other countries;
- To provide support for accessing equipment and transport resources;
- To support consular assistance to EU citizens in major emergencies in third countries if requested by the consular authorities of the Member States;
- To integrate transport provided by Member States by financing additional transport resources necessary for ensuring a rapid response to major emergencies;
- To develop civil protection modules, namely specialised operational teams comprising personnel, transport and equipment provided by Member States and "packaged" in accordance with the task in question, in line with specific criteria.[26]

Furthermore, as mentioned above, the UCPM is supported by the ERCC which collects and analyses real-time information on disasters, monitors hazards, prepares plans for the deployment of experts, teams and equipment, works with member states to map available assets and coordinates the EU's disaster response efforts. It monitors emergencies around the globe around the clock.[27] Moreover, the UCPM is also supported by the European Emergency Response Capacity (EERC) that comprises a voluntary pool of resources for emergency response, which are pre-committed by the countries participating in the UCPM. The voluntary pool allows for a more predictable, faster and reliable EU responses to disasters as well as terrorist attacks that may involve CBRN. The EERC also facilitates better planning and coordination at European and national levels. The EERC includes the European Medical Corps.

2.2. Financing the UCPM

The budget of the UCPM implementation for 2014–2020 is €368.4 million of which €223.7 million shall be used for prevention, preparedness and response actions inside the EU and €144.6 million

[25] For overview see Articles 1 (2) and 1(3) refer to the subject matter and scope of the UCPM, http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=CELEX%3A32013D1313

[26] For overview see European Civil Protection Policies, *EVANDE* Technical Report 2014, pages 6 and 7.

[27] For overview see The European Commission, European Civil Protections and Humanitarian Aid Operations the ERCC & ECHO Factsheet, available at: http://ec.europa.eu/echo/files/aid/countries/factsheets/thematic/ERC_en.pdf

for actions outside the EU. There is no a dedicated budget for the activation of the UCPM in the events of major terrorist attacks that involve CBRN, but rather it is included in the existing budget.

2.3. Activation of the UCPM in calamity management

A profound analysis indicates that the new legislation reinforces the activation of the UCPM in following phases of calamity management cycle:

- Prevention – aims supporting the member states in preventing risks or reducing harm to people, the environment or property resulting from emergencies and disasters. In order to achieve these objectives, the UCPM improves knowledge methodologies and access to relevant data. In relation to CBRN, the prevention means ensuring that unauthorised access to CBRN materials is as difficult as possible;
- Early detection – having the capability to detect CBRN materials in order to prevent or respond to incidents. However, a meticulous assessment of the UCPM indicates that this particular function is underdeveloped and requires a quick action to improve it;
- Preparedness – aims to increase competences for civil protection assistance interventions and responses inside as well as outside the EU. It also aims to provide countries with the opportunity to train their civil protection teams, increasing their ability and effectiveness in responding to disasters. In order to achieve these objectives, the UCPM organises training programmes, exercises during simulated emergencies, exchange of expert's programmes, cooperation projects;
- Response aims to facilitate the cooperation in civil protection assistance interventions in the event of major calamities, including terrorist attacks, inside and outside the EU. Response may include assistance in search and sending rescue teams, medical teams, shelter, water purification units and other relief specialised experts, all hazard approaches (e.g., biological, chemical, radiological, nuclear).

2.4. Conclusion

At first glance, the current UCPM can be seen as an effective tool in crisis management. However, we do not know a true capacity and efficacy of the UCPM in the case of terrorist attacks that involve CBRN. Although the role of the UCPM in the case of CBRN terrorist attacks will be only covering actions related to preparedness and response, the solidarity clause enables the UCPM to

act as a crisis management centre.[28] Whether the UCPM can be an effective crisis management in the case of CBRN terrorist attacks is subject for further scrutiny. This is because, firstly, the UCPM has not directly dealt with the consequences of CBRN terrorist attacks neither inside nor outside the EU. Secondly, the 2001 anthrax case in New York demonstrated that regardless of how vast resources the United States (US) civil protection mechanism had, its entities struggled to deal with the consequences of a CBRN terrorist attack. In order to figure out the consequences of CBRN terrorist attacks and whether the UCPM can be regarded as an effective tool or not, it would be sensible to assess what is a CBRN terrorist attack, what agents can be used by terrorists and how easily obtainable these agents as well as fatalities of these terrorist attacks.

Contemporary CBRN agents have one new component – nuclear/radiological – but the other types have been part of the arsenal of warriors for a long time. The oldest of these is biological agents that include living microorganisms and toxins produced by microorganisms, plants, or animals. Chemical agents are often composed of binary compounds of chemicals that separately would not be lethal.[29] Nonetheless, the demise of the former USSR made biological, chemical, radiological and even nuclear weapons easily accessible for terrorists on the black market. Although the cost of building a nuclear bomb is still high and mainly the state actors are considered capable of building it, non-states actors also nowadays have access to nuclear material and technological skills to develop such weapons became less restricted. Attacks using CBRN agents (mainly chemical and biological) continue today not only by state actors, but also terrorist groups and lone wolves.

