

# Journal of Conventional Weapons Destruction

---

Volume 22  
Issue 2 *The Journal of Conventional Weapons  
Destruction Issue 22.2*

Article 8

---

August 2018

## Endnotes

CISR JMU  
*Center for International Stabilization and Recovery at JMU (CISR)*

Follow this and additional works at: <https://commons.lib.jmu.edu/cisr-journal>



Part of the [Other Public Affairs, Public Policy and Public Administration Commons](#), and the [Peace and Conflict Studies Commons](#)

---

### Recommended Citation

JMU, CISR (2018) "Endnotes," *Journal of Conventional Weapons Destruction*: Vol. 22 : Iss. 2 , Article 8.  
Available at: <https://commons.lib.jmu.edu/cisr-journal/vol22/iss2/8>

This Article is brought to you for free and open access by the Center for International Stabilization and Recovery at JMU Scholarly Commons. It has been accepted for inclusion in Journal of Conventional Weapons Destruction by an authorized editor of JMU Scholarly Commons. For more information, please contact [dc\\_admin@jmu.edu](mailto:dc_admin@jmu.edu).

## ENDNOTES

### Life-cycle Management of Ammunition: Safety, Security, and Sustainability of Conventional Ammunition Stockpiles by Carapic, Deschambault, Holtom, and King [ from page 5 ]

1. Any national ammunition stockpile consists of a range of ‘function-specific stockpiles’. There are many types of individual ammunition and explosive stockpiles within a country, that are under the control of separate organizations (e.g., such as the police, military (both active and reserve), border guards, ammunition production company holdings) and make up a state’s national ammunition stockpile. These include: a) operational ammunition and explosives; b) war reserve ammunition and explosives, c) training ammunition and explosives; d) experimental ammunition and explosives (if a producing nation); e) production ammunition (if a producing nation); and ammunition and explosives awaiting disposal (unsafe or surplus stocks). See UNODA (2015), mod. 1.30, para. 8.
2. Berman, Eric, and Pilar Reina, eds. 2014. *Unplanned Explosions at Munitions Sites (UEMS): Excess Stockpiles as Liabilities rather than Assets*. Handbook. Geneva: Small Arms Survey.
3. UNGA (United Nations General Assembly). 2008. Resolution 63/182. A/63/182 of 28 July.
4. Publication of the Handbook was made possible thanks to financial support from the Governments of Germany, Switzerland, and the United States. Specifically, we wish to extend our gratitude to the Conventional Arms Control division (OR10) of the German Federal Foreign Office, the Human Security Division of the Swiss Federal Department for Foreign Affairs, and the Office of Weapons Removal and Abatement in the US State Department’s Bureau of Political-Military Affairs (PM/WRA).
5. The BiH case study was made possible through the support of PM/WRA.
6. See Carapic, Jovana and Paul Holtom. 2018. *Life-cycle Management of Ammunition: Lessons from Bosnia and Herzegovina*. Briefing Paper. Geneva: Small Arms Survey; Carapic, Jovana, Eric J. Deschambault, Paul Holtom, and Benjamin King. *A Practical Guide to Life-cycle Management of Ammunition*. Geneva: Small Arms Survey.
