

ARTICLE 4 DEADLINE: 1 AUGUST 2025

LAO PDR WILL REQUIRE MULTIPLE EXTENSIONS BEFORE REACHING COMPLETION

KEY DATA

CLUSTER MUNITION CONTAMINATION: MASSIVE

NO RELIABLE ESTIMATE OF CLUSTER
MUNITION CONTAMINATION.

SUBMUNITION
CLEARANCE IN 2021

46.68 km²

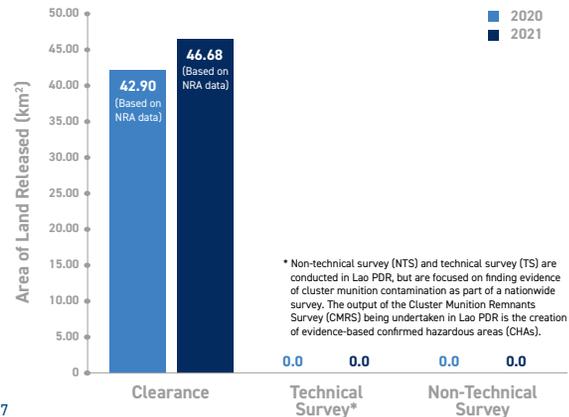
BASED ON CLEARANCE DATA
REPORTED BY THE NRA

SUBMUNITIONS
DESTROYED IN 2021

66,800

BASED ON DATA REPORTED BY
THE NRA AND INCLUDING 26,287
SUBMUNITIONS DESTROYED
DURING SPOT TASKS

LAND RELEASE OUTPUT



KEY DEVELOPMENTS

The national programme in the Lao People's Democratic Republic (Lao PDR) continued to make solid progress in both survey and clearance of cluster munition remnants (CMR) in 2021. Clearance output in 2021 was higher than the previous year and the amount of cluster munition-contaminated area confirmed through technical survey was also an increase on 2020. This was a result of greater funding for clearance and a reduced impact of COVID-19 on operations in 2021. The new National Strategy for the unexploded ordnance (UXO) Sector (2021–30), "The Safe Path Forward III" is in the final process of being elaborated.

RECOMMENDATIONS FOR ACTION

- The National Regulatory Authority (NRA) should adopt the new Safe Path Forward III strategy for the sector for 2021–30 as soon as possible.
- The NRA should develop a planning and prioritisation system to support CMR survey and clearance as a matter of urgency.
- Procedures for issuing, amending, or renewing memorandums of understanding (MoUs) should be streamlined to avoid inefficiencies and excessive delays.
- The NRA should ensure the Information Management System for Mine Action (IMSMA) database is accurate and up to date, incorporating the results of the ongoing nationwide Cluster Munition Remnants Survey (CMRS). The NRA should ensure that historic UXO Lao data that are not already in the database are available to international operators engaged in survey and clearance.
- The NRA should be consistent in reporting on which of the country's 18 provinces are contaminated with CMR as opposed to other unexploded ordnance (UXO).
- The NRA and clearance operators should strengthen coordination with provincial, district, and village-level authorities during implementation and planning of CMRS and clearance, incorporating gender and diversity considerations.
- The NRA should consider expanding the mine action toolbox to include the use of mine/explosive detection dogs (MDDs/EDDs) and drones in order to increase operational efficiency.

- Lao PDR should use the “UXO Sector Working group” (its equivalent of a Country Coalition) to bring together key stakeholders on a regular basis to discuss progress and challenges in Article 4 implementation and to strengthen coordination and resource mobilisation.

ASSESSMENT OF NATIONAL PROGRAMME PERFORMANCE

Criterion	Score (2021)	Score (2020)	Performance Commentary
UNDERSTANDING OF CMR CONTAMINATION (20% of overall score)	7	7	Lao PDR does not yet have a reliable estimate of CMR contamination, but is undertaking a nationwide survey that should produce an evidence-based assessment of the full extent of CMR contamination. As at end 2021, 1,523km ² of confirmed hazardous area (CHA) had been identified through survey, a figure that will continue to rise over the coming years as CMRS continues to confirm CMR-contaminated area. Survey has yet to be completed in any province and Lao PDR is still many years away from completing survey and establishing a more accurate baseline of CMR contamination. Furthermore, in 2021, there was a greater focus on clearance rather than survey.
NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT (10% of overall score)	6	6	There is strong national ownership from the NRA and mine action in Lao PDR is also firmly linked to the government’s sustainable development planning. However, MoU procedures continued to be complex, causing notable delays and significantly impeding implementation and expansion of survey and clearance, and in some cases preventing the spending of international funding.
GENDER AND DIVERSITY (10% of overall score)	7	7	Gender mainstreaming in the UXO sector is led by the NRA as well as by the Lao Women’s Union. Clearance operators report having gender policies in place, consult with women and girls during survey and clearance operations, and disaggregate data by sex and age. International operators also reported putting measures in place to take into account diversity considerations in their survey and clearance programming, such as inclusion of minority ethnic groups and language groups, and persons with disabilities.
INFORMATION MANAGEMENT AND REPORTING (10% of overall score)	6	6	There are ongoing efforts to correct historical data in IMSMA, and to improve data collection forms and other information management systems and processes to ensure the quality and transparency of data, especially given the increased volume of data resulting from the ongoing nationwide CMRS. The National Mine Action Standard (NMAS) on information management (IM) was reviewed and updated in 2019, but had yet to be formally approved as at May 2022.
PLANNING AND TASKING (10% of overall score)	6	6	In its 2019 Article 4 extension request, Lao PDR outlined a work plan for the five-year extension period, with three potential clearance output estimates, each with measurable benchmarks, dependent on the level of funding and capacity obtained. As at May 2022, the new National Strategy for the UXO Sector (2021–30), “The Safe Path Forward III”, was close to being finalised. No comprehensive national-level prioritisation matrix of clearance tasks exists. The NRA office, in conjunction with Tetra Tech and operators, planned to study and research the development of the guidelines and a manual for a priority selection system for planning.
LAND RELEASE SYSTEM (20% of overall score)	8	8	Lao PDR is due to revise its UXO Survey Standards, which specify the minimum standards and requirements for the survey of all cluster munition-contaminated areas. Land release operations in Lao PDR are conducted by a range of national and international implementing partners. While survey and clearance operations are adapted to the local threat and context and adopt an evidence-based land release methodology, there is still room for improvement, such as through the use of drones and mine detection dogs (MDDs), which is not currently permitted.
LAND RELEASE OUTPUTS AND ARTICLE 4 COMPLIANCE (20% of overall score)	8	8	Lao PDR is continuing the nationwide CMRS of cluster munition contamination, with the amount of CHA continuing to increase each year as the survey progresses. In 2021, the amount of land confirmed through survey as CHA, and the cluster munition clearance output, both increased compared to the previous year.
Average Score	7.1	7.1	Overall Programme Performance: GOOD