[28] For overview see As stated by Art. 222 par 1, Treaty on the Functioning of the European Union (consolidated version), Lisbon 1.12.2009, in OJEU C 326, 26 October 2012, p. 47 ff., available at: http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2012:326:0047:0200:EN:PDF, "The Union and its Member States shall act jointly in a spirit of solidarity if a Member State is the object of a terrorist attack or the victim of a natural or man-made disaster". On the "Solidarity Clause", cf. M. Fuchs-Drapier, The European Union's Solidarity Clause in the Event of a Terrorist Attack: Towards Solidarity or Maintaining Sovereignty?, in *Journal of Contingencies and Crisis Management*, Vol. 19, No. 4, December 2011, pp. 184–197; No. von Ondarza and R. Parkes, The EU in the face of disaster. Implementing the Lisbon Treaty's Solidarity Clause, in SWP Comments, April 2010, available at http://www.swpberlin.org/fileadmin/contents/products/comments/2010C09_orz_pks_ks.pdf; S. Myrdal and M. Rhinard, The European Union's Solidarity Clause: Empty Letter or Effective Tool? An Analysis of Article 222 of the Treaty on the Functioning of the European Union, in UL Paper, No. 2 2010, available at http://www.sipri.org/research/security/old-pages/euroatlantic/euseminar/documentation/2010_Myrdal%20Rhinard_EU%20Solidarity%20Clause_UIOP.pdf; M. Hatzigeorgopoulos, The Eu's Mutual Assistance and Solidarity Clauses, in European Security Review, No. 61, December 2012, available at http://www.isiseurope.eu/sites/default/files/publications-downloads/esr61_Assistanceandsolidarityclauses-Nov2012MH_0.pdf.

[29] Combs, *Terrorism in the Twenty-First Century*, 364-365.

For instance:

- In 1994, a Japanese sect of the Aum Shinrikyo cult attempted an aerosolized (sprayed into the air) release of anthrax from the tops of building in Tokyo;
- In 1995, two members of a Minnesota militia group were convicted of possession of ricin, which they had produced themselves for use in retaliation against local government officials;
- In 1996, an Ohio man attempted to obtain bubonic plague cultures through the mail;
- In 2001, anthrax was delivered by mail to US media and government offices. There were five deaths and seventeen injured as a result of this attack.

Assessment of the responses to these terrorist attacks that involved CBRN indicated that countries in which these attacks occurred were not even ready to deal with such a small-scale terrorist attacks with CBRN agents. Had nuclear agents been used in these attacks consequences could have been unimaginable since these countries civil protection mechanisms were not ready to deal with calamities.

Furthermore, terrorist attacks that involve chemical agents are more discernible than the other types. For instance:

- In 1984, Bhadwan Shree Rajneesh cult in Dallas used salmonella agent and poisoned 751 people;
- In 1994, Aum Shinrikyo used sarin in residential community Matsumoto which killed 7 and injured 270 civilians;
- In 1995, the same cult used sarin in Tokyo underground and this attack resulted in deaths of 12 people and injured 5,511 civilians;
- The DAESH (ISIS) has used chemical weapons (mainly chlorine and sulfur mustard agents) at least 52 times on the battlefield in Iraq and Syria.[30]

[30] Eric Schmitt, "ISIS used Chemicals Weapons at least 52 times in Syria and Iraq" *The New York Time*, 21 November 2016, accessed 26 March 2018, https://www.nytimes.com/2016/11/21/world/middleeast/isis-chemical-weapons-syria-iraq-mosul.html

3. CBRN DEFENCE AND THE UCPM

3.1. Biological agents

There are four categories of living microorganisms: bacteria, viruses, rickettsiae, and fungi. *Bacteria* are small free-living organisms; they can be grown on solid or liquid media and produce diseases that often respond to specific treatment with antibiotics. *Viruses* are organisms that require living cells in which to replicate. This type of organism does not respond to antibiotics but is sometimes responsive to viral compounds. *Rickettsiae* are microorganisms that have features of both bacteria and viruses. *Fungi*, primitive plants that do not utilise photosynthesis, are capable of anaerobic growth, and draw nutrition from decaying vegetable matter. Moreover, a diverse group of more than forty compounds are produced by the fungus Trichothecene mycotoxins. *Biotoxins* are poisonous substances produced naturally by microorganisms, plants or animals and they may also be produced or altered by chemical means. There are five biological agents currently available and they can be easily obtainable by terrorists:

- *Botulinum toxin* (Clostridium botulinum) is the single most poisonous substance known. Although it is usually food borne, it could be developed as an aerosol weapon. Within 24 to 36 hours of infection with this biological agent, symptoms generally include blurred vision as well as difficulty swallowing and speaking. This agent, a nerve toxin, paralyses muscles, thus leading to respiratory failure and death. Terrorists and lone wolves can easily acquire this agent. Currently, the UCPM does not have a dedicated action plan and resources to effectively handle the repercussions of terrorist attacks with this agent.
- *Plague* (Yersinia pestis) is very infectious however not always lethal biological agent. Within one to six days after exposure to the plague bacteria, victims would begin to show symptoms of severe respiratory and gastrointestinal distress. Terrorists and lone wolves can easily acquire this agent. The UCPM does not have a dedicated action plan however it can deliver necessary resources to deal with consequences of plague terrorist attacks.
- *Tularemia* is a potentially lethal infectious organism developed by the US as a possible weapon in the 1950s and 1960s. It can be sprayed in an aerosol cloud. Within three to five days of infection, victims would suffer fever, chills, headaches and weakness. No vaccine is currently available. Terrorists and lone wolves cannot easily acquire this agent. The UCPM does not have a dedicated

action plan or resources at all to overcome consequences of terrorist attacks with this agent.

- *Smallpox* (Variola major) is an infectious agent that was developed by several countries. The smallpox virus is highly contagious and would rapidly spread, because vaccinations for this disease halted more than twenty years ago. An aerosol release of smallpox infecting only fifty people could easily unleash an epidemic that would kill about 30 percent of those infected with painful, disfiguring disease. This agent is not easily obtainable by terrorists and lone wolves. The UCPM does not have a dedicated action plan and has very limited relevant resources to deal with consequences of terrorist attacks with this agent.
- *Anthrax* (Bacillus anthracis) is an acute infectious disease caused by the spore-forming bacterium Bacillus anthracis. Anthrax is unique as its spores are hardy: they are resistant to sunlight, heat and disinfectant and can remain active in soil and water for years. Anthrax infection can occur in three forms: cutaneous, inhalation and gastrointestinal. Terrorists and lone wolves can easily acquire this particular agent. The UCPM does not have a dedicated action plan; however, it has resources that can be delivered immediately in the events of terrorist attacks involving anthrax.[31]

3.1.1. Bioterrorism defence and the UCPM

A profound assessment of the current UCPM reveals that it has no dedicated action plans and full relevant resources for terrorist attacks that involve various biological agents. Those action plans or resources that are mentioned by the UCPM in its publications cannot be regarded as enhanced and relevant. This is because every single biological agent that is used by potential terrorists requires an individual response and the UCPM currently does not have such an individual response capacity. It is highly recommended that the UCPM delivers regular cross-training for participants and personnel (i.e., enhancing preparedness). Since such trainings will increase efficacy of the UCPM and make it ready for the challenges of potential CBRN terrorist attacks.

[31] In order to prepare this material, both semi-classified and unclassified data been used. Moreover, the main source was Combs, *Terrorism in the Twenty-First Century*, 370.

3.2. Chemical agents

There are many chemical agents that can be used by terrorists and lone wolves. Chemical agents come in various forms, most often as a liquid rather than a gas. It is pertinent to note here that *Biotoxins* are one type of chemical agents and they include substances such as ricin, abrin and strychnine. Chemical agents, which can be easily weaponised, are prolific in number and they are relatively easy to acquire and stockpile. However, they are difficult to manufacture in sufficient quantities for large-scale attacks by terrorists and lone wolves. Here are most known chemical agents:

- *Ricin (*Ricinis communis*)* is a plant toxin that is 30 times more potent than the nerve agent VX by weight and is readily obtainable by extraction from common castor beans. There is no treatment for ricin poisoning after it has entered the bloodstream. Victims start to show symptoms within hours to days after exposure, depending on the dosage and route of administration. Terrorists can deliver ricin in foods and as a contact poison however, it is not contagious. The UCPM does not have a dedicated action plan or relevant resources to deal with the consequences of ricin terrorist attack.
- *Blistering Agents* are Mustard gas, lewisite and others that cause chemical burns and destroy lung tissue. These agents usually are not commercially available, but their synthesis does not require significant expertise if a systematic procedure with diagrams is available. Initial skin contact with blistering agents causes mild skin irritation, which develops into more severe yellow fluid-filled blisters. There are only limited medical treatments available for victims of blistering agent poisoning. The UCPM does not have a dedicated action plan or sufficient relevant resources to respond in the immediate aftermath of terrorist attacks with blistering agents.
    - *Blood Agents* are hydrogen cyanide and cyanogen chloride that attack the respiratory system and usually rapidly result in coma followed by death. Hydrogen cyanide (HCN) and cyanogen chloride (C1CN) are colourless-to-pale yellow liquids that will turn into a gas near room temperature. HCN has a characteristic odour of bitter almonds, and ClCN has an acrid choking odour and causes burning pain in the victim's eyes. These signs may provide enough warning to enable evacuation or ventilation of the attack site before the agent reaches a lethal concentration. Both HCN and ClCN need to be released at a high concentration – only practical in an enclosed area – to be effective. These agents are also obtainable by terrorists. The UCPM does not have a dedicated

action plan; however, it may deliver limited relevant response with the support of the Member States.