7. Small Arms Survey. n.d. *Unexpected Explosions at Munition Sites (UEMS) Database*. Accessed February 2018. <<http://www.smallarmssurvey.org/weapons-and-markets/stockpiles/unplanned-explosions-at-munitions-sites.html>>.
8. CAR (Conflict Armament Research). 2017. *Sudanese Stockpiles and Regional Weapon Diversion: An Analysis of Captured Equipment in the Possession of the Sudan People’s Liberation Army-North in the Nuba Mountains*. London: CAR. May.
9. Bevan, James. 2008. ‘Introduction: Conventional Ammunition in Surplus.’ In James Bevan ed. *Conventional Ammunition in Surplus: A Reference Guide*. Geneva: Small Arms Survey, pp. 2-3; UNGA, 2008, paras. 14–15.
10. Carapic, Jovana, Adrian Wilkinson, and Ian Ruddock. 2017. ‘Deliverable 1: Cost-benefit Analysis of Stockpiles Surplus Storage versus Destruction.’ In *Mechanisms for Control and Reduction of Stockpiles in Bosnia and Herzegovina: Options for Disposal and Improving Safety and Security*. Unpublished background paper. Geneva: United Nations Development Programme and Small Arms Survey.
11. UNODA (United Nations Office for Disarmament Affairs). 2015. *International Ammunition Technical Guidelines*, 2nd ed. New York: UNODA. 1 February.
12. UNODA, 2015, mod. 09.10.
13. ISO/IEC (International Organization for Standardization/International Electrotechnical Commission). 2016. ‘Systems and Software Engineering: Life Cycle Management—Part 1: Guidelines for Life Cycle Management.’ ISO/IEC TS 24748-1:2016; NATO (North Atlantic Treaty Organization). 2007. *NATO System Life Cycle Stages and Processes*. AAP-48, 1st edn. Brussels: NATO. February.
14. NATO, 2007, p. 34.
15. Carapic et al (2018), p. 41.
16. Carapic, Jovana, Prasenjit Chaudhuri, and Pierre Gobinet. 2016. *Sustainable Stockpile Management in Bosnia and Herzegovina: The Role of EUFOR Mobile Training Team for Weapons and Ammunition Management*. Working Paper No. 24. Geneva: Small Arms Survey. October, pp. 41-43; Switzerland. 2017. ‘Chair’s Summary.’ International Workshop on the Safe and Secure Management of Ammunition, 8–9 December 2016. Geneva: Government of Switzerland. Unpublished document. 14 February, pp. 3, 5; UNGA (United Nations General Assembly). 2017. Resolution 72/55. Adopted on 12 December 2017. A/RES/72/55 of 4 December, para 1.
17. UNODA, 2015, mod. 01.10, para. 6.1.
18. Life-cycle processes include the management of decisions, risk, and opportunities, as well as coordination and information. See Haskins, Cecilia, ed. 2006. *Systems Engineering Handbook: A Guide for System Life Cycle Processes and Activities*. Version 3. San Diego: International Council on Systems Engineering. June sec. 5.1.
19. Enabling processes are used to direct, control, and support LCMA and include the management of resources, the environment, and quality control. See Haskins (2006), sec. 6.1.
20. UNGA, 2017, pp. 1-2.
21. UNODA, 2015, mod. 01.90.
22. Parker, Sarah and Christelle Rigual. 2015. *What the National Reports Reveal: Trends in UN PoA and ITI Reporting*. Issue Brief No. 13. Geneva: Small Arms Survey. June.
23. Dupouy, Marlène (2017) “Strengthening Security in Mali with Weapons and Ammunition Management,” *Journal of Conventional Weapons Destruction*, 21(3), pp. 23-24.