CLUSTER MUNITION SURVEY AND CLEARANCE CAPACITY

MANAGEMENT

- National Regulatory Authority (NRA) Board
- National Regulatory Authority (NRA)

NATIONAL OPERATORS

- UXO Lao
- Humanitarian teams of the Lao People's Army (Army 58)
- Commercial operators

INTERNATIONAL OPERATORS

- The HALO Trust
- Humanity and Inclusion (HI)
- Mines Advisory Group (MAG)
- Norwegian People's Aid (NPA)
- Commercial operators

OTHER ACTORS

- Asian Regional Mine Action Center (ARMAC)
- Geneva International Centre for Humanitarian Demining (GICHD)
- United Nations Development Programme (UNDP)
- Tetra Tech

UNDERSTANDING OF CMR CONTAMINATION

Lao PDR does not yet have a reliable estimate of CMR contamination,¹ but is undertaking a nationwide cluster munition remnants survey (CMRS) that should produce an evidence-based assessment of the full extent of CMR contamination.² US bombing data indicate 70,000 individual target locations across Lao PDR.³

Lao PDR is not consistent in its reporting of which of its 18 provinces are contaminated with CMR. The inconsistency appears to be due to the fact that reporting is based on which provinces contain UXO rather than CMR specifically.⁴ In Lao PDR's statement to Part 1 of the Second Review Conference of the Convention on Cluster Munitions (CCM) in November 2020, 15 provinces were said to be contaminated by cluster munitions.⁵ However, in its latest Article 7 report (covering 2021), all 18 provinces were listed as having cluster munition-contaminated area.⁶ This appears to be because the Article 7 report includes all UXO contamination. Those provinces which contain UXO other than submunitions should not be classified as CMR-contaminated or included in Lao PDR's baseline of CMR contamination.

The nine provinces most heavily affected by CMR are: Attapeu, Champassak, Houaphanh, Khammouane, Luang Prabang, Saravan, Savannakhet, Xekong, and Xiangkhouang.⁷

As at end of 2021, a total of almost 1,530km² of CHA had been identified through technical survey to-date (see Table 1);⁸ an increase on the 1,299km² of CMR-contaminated area as at the end of 2020.⁹ The nationwide survey is ongoing in eleven provinces and has yet to be completed in any province.¹⁰ The amount of CHA is expected to continue to increase and may double or even triple over the next few years.¹¹ Furthermore, technical survey conducted to date has been concentrated on populated areas and does not take into account other land, notably forested and mountainous areas, which constitute a significant proportion of the country and of estimated contaminated area.¹²

1 Article 4 deadline Extension Request 2019 (hereafter, CCM Extension Request 2019), Part B, Detailed Narrative, p. 5.

2 Interview with Phoukhieo Chanthasomboune, Director, National Regulatory Authority (NRA), Vientiane, 4 May 2016; and NRA, "From Survey to Safety, Quantifying and Clearing UXO Contamination in Lao PDR", March 2016.

3 "US bombing records in Laos, 1964-73, Congressional Record", 14 May 1975.

4 The NRA reported in July 2021 that 17 provinces and the capital contain "UXO contamination". Email from Nicholas Tan, Reporting Officer, UNDP, 21 July 2021.

5 Statement of Lao PDR on Clearance and Risk Reduction, Second CCM Review Conference (Part 1, virtual meeting), 25-27 November 2020.

6 Article 7 Report (covering 2021), Form F.

7 CCM Extension Request 2019, Part B, Detailed Narrative, pp. 1 and 5; and Executive Summary, p. 1; and Article 7 Report (covering 2021), Form J.

8 Email from Douangsy Thammavong, Deputy Director, NRA, 20 June 2022. The amount of CMR contamination as at the end of 2021, reported in Lao PDR's Article 7 Report (covering 2021), Form F, was nearly 1,523km², slightly lower than the nearly 1,530km² reported to Mine Action Review.

9 Email from Chomyaeng Phengthongsawat, Director General, NRA, 21 June 2021. Lao PDR's Article 7 Report (covering 2020), Form F, put the total extent of cluster munition-contaminated area at end of 2020 at 1,298km².

10 Email from Douangsy Thammavong, NRA, 20 June 2022.

11 Interview with Phoukhieo Chanthasomboune, NRA, in Geneva, 7 February 2019.

12 Email from Douangsy Thammavong, NRA, 20 June 2022.

Table 1: Cluster munition-contaminated area confirmed through survey (at end 2021)¹³

Province	No. of villages	CHAs	Total area (km ²)
Attapeu	122	1,530	143.83
Bolikhamxai	36	25	1.48
Champassak	113	421	23.83
Houaphanh	115	447	44.61
Khammouane	103	603	112.54
Luang Prabang	54	280	27.93
Saravan	357	2,425	115.25
Savannakhet	400	4,740	200.56
Vientiane	7	2	0.16
Xekong	151	1,310	91.38
Xiengkhouang	244	1,628	767.94
Totals	1,702	13,411	1,529.51

In its 2019 Article 4 deadline extension request, and latest Article 7 report, Lao PDR estimated that the total CMR contamination is approximately 8,470km², a figure unchanged since its September 2011 clearance statement to the CCM Second Meeting of States Parties.¹⁴ In its latest Article 7 report (covering 2021), Lao PDR also reports that 87,000km² is contaminated by all UXO.¹⁵

Lao PDR certainly has the world's highest level of contamination by unexploded submunitions as a result of the Indochina War of the 1960s and 1970s. The United States conducted one of the heaviest aerial bombardments in history, dropping more than two million tonnes of bombs between 1964 and 1973,¹⁶ including more than 270 million submunitions (known locally as bombies). The failure rate is not known, but Lao PDR reports it may have been as high as 30 per cent, and an estimated 80 million submunitions are thought to have remained unexploded at the end of the war.¹⁷ Lao PDR estimates that over 75 million submunitions remain.¹⁸

During the period of its Article 4 extension period (2020–25), Lao PDR will focus survey on the most heavily contaminated provinces currently being surveyed, but the remaining affected provinces will also need to be surveyed in order to quantify the extent of CMR contamination nationwide.¹⁹

The current baseline of CMR contamination is being established through inclusive consultation with women, girls, boys, and men, including, where relevant, from minority groups, during non-technical survey at the village level.²⁰ According to the co-chairs of the UXO Sector Working Group, the United States and the United Nations Development Programme (UNDP), significant and efficient planning will be needed if the national survey is to be completed during Lao PDR's first five-year extension period.²¹ Survey has yet to be completed in any province, or even started in the less contaminated provinces, therefore Lao PDR is still many years away from completing the national survey. Furthermore, in 2021, there was a shift towards increasing clearance capacity and reducing survey capacity, in order to clear the CHAs identified during the CMRS up to now.