- *Nerve agents* are sarin, tabun, soman, VX and "Novichok". These agents block the enzyme cholinesterase that causes paralysis of the neuromuscular system, resulting in death. These agents are not commercially available, and their synthesis requires significant chemical expertise. Exposure to nerve agents causes pinpoint pupils, salivation, and convulsions that can lead to death. Medical treatments are available, but they need to be used immediately for severely exposed victims. The UCPM does not have a dedicated action plan; however, it has limited resources that can be deployed with the support of Member States .
- *Toxic Industrial Chemicals* can be used in much larger quantities to compensate for their lower toxicity. Chlorine and phosgene are industrial chemicals that are transported in substantial shipments by road and rail. Rupturing the container can easily disseminate these gases. The effects of chlorine and phosgene are similar to those of mustard agent. Organophosphate pesticides such as parathion are in the same chemical class as nerve agents. Although these pesticides are much less toxic, their effects and medical treatments are the same as for military-grade nerve agents. Terrorists can acquire these substances easily. The UCPM has a dedicated action plan and resources that can be rapidly deployed in the case of terrorist attacks with these toxic industrial agents.

3.2.1. Chemical-terrorism defence and the UCPM

A thorough study of the current UCPM unveils that it has no dedicated action plans for terrorist attacks that involve lethal and contagious Chemical agents. However, it has limited resources that can be employed in the immediate aftermath of terrorist attacks with chemical agents. The UCPM has only dedicated action plan for disasters and emergencies that are triggered mainly by toxic industrial chemicals. It is highly recommended that the UCPM narrows down its response and creates dedicated action plans for each chemical agent scenario.

3.3. Radiological and nuclear devices

Although only uranium and a few other elements can be used to produce proper nuclear explosive weapons, there are many elements, e.g., cesium, tritium and strontium, which emit radiation. Terrorists can create dirty bombs using these radiological elements. Dirty bombs do not require the theft of large amounts of carefully guarded plutonium, nor their construction require great technical skills or a well-equipped laboratory. These weapons can be made with nonfissionable radioactive materials such as cesium-137, cobalt-60 and strontium-90 and they can be exploded by conventional means.

Despite the fact that terrorists have not employed any nuclear device in their attacks, many types of nuclear weapons may be feasible for use by terrorists in the 21st century. A small plutonium device, requiring at least 2.5 kilograms of plutonium, is constructed with a core of a sphere of compacted plutonium oxide crystals in the centre of a large cube of Semtex or one of the other new, powerful explosives. The bomb, when complete, would weigh about a ton and would require at least van or a truck to get it to the target.[32]

With the development of various sophisticated detection devices the contemporary terrorist groups are also developing their skills to bypass these devices and deliver radiological weapons to targeted areas undetected. Even, they might be crafting more cunning plans whose successful implementation will result in nuclear catastrophe with unimaginable number of human casualties and environmental damage. One of such scenarios might be hijacking a civil aircraft and crashing it into nuclear power plants on the soil of the EU. According to the European Nuclear Society, there are 186 active nuclear power stations in Europe as of November 2016 (including Russia and Ukraine) and 15 more are under construction.[33] There is no tangible guarantee that terrorists who perpetrated the 9/11 attacks on US targets will not carry out another large-scale offensive. This time employing civil aircrafts or other flying objects and directing them towards nuclear power plants. While whether there are any effective pre-emptive or preventive means exist in the EU in the case of such terrorist attacks remains subject for further research, it is obvious that the current UCPM is not in a position to cope with consequences of such calamities at all.

[32] Combs, *Terrorism in the Twenty-First Century*, 380.

[33] For overview see European Nuclear Society, Nuclear Power Plants in Europe, accessed 31 March 2017, https://www.euronuclear.org/info/encyclopedia/n/nuclear-power-plant-europe.htm

3.3.1. Radiological and nuclear devices and the UCPM

Nonetheless, analysis indicate that the UCPM is one of the key tools in the EU action plan for calamities involve CBRN and nuclear accident.[34] According to this action plan, the Commission launched a CBRN Resilience Programme in civil protection to support preparedness and enhance effective coordination in response to CBRN incidents. The main objectives of the p are to:

- Streamline the work of the UCPM;
- Review progress and identify gaps in civil protection programmes;
- Establish suitable priorities and methods of operation; and
- Identify areas of support to complement Member States' efforts.