24. US Navy (United States Navy). 2012. *The Naval Ordnance Management Policy (NOMP) Manual*, Volume 1: Ordnance Concepts, Objectives, Policies, Organizations, and Responsibilities. OPNAV M-8000.16, Change 3, 18 May 2016. Washington, DC: Office of the Chief of Naval Operations, para. 8.5.3.
25. NATO. 2009. *Guidance on the Assessment of the Safety and Suitability for Service of Non-Nuclear Munitions for NATO Armed Forces*, 3rd edn. AOP-
26. Brussels: NATO. April; UNGA, 2008, para. 22; Wilkinson, Adrian. 2008. 'Stockpile Management: Planning.' In James Bevan, pp. 77.
27. NATO, 2009.
28. UNGA, 2008, para. 39.
29. Gobinet, Pierre and Claudio Gramizzi. 2011. *Scraping the Barrel: The Trade in Surplus Ammunition*. Issue Brief No. 2. Geneva: Small Arms Survey. April, pp. 4-5; King, Benjamin, ed. 2010. *Surveying Europe's Production and Procurement of Small Arms and Light Weapons Ammunition: The Cases of Italy, France, and the Russian Federation*. Working Paper No. 10. Geneva: Small Arms Survey, p. 40.
30. UNODA, 2015.
31. NATO, 2009.
32. UNODA, 2015, mod. 01.10, para. 4.
33. UNODA, 2015, mod. 02.10, p. v.
34. UNODA, 2015, mod. 02.10, para. 6.1.
35. UNODA, 2015, mod. 02.10, paras. 6-13.
36. UNODA, 2015, mod. 01.30, para. 8; mod. 01.40, para. 3.18.
37. a. OSCE (Organization for Security and Co-operation in Europe). 2011. Decision No. 3/11: Destruction of Conventional Ammunition. FSC.DEC/3/11 of 23 March. Vienna: OSCE. b. IATG Module 2.10 (Table 2: Risk management matrix), page 5.
38. NATO. 2001. *Safe Disposal of Munitions, Design Principles and Requirements, and Safety Assessment*. STANAG 4518. Brussels: NATO. 8 October.
39. UNSC (United Nations Security Council). 1992. Resolution 727 (1992). Adopted 8 January. S/RES/727 (1992) of 8 October.
40. Carapic, Chaudhuri, and Gobinet, 2016, p. 18.
41. Author interview with a senior political advisor to the Commander of EUFOR, Sarajevo, 25-26 May 2016.
42. Non-paper. 2012. *Surplus Ammunition and Weapons in Bosnia and Herzegovina*. Unpublished internal document. Revised 28 November 2012.
43. EUFOR Sa (European Union Force Sarajevo). 2013. 'Initial Campaign Plan.' Draft No. 3. Sarajevo: EUFOR. 11 February.
44. SAF (Swiss Armed Forces). 2013a. 'EUFOR ALTHEA Mobile Training Team 2.1.6.1. Ammunition and Weapons Storage Site Management.' Quarterly Report, 1 January 2013 to 31 March 2013. 12 April; 2013b. 'EUFOR ALTHEA Mobile Training Team 2.1.6.1. Ammunition and Weapons Storage Site Management.' Quarterly Report, 01 April 2013 to 05 July 2013. 8 July.
45. SAF, 2013b, p. 4; OSCE. 2014. 'Bosnia and Herzegovina, Croatia, Montenegro and Serbia Take Ownership of Regional Arms Control, Dayton Peace Agreement Article IV Annex 1/B: Mission accomplished.' Basel, 4 December.
46. Non-paper, 2012, p. 3. EUFOR Sa, 2013, p. 9.
47. UNODA, 2015, mod. 07.20, para. 4.
48. BiH MoD (Bosnia and Herzegovina Ministry of Defence). 2014. *Upustvo za izvršenje kontrolnotehničkog pregleda municije i minskoeksplozivnih sredstava u Oružanim snagama Bosne i Hercegovine*. No. 11-03-25-846/14. Sarajevo: MoD.
49. UNODA, 2015, mod. 01.40, para. 3.275.
50. OSCE. 2016. 'Project for Safety and Security Upgrade of Ammunition and Weapon Storage Sites in BiH.' Preliminary Project Brief. Sarajevo: OSCE; SAWAD. 2016. *Ammunition Master Plan Brief*. Sarajevo, 10 October.
51. SAF. 2012. 'EUFOR ALTHEA Mobile Training Team 2.1.6.1. Ammunition and Weapons Storage Site Management.' Status Report. Rev 5. 11 December, pp. 12-13.
52. Author interview with senior military advisor to the commander of EUFOR, Sarajevo, 10 October 2016.
53. BiH Government. 2008. *Agreement on Final Disposal of All Rights and Obligations over Moveable Property that will Continue to Serve Defence Purposes* (also known as the Doboj Agreement, 2008). Sarajevo: Council of Ministers. Signed on 14 February; 2009a. 'Odluka Predsjedništva BiH o utvrđivanju viskova naoružanja, streljiva i minsko-eksplozivnih sredstava u Oružanim snagama Bosne i Hercegovine i principima njihovog rješavanja.' No. 01-011-1599-32/09. Sarajevo: Presidency of BiH; 2009b. 'Prijedlog Ministra Odbrane Bosne i Hercegovine za resavanje viskova naoružanja, streljiva i minsko-eksplozivnih sredstava za Oružane snage Bosne i Hercegovine.' No. 11-03-25-2336-3/09. Sarajevo: Ministry of Defence.
54. EUFOR Sa, 2013, p. 8.
55. Parker, Sarah. 2016. 'Deliverable 2: ATT Regulatory Refinement Analysis.' In *Mechanisms for Control and Reduction of Stockpiles in Bosnia and Herzegovina: Options for Disposal and Improving Safety and Security*. Unpublished Paper. Geneva: UNDP and Small Arms Survey; Kytömäki, Elli. 2016. *The proposed new BiH law on Control of Foreign Trade in Weapons, Military Equipment and Special-Use Goods and The Arms Trade Treaty*. Vienna: OSCE.
56. BiH MoD. 2012. *Plan Resavanja Viskova Pokretne Vojne Imovine*. No. 16-14-03-03-25-28112. Sarajevo: MoD.