OTHER EXPLOSIVE REMNANTS OF WAR AND LANDMINES

Lao PDR also has extensive contamination from other explosive remnants of war (ERW), including both air-dropped and ground-fired UXO, though the extent of contamination is not known. Clearance operators have reported the presence of at least 186 types of munition in Lao PDR. These range from 20lb fragmentation bombs to 3,000lb general-purpose bombs, as well as artillery shells, grenades, mortars, and rockets.²² Lao PDR is also contaminated, but to a much lesser extent, by anti-personnel mines and anti-vehicle mines (See Mine Action Review's *Clearing the Mines* report on Lao PDR for more information).

13 Ibid.

14 CCM Extension Request 2019, Part B, Detailed Narrative, pp. 3 and 5; and Executive Summary, p. 4; and Article 7 Report (covering 2021), Form J.

15 Article 7 Report (covering 2021), Form F.

16 CCM Extension Request 2019, Part B, Detailed Narrative, pp. 1 and 5.

17 Ibid., p. 1.

18 Article 7 Report (covering 2021), Form F.

19 CCM Extension Request 2019, Executive Summary, p. 5; and Part B, Detailed Narrative, p. 23.

20 Emails from Mark Frankish, UNDP, 26 August 2020; Chomyaeng Phengthongsawat, NRA, 21 June 2021; and Douangsy Thammavong, NRA, 20 June 2022.

21 2019 UXO Sector Annual Report, NRA, undated, Foreword by US Ambassador and UNDP Resident Representative, Co-Chairpersons of the UXO Sector Working Group, p. iv.

22 CCM Extension Request 2019, Part B, Detailed Narrative, p. 1.

NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT

The NRA, created by government decree in 2004 and active since 2006, has an interministerial board composed of representatives from government ministries and is chaired by the Minister of Labour and Social Welfare.²³ The Prime Minister of Lao PDR approved a new decree, "On the Organisation and Operations of the National Regulatory Authority for UXO in Lao PDR" in February 2018. The decree defines the position, role, duties, rights, organisational structure, and the working principles and methods of the NRA.²⁴

The NRA acts as the coordinator for national and international clearance operators and serves as the national focal point for the sector. This includes overall management and consideration of policy, planning, projects, and coordination of the implementation of the national strategy nationwide, as well as NRA planning and coordination functions at the provincial and district levels.²⁵ Effective coordination is particularly needed to help prioritise clearance of the huge number of CHAs already in the database as a result of the ongoing CMRS.²⁶ The current director of the NRA has been in post since June 2019.²⁷

Lao PDR contributed \$18,000 towards the rental of the NRA office in 2021.²⁸ Lao PDR also makes in-kind contributions to mine action including the salaries of the humanitarian clearance teams of the Lao People's Army (Unit 58), and through tax exemptions for visas, and importing vehicles and equipment for humanitarian operators.²⁹ Clearance operators are, however, required to pay visa fees for expatriates and the previous tax concession of tax exemption for international experts was removed from all MoUs after 2018.³⁰ In addition, a new Income Tax Law means that non-governmental (NGO) international staff now pay income tax since the start of 2021.³¹ Lao PDR has said that it requires \$50 million annually for clearance and mine risk education.³²

During the Association of Southeast Asian Nations (ASEAN) summit in September 2016, Lao PDR launched sustainable development goal (SDG) 18, "Lives Safe from UXO", which focuses on freeing the country from UXO. The inclusion of UXO as a specific output in the Ninth National Socio-Economic Development Plan (NSEDP) for 2021–2025, launched in April 2021, demonstrates Lao PDR's commitment to removing UXO

as a barrier to development. The new NSEDP aims to clear an average of 10,000 hectares (100km²) of land per year for socio-economic development purposes. This ambitious goal more than doubles the clearance achievements of 2021.³³

UNDP provides programmatic and technical support to the NRA and UXO Lao, including with regard to information sharing and coordination, albeit at a reduced capacity compared to previous years.³⁴ Further capacity development in information management (IM), quality management (QM), and operations support is provided, primarily to UXO Lao, and to a lesser extent the NRA, through a United States (US)-funded contractor, Tetra Tech.³⁵ Humanity and Inclusion (HI) provides capacity development support to the provincial NRA in Houaphanh province. In 2021, HI provided technical training on non-technical survey and on the inclusive village survey visits (a combination of non-technical survey, risk education, and victim assistance activities) promoted by HI in its current project.³⁶

In 2021, UXO Lao received capacity development support through various implementing partners as follows:

- Annual work plan formulation and CHA prioritisation system; Excel training for asset management officers; project management training for mid-level management, and an exchange programme on IM and QM between UXO Lao and the Cambodian Mine Action Centre (CMAC) through South-South Cooperation, all supported by the Japan International Cooperation Agency (JICA).
- Communications training, supported by UNDP.
- Vallon VMH4 detector training, supported by Tetra Tech.³⁷

A UXO Sector Working Group (SWG), led by the chair of the NRA board, and co-chaired by UNDP and the US Ambassador in Vientiane, which normally meets biannually, brings together key stakeholders, including donors.³⁸ There were two SWG meetings in 2021 – in June and November.³⁹ Other meetings were convened by UNDP on the draft Safe Path Forward III Strategy.⁴⁰ The NRA plans to diversify the sources of funding in the current Article 4 extension period, including engaging the private sector and non-institutional donors.⁴¹

23 Ibid., p. 18.

24 Government Decree No. 67, dated 12 February 2018; CCM Extension Request 2019, Part B, Detailed Narrative, p. 17; and Statement of Lao PDR on National Implementation Efforts, CCM Eighth Meeting of States Parties, Geneva, 3 September 2018.

25 CCM Extension Request 2019, Part B, Detailed Narrative, p. 18.

26 Ibid., p. 26.

27 Email from Olivier Bauduin, US PM/WRA, 29 September 2020.

28 Article 7 Report (covering 2021), Form I.

29 Ibid.

30 Emails from Katherine Harrison, Programme Coordinator, NPA, 9 September 2020; Cameron Imber, Programme Manager, HALO, 11 June 2021; Julien Kempeneers, Regional Armed Violence Reduction and Humanitarian Mine Action Specialist, HI, 16 June 2021; and Rebecca Letven, Country Director, MAG, 19 June 2021.

31 Emails from Cameron Imber, HALO, 11 June 2021; and Katherine Harrison, NPA, 19 June 2021.

32 Article 7 Report (covering 2021), Form I.

33 Email from Olivier Bauduin, US PM/WRA, 6 July 2021.

34 Interview with Olivier Bauduin, UNDP, Vientiane, 2 May 2018; and email, 10 July 2018.

35 Email from Nigel Orr, Technical Advisor Survey and Clearance, Tetra Tech, 14 June 2019; and "US Renews Partnership with Lao PDR to Build Capacity in UXO Sector", US Embassy in Lao PDR, 31 January 2020, at: <http://bit.ly/2LzmG8J>.