As mentioned above, large-scale exercises, including scenarios involving radiological or nuclear incidents, are organised regularly on the basis of Member States' proposals and with the support of the Commission. To enhance the interoperability of CBRN responders, the Commission has improved the UCPM training programme by including specific CBRN components. Exchanges between experts in this area are also regularly organised via the EU Exchange of Experts in Civil Protection programme.[35]

3.4. Conclusion

Whether the UCPM is an effective tool that can rapidly response to and deal with CBRN terrorist attacks, question remains unanswered. It is difficult to provide a precise answer to this question due to a number of reasons (e.g., the UCPM is never activated for CBRN terrorist attacks yet). Enhancing the UCPM as an effective instrument in dealing with CBRN terrorist attacks on a regular basis is a key task. Since due to rapid technological developments and globalisation, non-state actors (including terrorist groups) with repugnant objectives are acquiring an undiminished access to CBRN agents. The EU and its entities acknowledged these caveats and they want to enhance the UCPM turning it into an effective means that can cope with consequences of CBRN terrorist attacks. In following section, the Commission's Action Plan to Enhance Preparedness against Chemical, Biological, Radiological and Nuclear Security Risks (CAPEPCBRNSR) that aims to attain these objectives will be assessed.

[34] For overview see the European Commission and the European Union External Action 'EU Efforts to Strengthen Nuclear Security' Joint Staff Working Document – SWD (2016)98 final 16 March 2016, pages 15-16.

[35] For overview see 'EU Efforts to Strengthen Nuclear Security' Joint Staff Working Document – SWD (2016)98, 16.

4. THE EU COMMISSION'S NEW ACTION PLAN AND FURTHER ENHANCING THE UCPM

4. 1. Increasing cooperation at the EU and Member State level

In the light of aforementioned emergencies, the Commission announced new plans to strengthen the EU's civil protection response to support member states to better respond and prepare for natural and man-made calamities. This action plan includes enhancing the UCPM preparedness against chemical, biological, radiological and nuclear security risks.[36] The action plan's main objective is increasing EU cooperation in CBRN security with focus on preventing, preparing for, and responding to CBRN threat and terrorism attacks. Actions set out in this Communication will support member states to protect citizens and infrastructures. Many of the proposed actions pursue an all-hazards approach and will also contribute to improving preparedness for any large-scale CBRN incidents unconnected terrorism.[37]

4.2. A more centralised implementation

Another important purpose of the action plan is to increase the centrality of the EU in implementation of measures that are directed towards strengthening CBRN security and civil protection response. For instance, the Communication makes it clear that "this Action Plan is rooted in the firm belief that tackling CBRN risks requires a horizontal approach, cutting across diverse areas and actors such as law enforcement, emergency management, protection of critical infrastructure and public spaces, public health, and the private sector. Some of the actions proposed will also contribute to an increased resilience of critical infrastructures in the EU, especially as regards nuclear plants and chemical facilities."[38] Moreover, the action plan aspires to increase internal and external security actions, focusing efforts in particular through the EU CBRN Centres of Excellence initiative. One key priority will be to ensure border security and detection capacity against illicit entry of CBRN materials. Cooperation and coordination with EU strategic and regional partners is essential, and synergies will be sought with all relevant stakeholders, including military actors, the EDA and NATO, as well as the private sector.

[36] For overview see The European Commission (APEPACBRNSR) COM (2017) 610 final.

[37] For overview see The European Commission (APEPACBRNSR) COM (2017) 610 final.

[38] For overview see The European Commission (APEPACBRNSR) COM (2017) 610 final.

The Action Plan therefore pursues the following four objectives:

- Reducing the accessibility of CBRN materials;
- Ensuring a more robust preparedness for and response to CBRN security incidents;
- Building stronger internal-external links in CBRN security with key regional and international EU partners; and
- Enhancing our knowledge of CBRN risks.[39]

4.3. UCPM in a key role

What is important in the action plan is the fact that the UCPM has been presented as one of the key instruments. For instance, the action plan points out that "the proposed actions will be supported by mobilising funding under the different existing instruments of the Commission, including Horizon 2020, ISF-Police and the Union Civil Protection Mechanism (UCPM) or the wide range of external financing instruments (e.g. Development Cooperation Instrument, European Neighbourhood Instrument, Instrument contributing to Stability and Peace)".

Furthermore, two proposed changes by the action plan explicitly reflects the role of the UCPM in enhancing CBRN security:

- Strengthen EU CBRN preparedness and response through cross sectorial training and exercises: The Commission in cooperation with Member States will strengthen training and exercises for first responders from the law enforcement, civil protection, health structures and, where relevant, borders and customs authorities and military partners. Training and exercises will be carried out through existing financial instruments and operational tools, in particular the Union's Civil Protection Mechanism (UCPM), CEPOL and the ISF-Police. The development of a common EU CBRN training curriculum will be promoted in close cooperation with EU Member States' experts.
- Strengthen the EU's response capacity for CBRN incidents under the EU civil protection mechanism: In order to provide better support to Member States in the event of a major CBRN incident, Member States and the Commission will continue strengthening the existing European Emergency Response Capacity (EERC) of the UCPM, including the EU Medical Corps. Encourage Member States to continue committing new CBRN capacities to the EERC. Support Member

[39] For overview see The European Commission (APEPACBRNSR) COM (2017) 610 final.