57. Author interview with senior BiH MoD representative, Sarajevo, 1 July 2015.
58. Marzouk, Lawrence et al. 2016. 'Making a Killing: the 1.2 billion Euro Arms Pipeline to the Middle East.' *Balkan Insight* and BIRN, 27 July; Redzic, Edin. 2016. 'Šverci i trgovina oružjem: Bosanski kalašnjikovi u rukama terorista'.
59. BiH MoD. 2005. Defence White Paper of BiH. Sarajevo: MoD, pp. 15-21.
60. BiH MoD. 2016. Unpublished Weapons, Ammunition, and Scrap Material Database. Sarajevo: MoD BiH.

### Increasing Efforts in SSMA: What Does it Take? by Hofmann, Paunila and Prizeman [ from page 15 ]

1. This article does not necessarily reflect the views of the United Nations Organization.
2. Geneva International Centre for Humanitarian Demining (2018), *Towards security, peace and sustainable development: The state of play in safe and secure management of ammunition* (Geneva: GICHD). This study was commissioned by the Swiss Federal Department of Foreign Affairs.
3. For Libya, see for instance UNSC (2013), *Final report of the Panel of Experts established pursuant to resolution 1973 (2011) concerning Libya*, UN Doc. S/2013/99, paras 112-114; UNSC (2015), *Final report of the Panel of Experts established pursuant to resolution 1973 (2011)*, UN Doc. S/2015/128, paras 201-204; for South-East Europe, see for example UNSC (2002), *Report of the Panel of Experts appointed pursuant to Security Council resolution 1408 (2002)*, paragraph 16, UN Doc. S/2002/1115, paras 64-82; for Kenya, see for instance Bevan James (2008), *Blowback. Kenya's Illicit Ammunition Problem in Turkana North District* (Geneva: SAS); for Côte d'Ivoire, see for instance UNSC (2012), *Letter dated 14 September 2012 from the Group of Experts on Côte d'Ivoire addressed to the Chair of the Security Council Committee established pursuant to resolution 1572 (2004)*, UN Doc. S/2012/766, p. 7; UNSC (2013), *Letter dated 12 April 2013 from the Chair of the Security Council Committee Established Pursuant to Resolution 1572 (2004) Concerning Côte d'Ivoire Addressed to the President of the Security Council*, UN Doc. S/2013/228, pp. 14-15.
4. UNGA (2017a), *Countering the threat posed by improvised explosive devices*, UN Doc. A/RES/72/36, pp. 1-2; UNGA (2017b), *Problems arising from the accumulation of conventional ammunition stockpiles in surplus*, UN Doc. A/RES/72/55, p. 1.
5. Berman Eric and Reina Pilar (eds) (2014), *UEMS Handbook: Excess Stockpiles as Liabilities rather than Assets* (Geneva: SAS), pp. 10-12.
6. Small Arms Survey, *Unplanned Explosions at Munitions Sites*, <http://www.smallarmssurvey.org/weapons-and-markets/stockpiles/unplanned-explosions-at-munitions-sites.html> (Accessed: 15 May 2018).
7. For the case of the explosion of an ammunition storage area in Gërdec, Albania, in 2008, see for instance Carapic Jovana and Gobinet Pierre (2014), *Taking Stock of Excess Stockpiles: UEMS in South-east Europe* (Geneva: SAS), p. 3.