36 Email from Julien Kempeneers, HI, 30 March 2022.

37 Email from Noupin Phimmasy, Deputy Chief of Programme Office and Public Information Unit, UXO Lao, 4 June 2022.

38 Interview with Phil Bean, US PM/WRA, and Olivier Bauduin, Sterling International, in Geneva, 14 February 2018; CCM Extension Request 2019, Part B, Detailed Narrative, pp. 4 and 25; and email from Blossum Gilmour, Programme Manager, MAG, 21 March 2019.

39 Emails from Rebecca Letven, MAG, 30 March 2022; Cameron Imber, HALO, 31 March 2022; and Katherine Harrison, NPA, 11 May 2022.

40 Email from Katherine Harrison, NPA, 11 May 2022.

41 CCM Extension Request 2019, Part B, Detailed Narrative, p. 7.

International clearance operators continued to have good cooperation and coordination with the NRA at the national level, and at provincial and district levels.⁴² Humanitarian clearance operators are involved in key decision-making processes by the NRA, including through participation in sector meetings and Technical Working Groups (TWGs), sector meetings, and through fruitful discussions during other formal and informal meetings and field visits.⁴³ There are four TWGs: for survey and clearance, IM, UXO/mine risk education, and victim assistance, which meet regularly.⁴⁴ These could help to enhance the speed and clarity of responses to requests to the NRA. In addition, it might be useful for the NRA to assign a focal point for each organisation, to enable smooth communication.⁴⁵ Furthermore, lack of resources and capacity of some of the provincial NRAs can impact their ability to fulfil their roles.⁴⁶

One of the biggest challenges encountered by operators in Lao PDR continues to be the procedure for MoUs, which remains lengthy, complex, and labour-intensive. Complications at each level (district, provincial, and central) continue to cause significant delay and impede the implementation and expansion of survey and clearance, including by preventing the procurement and import of equipment. Operators are required to report and secure approval for completed projects before an MoU for a new project can be approved.⁴⁷ Delays to MoUs continued to impact on operators, both in terms of deployment of teams, as well as import or procurement of equipment, and the issuing of multiple-entry visas for key international staff.⁴⁸ Typically it takes a minimum of six months for an MoU to be approved, but it may even take years, sometimes resulting in donor funding not being spent and being returned.⁴⁹

The current procedure does not favour integrated approaches or partnerships, as according to Ministry of Foreign Affairs (MoFA) rules, it is not possible to present a consortium of international organisations in the same MoU. It is also difficult to present projects over more than one province within the same framework.⁵⁰ Furthermore, even after formal approval of an MoU, operators may still experience challenges importing necessary equipment⁵¹ or small items of additional equipment, which require time-intensive MoU amendments.⁵²

HI reported that the turnover of many key positions at the central NRA, in particular the International Cooperation Unit, had continued to slow down its ability to support the project administration process, mainly regarding accreditation renewal, project extension requests, and obtaining MoU. Due to the collective challenges, HI has to reject project funding opportunities that are less than two years in duration.⁵³

Mines Advisory Group (MAG) has continued where possible to organise roundtables at the central level (including online, when COVID-19 prevention measures prevented in-person gatherings), following the provincial and district level signature of the MoU. MAG organised joint meetings with the NRA, MoFA, and the Ministry of Labour and Social Welfare (MoLSW), during which the draft MoU was discussed. This is said to have streamlined the final process.⁵⁴ Norwegian People's Aid (NPA) also reported similar roundtable meetings with the key decision-makers from the NRA, MoLSW, MoFA in both 2020 and 2021.⁵⁵

NPA reported that continued delays in the MoU process resulted in lost operational days and outputs (72 searchers for 4 months in 2021). Furthermore, confusion/retraction of approval of interim work permission in 2022, while an MoU amendment had yet to be approved, resulted in additional loss of operational days and an inability of NPA to deploy at the start of May 2022 in two of the four provinces in which it works.⁵⁶

Operators were consulted during the elaboration of the 2019 Article 4 deadline extension request.⁵⁷ When commenting on the extension request in September 2019, the Article 4 Analysis group recommended the establishment of a Country Coalition in Lao PDR to enhance coordination in implementing the work plan included in its extension request.⁵⁸ Following a meeting on the concept in September 2019, hosted by the Netherlands and Peru in their capacity as CCM Coordinators on International Cooperation and Assistance, Lao PDR reported it had begun to create a Country Coalition "by modifying the existing mechanism through the Round Table Meeting process". However, progress had been delayed by the outbreak of COVID-19.⁵⁹ In May 2022, Lao PDR announced during the CCM intersessional meetings that a Country Coalition had been set up under the name "UXO Sector Working Group", which the national authorities had developed

42 Emails from Rebecca Letven, MAG, 30 March 2022; Cameron Imber, HALO, 31 March 2022; Katherine Harrison, NPA, 11 May 2022; and Julien Kempeneers, HI, 30 March 2022.

43 Emails from Simon Rea, Regional Director, South and South East Asia, MAG, 17 June 2020; Rebecca Letven, MAG, 30 March 2022; Katherine Harrison, NPA, 6 May 2020 and 31 March 2021; and Cameron Imber, HALO, 31 March 2022.

44 CCM Extension Request 2019, Part B, Detailed Narrative, p. 25.

45 Email from Julien Kempeneers, HI, 30 March 2022.

46 Emails from Cameron Imber, HALO, 31 March 2022; Julien Kempeneers, HI, 30 March 2022. Rebecca Letven, MAG, 30 March 2022; and Katherine Harrison, NPA, 6 May 2020 and 31 March 2021.

47 Interviews with international operators, Lao PDR, 1–12 May 2018; and emails from Fiona Kilpatrick, HALO Trust, 29 March 2019; Blossum Gilmour, MAG, 21 March 2019; Rebecca Letven, MAG, 26 March 2021; Katherine Harrison, NPA, 6 May 2020 and 31 March 2021; and Julien Kempeneers, HI, 16 March 2021.

48 Interviews with international operators, Lao PDR, 1–12 May 2018; and emails from Fiona Kilpatrick, HALO Trust, 29 March 2019; Blossum Gilmour, MAG, 21 March 2019; Rebecca Letven, MAG, 30 March 2022; Katherine Harrison, NPA, 6 May 2020 and 31 March 2021; and Julien Kempeneers, HI, 16 March 2021 and 30 March 2022.

49 Email from Katherine Harrison, NPA, 9 September 2020.

50 Emails from Julien Kempeneers, HI, 16 June 2021 and 30 March 2022.

51 Interviews with international operators, Lao PDR, 1–12 May 2018.

52 Email from Julien Kempeneers, on behalf of Yvon Le Chevanton, Technical Survey/Clearance Operations Manager, HI, 25 March 2020.