States in the process of registering and certifying CBRN modules and other capacities into the EERC. Review the initial capacity goals in the field of CBRN disasters. Test cross-sectorial preparedness and response to pandemics.[40]

As it can be seen from these proposed changes by the Commission to enhance CBRN security, the threat posed by CBRN terrorism is perceived at highest level in the EU. Moreover, it is also noticeable that the EU is aiming to enhance the UCPM's role as an effective instrument in strengthening CBRN security.

[40] For overview see The European Commission (APEPACBRNSR) COM (2017) 610 final; 2.1 and 2.2.

5. POLICY RECOMMENDATIONS AND CONCLUSIONS

The findings of this study indicate that the threat posed by CBRN terrorism is existential for both the EU and individual Member States. Therefore, creating, maintaining and effectively employing pre-emptive, preventive, timely responsive and other countering means is of vital importance for the EU as well as its Member States. It has been ascertained that the UCPM is one of the emergency management instruments in the possession of the EU through which it (European Union) aims to strengthen its internal and external CBRN security. A thorough study of the UCPM shows that it is still evolving as a complex emergency management instrument, thus, requiring further relevant expert-suggestions from practitioners, scientists, academics and politicians to enhance itself. While scrutinising the UCPM, a number of structural and specialisation related shortcomings have been identified. For instance:

- Although the UCPM is presented as the main emergency management instrument/hub, it still remains utterly dependent on Member States' support in rapidly responding the emergencies;
- The UCPM is mainly a post-incident handling instrument hence its preparedness for CBRN terrorist attacks is underdeveloped and requires an immediate improvement;
- The UCPM does not have a case specific action plan to effectively handle the outcomes of terrorist attacks that involve various CBRN agents;[41]
- The effective instrumentality of the UCPM in handling consequences of CBRN terrorist attacks is undermined due to lack of partial or limited agency in emergency management. In other words, the UCPM is regarded as a crisis management tool only, which is constantly kept away from decision/policy making process that is directly related to the UCPM's immediate activities and very existence. Therefore, granting a limited agency (e.g., crisis/emergency managing agency trait) would be beneficial in order to enhance the efficacy of the UCPM.

Moreover, it has been also established that both the Commission and the UCPM are not very familiar with or informed about new offensive instruments available for potential terrorists. To be

[41] To be precise, the UCPM has only a general action plan for tackling consequences of both natural and man-made disasters that include CBRN terrorist attacks. Whereas, every CBRN substance requires an individual approach. In other words, those tackling approaches that can be used to handle consequences of chemical and biological terrorism are different from measures taken to deal with radiological/nuclear terrorism.

precise, contemporary terrorists' (particularly adherents of religion-based terrorism) modus operandi and offensive tactics/strategies have become so multifaceted and well-crafted that it is almost impossible to foresee what place may be hit with what means by terrorists. According to the interviewed Western Intelligence Practitioners,[42] contemporary terrorists have already become very inventive and are considering the use of unconventional delivery means to bring CBRN to targeted countries or, even, to countries simultaneously. For instance, the adherents of religion-based terrorism may employ a dozen of their fanatics as delivery means for certain CBRN to the West in order to create enormous security risks. Potential fanatics who agreed that their own bodies would be used as delivery means of certain CBRN may easily enter the EU as asylum seekers or migrants and may cause chaos with their infected bodies. The second potential means of CBRN delivery for terrorists can be Quadcopter Drones. These flying gadgets are easily accessible and in many cases are not expensive due to the fierce competition between various producers. Terrorists may easily weaponise commercially available drones and use them to carry small CBRN explosives. Terrorists may carry out massive CBRN attacks by a swarm of drones in crowded places in Brussels, Berlin, Paris, Madrid, London, and Lisbon etc.[43]

It is evident that the UCPM is ready neither to deal with consequences of terrorist attacks in which terrorists' bodies would be used as CBRN delivery means nor handle the outcomes of massive CBRN offensives with a swarm of drones. Thus, it is highly recommended that the UCPM readies itself for such attacks as well as trains its personnel and representatives of participating countries to cope with the consequences of above mentioned CBRN terrorist attacks.

[42] The identity of these interviewees cannot be unveiled due to sensitive nature of their work and ethical and legal regulations.

[43] Terrorists have already successfully employed flying gadgets to carry out their attacks in Syria, Iraq and Libya. For overview see Alyssa Sims, "How Do We Thwart the Latest Terrorist Threat: Swarms of Weaponised Drones?," *The Guardian*, 19 January 2018, accessed 30 March 2018, https://www.theguardian.com/commentisfree/2018/jan/19/terrorists-threat-weaponised-drones-swarm-civilian-military-syria

REFERENCES

Adinolfi, C. *Humanitarian Response Review*-2005, Office for the Coordination of Humanitarian Affairs OCHA.