8. e.g. Organization for Security and Co-operation in Europe (2008), *OSCE Handbook of Best Practices on Conventional Ammunition* (Vienna: OSCE).
9. UNGA (1997), *Report of the Panel of Governmental Experts on Small Arms*, UN Doc. A/52/298.
10. At the international level, for instance, the 2001 UN Firearms Protocol, the 2003 Protocol V to the Convention on Certain Conventional Weapons or the 2013 Arms Trade Treaty. At the regional level could be mentioned the 1997 Inter-American Convention Against the Illicit Manufacturing and Trafficking in Firearms, Ammunition, Explosives and Other Related Materials, the 2003 Document on Stockpiles of Conventional Ammunition of the Organization for Security and Co-operation in Europe, the 2006 Convention on SALW, their ammunition and other related materials of the Economic Community of West African States or the 2013 CARICOM Crime and Security Strategy.
11. Casey-Maslen Stuart, Giacca Gilles and Vestner Tobias (2013), *The Arms Trade Treaty* (2013) (Geneva: Geneva Academy of International Humanitarian Law and Human Rights), pp. 29 and 34.
12. UNIDIR (2018), *Reporting on Conventional Arms Trade*. Synthesis Handbook (Geneva: UNIDIR), p. 21.
13. For instance, the UN Firearms Protocol considers complete round, and components (including cartridge cases, primers or propellant powder) as being part of ammunition. Others however, including the ECOWAS Convention on SALW, their Ammunition and Other Related Material, do not include parts and components, but cover munitions that are not fired or expelled from a small arm or light weapon. See Saferworld (n.d.), *Ammunition and the ATT: Options for and implications of its inclusion* (Geneva: UNIDIR), p. 3.
14. OSCE Ministerial Council (2017), Decision No. 10/17: *Small Arms and Light Weapons and Stockpiles of Conventional Ammunition*, OSCE Doc. MC.DEC/10/17, p. 3.
15. Swiss Federal Department of Foreign Affairs and Swiss Department of Defence, Civil Protection and Sports (2015), *Consultative Meeting on the Safe and Secure Management of Conventional Ammunition, Geneva (16-17 November 2015). Chair's Summary*; Swiss Federal Department of Foreign Affairs and Swiss Department of Defence, Civil Protection and Sports (2016), *International Workshop on the Safe and Secure Management of Ammunition, Geneva (8-9 December 2016). Chair's Summary*.
16. UNGA (2004), *Decision 59/515 of 3 December 2004 on problems arising from the accumulation of conventional ammunition stockpiles in surplus of 3 December 2004*, UN Doc. A/59/49 (Vol. II).
17. UNGA (2017b), op. cit.
18. UNGA (2017b), op. cit., paras 15-16.
19. See for instance United Nations Office for Disarmament Affairs (n.d.), *The United Nations Office for Disarmament Affairs and the Sustainable Development Goals*, p. 1; Geneva International Centre for Humanitarian Demining and United Nations Development Programme (2017), *Leaving No One Behind: Mine Action and the Sustainable Development Goals* (Geneva: GICHD), pp. 38-39;