53 Emails from Julien Kempeneers, HI, 16 March 2021 and 30 March 2022.

54 Emails from Rebecca Letven, MAG, 26 March 2021 and 30 March 2022.

55 Email from Katherine Harrison, NPA, 19 June 2021.

56 Email from Katherine Harrison, NPA, 11 May 2022.

57 Email from Fiona Kilpatrick, HALO Trust, 29 March 2019.

58 Statement of the Article 4 Analysis Group (Netherlands, Peru and Sweden) on conclusions of the extension request by Lao PDR, 9th Meeting of States Parties to the CCM, Geneva, 2 September 2019.

59 Statement of Lao PDR on International Cooperation and Assistance, Second CCM Review Conference (Part 1, virtual meeting), 25–27 November 2020.

from their existing coordination mechanism. Lao PDR hope that the “new” UXO Sector Working Group, which is based on a multi-stakeholder approach, will improve practical measures and further explore resource mobilisation to accomplish its Article 4 extension work plan.⁶⁰

ENVIRONMENTAL POLICIES AND ACTION

Lao PDR has a National Mine Action Standard (NMAS) on Environmental Management (chapter 21), but it is in need of revision. The NMAS refers to outdated national laws on environmental protection, rather than the current national environmental legal framework with which UXO sector activities should comply.⁶¹ It is hoped that the new Safe Path Forward III Strategy, which was being finalised as at June 2022, will incorporate key environmental issues discussed during its drafting, such as waste management; water and waste-water management; protection of biodiversity and ecologically sensitive areas; impact assessment, monitoring, and reporting; and green office models in relation to UXO operations.⁶²

The HALO Trust said that its global head office had created an environment/sustainability committee and was exploring opportunities to improve programmes’ environmental footprint. However, HALO Laos currently does not have an environmental management system in place. HALO’s current UXO clearance task planning process does not involve a specific focus on environmental preservation, but HALO is committed to reducing its environmental footprint where possible.⁶³

HI has a generic “Environmental Management” standing operating procedure (SOP) available for all its country programmes, and it was planning to develop a dedicated SOP for its operations in Lao PDR. HI is also planning a research project on the environment in 2022, subject to available funding, following concerns in 2021 while partnering with authorities in national parks and other protected areas. HI believes the extent of explosive ordnance (EO) and the daily explosive ordnance disposal (EOD) operations conducted in Lao PDR cause land degradation through access denial, loss of biodiversity, presence of toxic explosives, and damage to soil stability, increasing its susceptibility to erosion. As part of the planned research project, HI wants to look into soil remediation in the most contaminated areas, in partnership with development actors. According to HI, toxicity of explosives charges (TNT/DNT/MNT/nitrates) can be harmful at very small concentrations, with risks to children and pregnant women also resulting from the toxicity of heavy metals and other munition components. White phosphorus can lead to permanent disability, impacts on fertility, cancer, or even death.⁶⁴

MAG does not currently have a specific environmental SOP but this is being included as part of the SOP revision currently ongoing to incorporate International Mine Action

Standard (IMAS) 7.13. During ground preparation, MAG ensures the protection of trees above a certain size. It is also starting to implement some changes to reduce the environmental impact of its work, such as installing solar power and it is investigating the possibility of introducing hessian sandbags to reduce plastic use.⁶⁵

NPA has an annex on environmental management in its SOP on UXO clearance operations, which is followed during survey and clearance operations as part of its environmental protection and “do no harm” policy. In addition, NPA Lao PDR has developed “Green Office” and “Green Operations” tools to assess and monitor NPA’s environmental footprint. The tools cover eight key areas: green office policy and management; communications and engagement; energy use; solid waste management; air quality; travel emissions; green activities; and water and wastewater management.

NPA has been working in partnership with the national youth volunteer organisation, Zero Waste Laos, focusing on three main areas: follow-on trainings for NPA staff members on environmental awareness and developing Green Office and Green Operations tools for establishing a baseline for measuring NPA’s environmental footprint; setting up recycling points and trainings for three high schools in NPA’s provinces of operations for use by NPA staff and local communities; and promoting Youth for SDGs events, with a focus on environmental protection, climate change, and SDG 18 on Lives Safe From UXO.⁶⁶

Positively, since environmental trainings were conducted and recycling and composting facilities put in place in May 2020, NPA’s Vientiane Office has reduced its waste generation by more than 50%. This also amounted to a cost-saving of \$15 a month in waste collection fees, while avoiding sending organic and mixed recyclable waste to landfill sites. In 2022, NPA’s teams, as well as the student population, and local communities, were able to use recycling collection points set up at three high schools in Attapeu, Saravan, and Sekong provinces. Results of these pilot school recycling projects will be monitored to assess the impact made in reducing waste which would otherwise be burned or illegally dumped.⁶⁷

UXO Lao does not currently have an environmental management SOP, but said that the environment is taken into consideration during demining, in particular with respect to mine contamination.⁶⁸

60 Statement of Lao PDR on International Cooperation and Assistance, CCM Intersessional meetings, Geneva, 16–17 May 2022.

61 Email from Katherine Harrison, NPA, 11 May 2022.

62 Ibid.

63 Email from Cameron Imber, HALO, 31 March 2022.

64 Email from Julien Kempeneers, HI, 30 March 2022.

65 Email from Rebecca Letven, MAG, 30 March 2022.

66 Email from Katherine Harrison, NPA, 11 May 2022.

67 Ibid.

68 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

GENDER AND DIVERSITY

While the NRA has yet to develop a gender and diversity policy, gender is integrated into all core UXO documents including work plans and the national strategy, and relevant mine action data is disaggregated by sex and age. Women are consulted in group discussions as part of survey and clearance activities, but the needs of women and children have yet to be fully taken into account in prioritisation and planning. Of the 58 employees at the NRA (including the national training centre), 16 (28%) were women, including two (17%) of the 12 NRA Officers.⁶⁹

Gender mainstreaming in the UXO sector is led by the NRA, together with the Lao Women's Union.⁷⁰ Following the establishment of a partnership in 2018 between UN Women, the NRA, and the Lao Women's Union on how to promote gender rights in the UXO sector, a "Manual for Trainers on Gender Mainstreaming in the UXO Sector, Lao PDR" was piloted during a workshop in December 2018 and published in 2019.⁷¹

The HALO Trust, HI, MAG, and NPA all reported having gender and diversity policies in place, and that they disaggregate mine action data by gender and age, and consult with women and girls during survey and clearance operations.⁷²

HALO continued to prioritise the hiring of women into operations roles to ensure that the proportion of men to women remained at 50%. This was done by setting quotas during recruitment drives. The programme also ensured that individuals from minority ethnic groups were adequately represented by providing battle area clearance (BAC) training in a number of different ethnic dialects and languages.⁷³ HALO also has a relationship with ARMI (Association for Rural Mobilisation and Improvement) in Savannakhet to provide employment opportunities to people with disabilities. Currently HALO employs seven staff with disabilities, two of whom are UXO victims. As at the end of March 2021, HALO Laos employed 524 female staff (51%) out of a total of 1,027; including 14 women (50%) of 28 staff in managerial or supervisory positions. Women make up 487 (nearly 52%) of HALO's 944 operations staff.⁷⁴