Ahman, T. "The Community Mechanism for Civil Protection and the European Union Solidarity Fund." In *Crisis Management in the European Union: Cooperation in the Face of Emergencies*, ed. P. Olsson (Springer, 2009), 83-107.

Action Plan to Enhance Preparedness Against Chemical, Biological, Radiological and Nuclear Security Risks (APEPACBRNSR). 18 October2017, European Commission's (EC) Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2017) 610 final, https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-security/20171018_action_plan_to_enhance_preparedness_against_chemical_biological_radiological_and_nuclear_security_risks_en.pdf

BBC. Mattis: US National Security Focus No Longer Terrorism. *BBC News Canada & America*, published 19 January 2018, accessed 20 March 2018, available at : http://www.bbc.co.uk/news/world-us-canada-42752298;

Boin, A, Ekengren, M and Rhinard, M. *Protecting the European Union: Policies, Sectors and Institutional Solutions*, National Defence College, Stockholm 2006.

Boin, A, Ekengren, M and Rhinard, M. *The European Union as Crisis Manager* (Cambridge University Press: Cambridge, 2013).

Boin, A, and Rhinard, M. "Managing Transboundary Crises: What Role for the European Union?" *International Studies Review* 10/1, (2008): 1–26.

Boin, A, Ekengren, M and Rhinard, M. "Managing Transboundary Crises: The Emergence of EU Capacity," *Journal of Contingencies and Crisis Management* 22/3, (2014): 131–142.

Casolari, F. "The External Dimension of the EU Disaster Response." In *International Disaster Response Law*, ed. A. De Guttry, M. Gestri and M. Venturini (Springer, 2012), 130-154.

Combs, Cynthia C. *Terrorism in the Twenty-First Century*, 8th edition, (Routledge, Taylor & Francis group : New York, 2018).

Cooper, Helene. Military Shifts Focus to Threats by Russia and China, Not Terrorism *The New York Times*, published 19 January 2018, accessed 20 March 2018, available at: https://www.nytimes.com/2018/01/19/us/politics/military-china-russia-terrorism-focus.html

Ekengren, M, Matzen, N, Rhinard, M and Svantesson, M. "Solidarity or Sovereignty? EU Cooperation in Civil Protection," *Journal of European Integration*, 28/5, (2006): 457–476.

Europol, Terrorism Situation and Trend report (TE-SAT) 2017, page-16, available at: www.europol.europa.eu/sites/default/files/documents/tesat2017.pdf.

European Council Decision of 8 November 2007, which established a Community Protection Mechanism (2007/779/EC, Euratom), OJL314, 1 December 2007.

European Council Decision of 8 March 2007 that established a Civil Protection Financial Instrument (2007/162/EC, Euratom) OJL71, 10 March 2007.

European Commission, Proposal for a Council Decision Establishing a Community Mechanism for the Coordination of Civil Protection Intervention in the Event of Emergencies (2001/C 531 E/17), *COM (2000) 593 final 2000/0248 (CNS)*, 29 September 2000.

European Council Decision on Establishing a Community Mechanism to Facilitate Reinforced Cooperation in Civil Protection Assistance Interventions (2001/792/EC, Euratom), *OJL/297/7 15 November 2011. Article 1*.

European Commission, European Civil Protections and Humanitarian Aid Operations the ERCC & ECHO Factsheet, available at:
http://ec.europa.eu/echo/files/aid/countries/factsheets/thematic/ERC_en.pdf

European Commission and the European Union External Action 'EU Efforts to Strengthen Nuclear Security' Joint Staff Working Document – SWD (2016)98 final 16 March 16 2016, pages 15-16.

European Civil Protection Policies, *EVANDE* Technical Report 2014,
'EU Efforts to Strengthen Nuclear Security' Joint Staff Working Document – SWD (2016)98, 16.

European Nuclear Society, Nuclear Power Plants in Europe, accessed 31 March 2017, https://www.euronuclear.org/info/encyclopedia/n/nuclear-power-plant-europe.htm

Fuchs-Drapier, M. "The European Union's Solidarity Clause in the Event of a Terrorist Attack: Towards Solidarity or Maintaining Sovereignty?" In *Journal of Contingencies and Crisis Management*, Vol. 19, No. 4, December 2011, pp. 184–197.

Hatzigeorgopoulos, M. The EU's Mutual Assistance and Solidarity Clauses, in European Security Review, No. 61, December 2012, available at:
http://www.isiseurope.eu/sites/default/files/publications-downloads/esr61_Assistanceand solidarityclauses-Nov2012MH_0.pdf.

Hoffman, Bruce. *Inside Terrorism*, revised and expanded edition, (Columbia University Press: New York, 2006).

Hollis, S. *The National Participation in EU Civil Protection*, Acta/B42, National Defence College, (2010) Stockholm.