UNGA (2016), New Urban Agenda, UN Doc. A/RES/71/256, para 103.

20. UNGA (2017b), *Problems arising from the accumulation of conventional ammunition stockpiles in surplus*, UN Doc. A/RES/72/55, para 12.
21. United Nations Office for Disarmament Affairs (2018), *Securing Our Common Future. An Agenda for Disarmament* (New York: UN), pp. vii-x and 44, accessible at [https://front.un-arm.org/documents/SG+disarmament+agenda\\_1.pdf](https://front.un-arm.org/documents/SG+disarmament+agenda_1.pdf).
22. Mines Advisory Group (2016), *Practical Disarmament Initiative*. Developing good practice for measuring the success, effectiveness and impact of PSSM (Manchester: MAG), pp. 6-9.
23. Swiss Federal Department of Foreign Affairs and Swiss Department of Defence, Civil Protection and Sports (2015), op. cit., p. 3.
24. United Nations Office for Disarmament Affairs (2018), op. cit., pp. 33-45 and 61-64, accessible at <https://bit.ly/2Lrvaxd>. Accessed 18 July 2018.

### **Shattered Lives and Bodies: Recovery of Survivors of Improvised Explosive Devices and Explosive Remnants of War in Northeast Syria by MSF [ from page 24 ]**

1. Names have been changed.

### **How Iraq Is Changing What We Do: Measuring Clearance in Urban Environments by Lodhammar [ from page 30 ]**

1. Stabilization definitions vary but generally it is understood to be a combination of military, humanitarian, political and economic activities that together bring stability to areas affected by violent conflict. In Iraq, the word stabilization is most often associated with the Funding Facility for Stabilization, managed by the United Nations Development Programme in collaboration with the Government of Iraq.
1. Decisions of the Higher Committee for Mine Action (HCMA) Meeting № 2 of 2017 held on Wednesday 29 November 2017.
2. IEDs used as substitutes for conventional landmines in a 'belt' configuration to defend a combatant position during a conflict meet the International Humanitarian Law (IHL) definition of landmine.
3. Note: The IMAS Review Board has agreed to develop an IMAS on Improvised Explosive Device Disposal (IEDD). The need to clarify a standard of clearance where 'depth' is not a suitable measurement is being considered.
4. Based on unconfirmed reports.
5. Economic theories differ as to 'how much' for 'how many' and 'how soon' when setting objectives and guidelines for societal welfare and distribution of individual benefits. In his essay *What Utilitarianism Is*, John Stuart Mill defined utility as "the Greatest Happiness Principle, (which) holds that actions are right in proportion as they tend to promote happiness, wrong as they tend to promote the reverse of happiness." In his theory of efficient economic allocation, Vilfredo Pareto argued that no one individual should be made better off while making at least one individual worse off. Other economists have suggested that "Pareto improvements" consider offsetting compensation for those disadvantaged by one government improvement that favors others so as to maintain a "Pareto efficient outcome" also considered the basic theorem of welfare economics.
6. Just as IMAS should include guidance on a standard for clearance in a 3-dimensional environment, so, too, should IMAS include a standard for threat assessment to ensure that organizations are properly considering risks.

#### **References**

1. MMG Limited (MMG) is a global metals producer based in Melbourne, Australia. MMG is listed on the Hong 1. Baghdad Daily Situation Report (Unclassified), British Embassy, 30 June 2018.
2. Decisions of the Higher Committee for Mine Action (HCMA) Meeting № 2 of 2017 held on Wednesday 29 November 2017.
3. Kubis, Cable CZX-086, 8 July 2018, UNAMI, Baghdad, Subject: The importance of mine action for Iraq's recovery.
4. Marcaillou, Agnès Statement, IEDD standards, All Donor Forum and Open House, 19 April 2018, UNMAS HQ, New York.
5. Mill, John Stuart, *Political Writings*. Franklin Center, Pennsylvania: The Franklin Library, 1982 pp. 16, 363, 390.
6. Monthly Report, United Nations Mine Action Service (UNMAS) Iraq, June, 2017
7. National Strategic and Executive Plan for Mine Action 2017-2021.
8. Pareto, Vilfredo, *Mind & Society*, Dover, 1935.
9. REACH/CCCM Cluster 'Intentions Survey' January 2018.
10. Tan, George, UNMAS Iraq Ops Dispatch, No. 14, May 23, 2018.
11. United Nations Security Council Resolution 2365 (2017).

### **Sepon Supports UXO Clearance in Laos by Aneka and Valent [ from page 40 ]**

1. The Unexploded Ordnance (UXO) Problem and Operational Progress in the Lao PDR." NRA. <http://bit.ly/2DH1U0f>. Accessed 6 June 2018.
2. Under the Mineral Exploration and Production Agreement between the Government of Lao PDR and LXML signed in 1993.
3. "MMG LXML Sepon Supports 3000 Years of Cultural Heritage and Lao History." MMG. 22 August 2016 <http://bit.ly/2G7nIaS>. Accessed 6 June 2018.

4. "Seeking safer roads around Sepon mine." MMG. 12 October 2010. <http://bit.ly/2DFQnhO>. Accessed 6 June 2018.
5. Sunlalob Renewable Energy. <http://bit.ly/2IEcsB8>.
6. "Sepon mine provides lasting clean water." MMG. 1 November 2011. <http://bit.ly/2pqOeL>. Accessed 6 June 2018.
7. "MMG LXML Sepon partners with the Australian Government to improve agriculture productivity." MMG. 27 July 2017. <https://bit.ly/2Jxzs7Y>. Accessed 4 June 2018.
8. Transient electromagnetics, (also time-domain electromagnetics or TDEM), is a geophysical exploration technique in which electric and magnetic fields are induced by transient pulses of electric current and the subsequent decay response measured.
9. UXO Lao Detection Trial Test Report. GICHD. July 2015 <http://bit.ly/2u6jr2w>. Accessed 6 June 2018.
10. LXML has achieved 0 UXO-related incidents or injuries that would require medical treatment, including any minor injuries such as bruises and minor cuts.