HI provides equal opportunities to employment for qualified women and men in its survey and clearance teams in Lao PDR, and trains and promotes women to managerial positions. HI has mixed non-technical survey teams, with employees of different ethnic origins and persons with disability, including UXO survivors. It has developed marker tools to support the mainstreaming of gender and diversity into projects. HI plans to update the Disability, Gender, and Age marker to include an additional component on conflict

sensitivity.⁷⁵ HI encourages women and persons with disabilities to apply to all positions. Of HI's staff in Lao PDR, 40% are women, including 32% of managerial/supervisory positions and 40% of operations positions. One of HI's two multi-task teams is led by a female staff member, trained in EOD-level 3.⁷⁶ In 2021, HI, together with the MoLSW, organized an Annual Disability Policy Dialogue in which 60% of the panellists were women from government ministries, UN agencies, donor agencies, and NGOs. The focus of the discussion was on how the 9th National Social-Economic Development Plan (NSEDPlan) can be inclusive for persons with disabilities, including those impacted by UXO.⁷⁷

MAG reported that women account for 36% of its employees in Lao PDR, including 36% of those in operational positions and 26% of managerial level/supervisory positions.⁷⁸ In 2021, MAG secured funding from the Canada Fund for Local Initiatives to run gender and disability mainstreaming workshops. The delivery of these workshops was postponed to early 2022 due to COVID-19. MAG ran two workshops, one with senior managers from Vientiane and the other with all MAG's Xiengkhouang-based community liaison staff. MAG Laos has worked closely with its Global Gender and Inclusion Advisor throughout this project and has started to develop an action plan for Gender, Diversity, and Inclusion for the programme moving forward.⁷⁹

NPA has had a programme-specific gender strategy in place since 2018. Previously, activities focused primarily on gender equality in terms of increasing the number and participation of women in the workforce. NPA also prioritises ethnic and language minorities and women as part of its recruitment process. Women made up nearly 35% of NPA Lao PDR's 432 staff members as at 31 December 2021. This included 37% of operations staff. Approximately 13% of managerial positions in the programme were held by women. In 2021, with support from "Proud To Be Us Laos", a national organisation campaigning for the rights and non-discrimination of all persons regardless of sexual orientation, gender, identity, and expression, NPA held a series of workshops, trainings, and focus interviews with staff. Findings from the focused interviews and post-training reports will be used to inform and strengthen NPA's policies with regard to gender equality and safeguarding.⁸⁰

UXO Lao ensures that all groups affected by CMR contamination, including women and children, are consulted during its survey and community liaison activities. This requirement is included in its SOPs. UXO Lao also ensures its survey and community liaison teams are inclusive and

69 Email from Douangsy Thammavong, NRA, 20 June 2022.

70 Statement of Lao PDR on National Implementation Measures, Second CCM Review Conference (Part 1, virtual meeting), 25–27 November 2020.

71 UN Lao PDR, "Training of Trainer's Workshop Promotes Gender Equality in UXO Sector", 13 December 2018, available at: <http://bit.ly/3haKMnB>.

72 Emails from Fiona Kilpatrick, HALO Trust, 29 March 2019; Blossum Gilmour, MAG, 21 March 2019; Aubrey Sutherland, NPA, 25 March 2019; Julien Kempeneers, HI, 22 March 2019; and Saomany Manivong, Chief of Programme Office and Public Information, UXO Lao, 10 May 2019.

73 Email from Cameron Imber, HALO, 31 March 2022.

74 Ibid.

75 Emails from Julien Kempeneers, HI, 25 March 2020 and 30 March 2022; and on behalf of Minla Nanthavong, HI, 16 March 2021.

76 Email from Julien Kempeneers, HI, 30 March 2022.

77 Email from Julien Kempeneers, HI, on behalf of Pradeep Bagival, HI Inclusive Governance Specialist, 30 March 2022.

78 Email from Rebecca Letven, MAG, 30 March 2022.

79 Ibid.

80 Email from Katherine Harrison, NPA, 11 May 2022.

gender balanced, to facilitate access and participation from all groups.⁸¹ UXO Lao reported that it offers employment opportunity to all and is trying to promote and support the women to work in management positions, and is working to improve gender mainstreaming.⁸² UXO Lao advocates for equality in the workplace and its human resource policies encourage female applicants at all levels. In 2021, UXO Lao had one female unit chief, five women deputy unit chiefs, and twenty-seven female field staff working in the supervisory positions. Of its 1,459 staff employed, 26% are female, including 36 (13%) of the 281 managerial and supervisory positions, and 299 (26%) of the 1,131 operations positions.⁸³

INFORMATION MANAGEMENT AND REPORTING

The national IMSMA database has several problems, including incorrect or incomplete historical data (mainly that of UXO Lao data stored as hard-copy documents in provincial UXO Lao offices); missing data resulting from the migration to IMSMA; and delays in entering corrected data into the database.⁸⁴ A TWG on IM meets quarterly.⁸⁵ The NRA has identified the need for better quality control of data in the IMSMA database,⁸⁶ and in 2021 continued to improve data quality, focusing again on the quality of forms and historical correcting data errors.⁸⁷ The NRA has also stressed that upgrading IM systems will be crucial given the greatly increased volume of data resulting from the ongoing nationwide CMRS.⁸⁸

A 2017 report by Sterling International, the former US contractor before Janus and Tetra Tech, said analysis of data in the NRA IMSMA database found errors affecting up to 9,300 entries, or 14% of the 67,000 entries on the database. Sterling believed that the errors could affect 22% of the area recorded in the database as cleared or technically surveyed. The errors included operators' misreporting of coordinates and mistaken entry of reports into IMSMA. Other errors included use of the wrong GPS format or the wrong map datum. The result was to put many tasks in the wrong location. Sterling found that the errors occurred mostly with UXO Lao's work, and mostly between 2004 and 2010, but that it affected "many" organisations.⁸⁹

Efforts to correct historical data within IMSMA (including incorporation of correct current data) are ongoing. It is also important that village-level data corrections made by operators during the nationwide CMRS are updated in IMSMA in a timely manner.⁹⁰ During the IM TWG meeting in 2020,

the NRA tasked the operators to correct their own historical data and resubmit to the NRA for approval.⁹¹ NPA plans to support the NRA in achieving this within the framework of a new IM Capacity Development Project supported by the PM/WRA, which will be implemented from the date the MOU is approved by the Lao PDR government until December 2024.⁹²