Interpol – Assessment of ISIL Chemical Weapons Threats outside of Iraq and Syria, 7 February 2017; Moreover, see also the UN Security Council 8090th Meeting – Government, 'Islamic State' Known to Have Used Gas in Syria, Organisation for Prohibition of Chemical Weapons Head Tells Security Council – UN, SC/13060, published 7 November 2017, accessed 11 February 2018, available at : https://www.un.org/press/en/2017/sc13060.doc.htm

Kaunert, Christian (University of South Wales), Leonard Sarah (Vesalius College, VUB) and Yakubov, Ikrom (South Wales University), *A Short Study on the Role of Europol in Coping with Terrorism*, January 2018.

Kellen, Konrad. *On Terrorists and Terrorism*, RAND Corporation (RAND, 1982).

Kelso, Paul. "Porton Down experts unable to identify 'precise source' of novichok that poisoned spy," *Sky News*, published 4 April 2018, accessed 4 April 2018, https://news.sky.com/story/porton-down-experts-unable-to-identify-precise-source-of-novichok-that-poisoned-spy-11315387

Larsson, P. "Understanding the Crisis Management of the European Union." In *Crisis Management in the European Union: Cooperation in the Face of Emergencies*, ed. P. Olsson (Springer, 2009), 1-16.

Myrdal, S and Rhinard, M. The European Union's Solidarity Clause: Empty Letter or Effective Tool? An Analysis of Article 222 of the Treaty on the Functioning of the European Union, in UL Paper, No. 2, 2010, available at: http://www.sipri.org/research/security/old-pages/euroatlantic/euseminar/documentation/2010_Myrdal%20Rhinard_EU%20Solidarity%20Clause_UIOP.pdf.

Nacos, Brigitte L. *Terrorism and Counterterrorism*, 5th edition, (Routledge: New York, 2016).

Ondarza, von N and Parkes, R. The EU in the Face of Disaster. Implementing the Lisbon Treaty's Solidarity Clause, in SWP Comments, April 2010, available at: http://www. swpberlin.org/fileadmin/contents/products/comments/2010C09_orz_pks_ks.pdf.

Schmitt, Eric. "ISIS used Chemicals Weapons at least 52 times in Syria and Iraq" *The New York Time*, 21 November 2016, accessed 26 March 2018, https://www.nytimes.com/2016/11/21/world/middleeast/isis-chemical-weapons-syria-iraq-mosul.html

Simon, Steven. "The New terrorism: Securing the Nation against a Messianic Foe," in *The New Era of Terrorism: Selected Readings*, ed. Gus Martin (Thousand Oaks, Calif.; London: Sage, c2004), 168.

Stern, Jessica. *Terror in the Name of God: Why Religious Militants Kill*, 1st ed. (New York: Harper Collins Publishers Inc, 2004).

Sims, Alyssa. "How Do We Thwart the Latest Terrorist Threat: Swarms of Weaponised Drones?" *The Guardian*, 19 January 2018, accessed 30 March 2018, https://www.theguardian.com/commentisfree/2018/jan/19/terrorists-threat-weaponised-drones-swarm-civilian-military-syria

Steinhauster, Friedrich. "What it Takes to Become a Nuclear Terrorist," in *The New Era of Terrorism: Selected Readings*, ed. Gus Martin (Thousand Oaks, Calif.; London: Sage, c2004), pages 125-133.

The Hague Centre for Strategic Studies *Report on The Future of CBRN*, 12/3: (2010), pages 28 and 31.

The Statements by the Director-General of the OPCW: www.globaltimes.cn/content/1044644.shtml

Villani, Susanna. *The EU Civil Protection Mechanism: Instrument of Response in the Event of a Disaster*, Universidad Nacional de Educacion a Distancia, UNED and Universita di Bologna, September 2016, pages 122-148.

98/22/EC: Council Decision of 19 December 1997 establishing a Community action programme in the field of civil protection, OJ L 8, 14.1.1998, p. 20–23.

The threat posed by terrorist attacks involving chemical, biological, radiological or nuclear (CBRN) agents or materials is existential for both the EU as a whole and its individual Member States. Therefore the importance of creating, maintaining and effectively employing pre-emptive, preventive, timely responsive countering means is of vital for the protection of EU citizens and the maintenance of peace and security. This in-depth analysis, commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs at the request of the Special Committee on Terrorism of the European Parliament (TERR), aims to examine the efficacy of the Union Civil Protection Mechanism (UCPM) in the event of CBRN terrorist attacks. Although the UCPM is presented as the main emergency management instrument of the EU, it is mainly a post-incident handling tool; hence its preparedness for CBRN terrorist attacks is underdeveloped and requires an immediate improvement. Thus by understanding these shortfalls can Europe collectively be prepared against the threat of CBRN attacks.

Print ISBN 978-92-846-2881-0| doi: 10.2861/241582| QA-02-18-645-EN-C
ISBN 978-92-846-2880-3| doi : 10.2861/225218| QA-02-18-645-EN-N