## References

1. MMG Limited (MMG) is a global metals producer based in Melbourne, Australia. MMG is listed on the Hong Kong Stock Exchange (HKGEx:1208) with a secondary listing on the Australian Stock Exchange (ASX:MMG). Sepon is an open-pit copper mining operation in Laos. The name of the company in Laos is Lane Xang Minerals Limited (LXML), of which MMG owns 90% and the Lao Government 10%. More info at [www.mmg.com](http://www.mmg.com).
2. National Regulatory Authority (NRA) is a public institution of the Lao Government. It is responsible for regulation and coordination of all UXO operators in the country working on the impact of unexploded bombs, artillery shells, grenades, landmines and like ordnance.
3. The overarching aims of the NRA are to enable all people in Lao PDR to live free from the threat of UXO, help promote national development, and see UXO victims fully integrated into society and ensure their needs are comprehensively met. More info at [www.nra.gov.la](http://www.nra.gov.la).
4. UXO Lao (Lao National Unexploded Ordnance Programme) was established by the Lao Government with the support of NUDP, UNICEF and other stakeholders in 1996. UXO Lao is working in the nine most impacted provinces nationwide, clearing land for agriculture and community purposed as well as other development activities. More info at [www.uxolao.org](http://www.uxolao.org).
5. Cooperative Orthotic Prosthetic Enterprise (COPE) was established by the Lao Ministry of Health in 1997 to ensure that people with physical disabilities have local, affordable access to a quality, nationally-managed rehabilitation service. More info at [www.copelaos.org](http://www.copelaos.org).

## THE HYBRID THERMAL LANCE: A PROMISING NEW TECHNIQUE FOR THE DESTRUCTION OF LANDMINES AND UXO BY DEFLAGRATION BY PRATT AND TORBET [ FROM PAGE 46 ]

1. McNally, Craig and Risser, Hans (2017) "Humanitarian Mine Action and IEDs," *Journal of Conventional Weapons Destruction*: Vol. 21: Iss. 3, Article 10; Rhodes, Guy (2017) "Improvised Explosive Devices and the International Mine Action Standards," *Journal of Conventional Weapons Destruction*: Vol. 21: Iss. 3, Article 3
2. Patel, Divyakant (2009) "Proper Usage of Torch Systems for In-Situ Landmine Neutralization by Burning for Humanitarian Demining," *The Journal of ERW and Mine Action*: Vol. 13: Iss. 1, Article 43
3. In some areas there are generally no issues with thermite importing and licensing; however, thermite becomes difficult to obtain once it is "weaponized" as an EOD tool.
4. Novozhilov, Joseph, Ishiko, Shimada, Wang, and Liu (2011) "Polymer Combustion as a Basis for Hybrid Propulsion: A Comprehensive Review and New Numerical Approaches," *Energies Journal*: Vol 4: ISSN 1779-1839; doi:10.3390
5. Phone interview with Douglas Pratt of Pratt Hobbies, Inc.
6. Wood was chosen mainly because the use of hazardous materials (explosives in particular) is strictly controlled on the Messiah College campus. Wood, while it does burn, degrades relatively slowly while burning, and thus makes for a good comparison of the ability of the HTL to degrade a combustible material.
7. These were homemade explosives recovered from the field.
8. The P3 Mk2 anti-tank mine contained approximately 5 kg of TNT.
9. The PG-2 contained a TNT/RDX based shaped charge
10. The TM-62M anti-tank mine contained approximately 7.5 kg of TNT.
11. The term "igniferous soak" refers to a safe waiting period following EOD action involving a burn. HALO's SOPs for any EOD burning mandate a 30-minute wait from the last signs of fire or smoke.
12. Such items are often mounted on stakes or trees above ground level. Placing an explosive donor charge in these instances, particularly in the vicinity of tripwires, is challenging. Although the use of EOD tools such as shaped charges can mitigate this to a degree.