When the organisation conducting the CMRS is different to the one holding historical records, there is an obvious need for the timely sharing of relevant data.⁹³ Communication between international operators and UXO Lao is continuing to improve. However, while UXO Lao does provide its data on historical tasks to international operators to help inform desktop studies before sending in survey teams, data are often slow to be made available.⁹⁴ UXO Lao said that efforts to ensure and improve the quality of data in the mine action database were ongoing. In 2022, UXO Lao was planning to provide electronic tablets to all field operations teams to help improve the quality of data and reduce the number of mistakes due to manual handwriting.⁹⁵

In July 2019–March 2020, NPA provided support to strengthen the IM capacity of the NRA and provincial authorities, as part of the United Kingdom (UK) Foreign, Commonwealth, and Development Office (FCDO) funded project.⁹⁶ NPA supported the NRA in its revision of the IM NMAS, based on the IMAS, and in the development of an IM SOP, including IM process maps and guidelines. The revised IM NMAS better defines the minimum requirements, and roles and responsibilities of different organisations in IM.⁹⁷ However, as at March 2022, it had still to be officially approved.⁹⁸

81 Email from Saomany Manivong, UXO Lao, 10 May 2019.

82 Emails from Saomany Manivong, UXO Lao, 10 May 2019; and Noupin Phimmasy, UXO Lao, 4 June 2022.

83 Email from Noupin Phimmasy, UXO Lao, 6 July 2022.

84 Emails from Bouala Thongsavanh, NRA, on behalf of Phoukhieo Chanthasomboune, NRA, 30 April 2018; and Aubrey Sutherland, NPA, 25 March 2019; NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017; interview with Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018; and interview with Hugh Hosman and Marco Heuscher, (then with) Sterling International, Vientiane, 2 May 2018.

85 Emails from Julien Kempeneers, HI, 30 March 2022; Rebecca Letven, MAG, 30 March 2022; and Katherine Harrison, NPA, 11 May 2022.

86 CCM Extension Request 2019, Part B, Detailed Narrative, p. 4.

87 Email from Douangsy Thammavong, NRA, 20 June 2022.

88 CCM Extension Request 2019, Executive Summary, p. 1, and Part B, Detailed Narrative, p. 6; and Article 7 Report (covering 2019), Form F.

89 "Data errors on IMSMA", Nigel Orr, Technical Adviser, (then with) Sterling International, 26 April 2017.

90 Presentation by HALO Trust, Sepon, 10 May 2018.

91 Emails from Douangsy Thammavong, NRA, 20 June 2022; and Katherine Harrison, NPA, 11 May 2022.

92 Email from Katherine Harrison, NPA, 11 May 2022.

93 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017, p. 26; and Statement of Lao PDR on International Cooperation and Assistance, CCM Seventh Meeting of States Parties, Geneva, 4–5 September 2017; interview with Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018; and interviews with national and international clearance operators, Laos, 1–12 May 2018.

94 Emails from Fiona Kilpatrick, HALO Trust, 29 March 2019; and Blossum Gilmour, MAG, 21 March 2019.

95 Emails from Saomany Manivong, UXO Lao, 11 May 2021; and Noupin Phimmasy, UXO Lao, 4 June 2022.

96 Email from Katherine Harrison, NPA, 31 March 2021.

97 Emails from Katherine Harrison, NPA, 6 May and 9 September 2020.

98 Email from Rebecca Letven, MAG, 30 March 2022.

Following the NPA capacity development project, four provincial authorities in the south (Attapeu, Champassak, Saravan, and Xekong) were equipped with necessary technology and provided training. They now access and use the IMSMA database. The same training package and approach was also used to conduct IMSMA training in the remaining 11 provinces by the NRA.⁹⁹ This is a positive development, but will require continuous follow-up and commitment.¹⁰⁰ In 2022, NPA aims to enhance the capacity of the provincial authorities and expand the geographic coverage in nine provinces and fifty-five districts within the framework of its new three-year capacity development project funded by the US PM/WRA. NPA also plans to support the NRA in creating more sophisticated and easier to access and use applications that will be more beneficial to the provincial authorities and other relevant stakeholders.¹⁰¹

In 2021, HI continued to provide regular training to help strengthen the capacity of provincial NRA personnel in Houaphanh province in data management, QM, and operations planning.¹⁰²

Operators reported that data submitted to the NRA were typically updated in a timely manner and accurately.¹⁰³

An IMSMA virtual private network (VPN) has been successfully rolled out, with all operators, except for UXO Lao, using the network.¹⁰⁴ This has improved the accessibility of data, the speed and quality of data entry, and the reporting process, with crosschecks raising discrepancies for correction.¹⁰⁵ However, IMSMA is still not fully accessible to operators, who can only access their own data in the system and have to formally request the additional data.¹⁰⁶

Expanding the use of IMSMA to support survey planning and the review of all historical operational data (both electronic and paper), will help ensure that non-technical survey is followed up by robust technical survey operations.¹⁰⁷ In addition, the IM system in Lao PDR must also be equipped to record operator conclusion reports, in order to know how many villages have been surveyed.¹⁰⁸ This topic had been discussed at the IM TWG, but it had yet to be formally implemented.¹⁰⁹

Lao PDR provides regular updates on its progress in Article 4 implementation, both in its annual Article 7 transparency reporting and in statements at the CCM meetings of States Parties.

PLANNING AND TASKING

As part of efforts to implement the CCM Vientiane and Dubrovnik Action Plans, the Lao Government adopted “Safe Path Forward II, 2011–20”, a 10-year national strategy for the UXO sector. The strategy’s goal was “to reduce the humanitarian and socio-economic threats posed by UXO to the point where the residual contamination and challenges can be adequately addressed by a sustainable national capacity fully integrated into the regular institutional set-up of the Government.”

Through its funding of the agreement between Tetra Tech and the NRA, the United States continued to “support the Lao Government as it formulates its 10-year National Strategic Plan for the UXO Sector, a plan that will map the path to achieving SDG 18 – the elimination of UXO as a barrier to national development by 2030.”¹¹⁰

A new national strategic plan for the UXO Sector has been in the process of elaboration for 10 years, in line with SDG 18 under the 2030 SDG agenda. UNDP provided support to the NRA in elaboration of a new National Strategy for the UXO Sector (2021–30), “The Safe Path Forward III” in 2021, including a joint online consultation on the draft strategy in October 2021.¹¹¹ A new draft of the strategy was presented to stakeholders in February 2022.¹¹² At the CCM Intersessional Meetings in May 2022, Lao PDR announced that “Safe Path Forward III” was expected to be adopted in June 2022.¹¹³

In a positive development, a first-ever sector-wide annual work plan for Lao PDR for 2018 was developed in an inclusive manner and approved by the NRA Board.¹¹⁴ Stakeholders were not brought together in the same way to help inform elaboration of the annual sector-wide work plan for 2019,

99 Emails from Katherine Harrison, NPA, 6 May and 9 September 2020 and 31 March 2021.

100 Email from Katherine Harrison, NPA, 31 March 2021.

101 Email from Katherine Harrison, NPA, 11 May 2022.

102 Email from Julien Kempeneers, HI, 30 March 2022.

103 Emails from Katherine Harrison, NPA, 6 May and 9 September 2020; Cameron Imber, HALO, 7 April 2020; and Julien Kempeneers, HI, 25 March 2020.

104 Emails from Mark Frankish, UNDP, 26 August 2020 and Saomany Manivong, UXO Lao, 11 May 2021.

105 Emails from Katherine Harrison, NPA, 6 May 2020; Simon Rea, MAG, 17 June 2020; Cameron Imber, HALO, 7 April 2020; and Julien Kempeneers, HI, 25 March 2020.

106 Emails from Cameron Imber, HALO, 7 April 2020; Julien Kempeneers, HI, 25 March 2020; and Katherine Harrison, NPA, 9 September 2020.

107 CCM Extension Request 2019, Part B, Detailed Narrative, p. 3.

108 Interview with Phil Bean, US PM/WRA, in Geneva, 6 February 2018.

109 Emails from Chomyaeng Phengthongsawat, NRA, 21 June 2021; Rebecca Letven, MAG, 30 March 2022; and Katherine Harrison, NPA, 11 May 2022.

110 “US Renews Partnership with Lao PDR to Build Capacity in UXO Sector”, US Embassy in Lao PDR, 31 January 2020.

111 Statement of Lao PDR on National Implementation Measures, Second CCM Review Conference (Part 1, virtual meeting), 25–27 November 2020; and email from Chomyaeng Phengthongsawat, NRA, 21 June 2021.

112 Emails from Cameron Imber, HALO, 31 March 2022; Julien Kempeneers, HI, 30 March 2022; and Rebecca Letven, MAG, 30 March 2022.

113 Statement of Lao PDR on National Implementation Measures, CCM Intersessional meetings, Geneva, 16–17 May 2022.

114 Email from Bouala Thongsavanh, NRA, on behalf of Phoukhieo Chanthasomboune, NRA, 30 April 2018; and interview with Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018.

reportedly due to lack of budget,¹¹⁵ but a consultative workshop was held to support the development of the sector-wide work plan for 2020.¹¹⁶ An NRA workshop was also held in September 2020 with all stakeholders, including UXO Lao and the four INGOs, to inform elaboration of a sector-wide work plan for 2021.¹¹⁷ However, the resultant final sector-wide work plans (for either 2020 or 2021), while shared with the districts, were not shared with clearance operators. A dedicated workshop to help elaborate the 2022 work plan could not take place in 2021 due to COVID-19 restrictions. However, the 2022 work plan was discussed during TWG meetings in Q4 2021. As at March 2022, the annual work plan was still under development and had yet to be shared with operators.¹¹⁸

In 2018, Lao PDR began a national CMRS baseline survey, with funding from the United States, and the baseline survey is ongoing. The first phase of the survey involves six province-wide surveys (in Attapeu, Champassak, Saravan, Savannakhet, Xekong, and Xiengkhouang) by HALO Trust, MAG, and NPA of all villages suspected or confirmed as CMR-contaminated, according to the NRA's village list.¹¹⁹ In September 2018, Lao PDR announced that three additional contaminated provinces would be added to the national survey plan in 2019 and another five provinces in 2020–21, with the aim to have 14 provinces fully surveyed by end of 2021.¹²⁰ As at June 2022, eleven provinces were in the process of being surveyed,¹²¹ and notable progress was being made in many provinces. As part of the US-funded survey efforts, NPA had concluded survey in the villages allocated to it under a three-year project ending in 2020 in the four southern provinces of Attapeu, Champassak, Saravan, and Xekong, and had technical survey capacity available for it to follow up and investigate any previously unknown contamination discovered. In the two most contaminated provinces of Savannakhet and Xiengkhouang, it will take more time to complete survey

due to the density of contamination. In Savannakhet, the US expected the proactive phase of survey (i.e. the systematic village-by-village approach) to be concluded in 2022 in the 492 villages allocated to HALO. In Xiengkhouang, completion of the proactive survey efforts will take longer to complete, and MAG was deploying 15 technical survey teams towards achieving this.¹²² That said, survey has fallen behind the NRA's set schedule and had yet to be completed in any province.¹²³

The US has highlighted that it is agreed in the UXO sector in Lao PDR, that additional evidence points outside of the CHAs already identified, will continue to require investigation through technical survey after completion of proactive survey. HALO, MAG, and NPA will therefore keep a residual survey capacity after the end of their survey projects. This survey capacity will be more reactive in nature, and during the periods when there are no evidence points to investigate and survey in these provinces, the multi-skills teams will instead conduct area clearance.¹²⁴

As HALO, MAG, and NPA make continued progress in province-wide CMRS in the seven provinces in which they operate, there is a shift towards increasing clearance capacity and reducing survey capacity, in order to clear the CHAs identified during CMRS.

In November 2020, the NRA said it had conducted initial capacity building for provincial authorities on identifying priority areas following the National Standard combined with the Social-Economic Development Plan, to help inform non-technical survey, technical survey, and clearance plans. However, COVID-19 has impacted the capacity building rollout and as at November 2020, only five of the fifteen cluster munition-contaminated provinces had completed their planned trainings, which was equivalent to only 30% of the NRA's target.¹²⁵

WORK PLAN FOR ARTICLE 4 IMPLEMENTATION IN 2020–25

The 2019 Article 4 extension request includes a five-year work plan for survey and clearance, with progress dependent on the level of funding it secures. There will be a strong concentration on survey during the extension period, with a focus on the six most contaminated provinces to be completed as soon as possible, followed by the others. Clearance will take place simultaneously with survey activities.¹²⁶

Over the five-year period (1 August 2020–31 July 2025), 25 non-technical survey teams are due to survey 1,463 cluster munition-contaminated villages (292 villages per year), at a total cost of US\$4.5 million while 76 technical survey teams will survey 2,873 villages at a predicted total cost of US\$38 million (US\$7.6 million per year). Re-survey is to be conducted, as required, if new evidence of CMR is reported and found.¹²⁷

115 Interview with Phoukheio Chanthasomboune, NRA, in Geneva, 7 February 2019.

116 Email from Amanda Shiel, UXO Unit Programme and Partnership Support Officer, UNDP, 4 September 2020.

117 Emails from Olivier Bauduin, US PM/WRA, 29 September 2020; Rebecca Letven, MAG, 26 March 2021; Katherine Harrison, NPA, 22 March 2021; and Julien Kempeneers, HI, 16 March 2021.

118 Emails from Rebecca Letven, MAG, 30 March 2022; and Cameron Imber, HALO, 31 March 2022.

119 Statement of Lao PDR on International Cooperation and Assistance, CCM Seventh Meeting of States Parties, Geneva, 4–5 September 2017; and interview with Phil Bean, US PM/WRA, and Machut Shishak, Political/Economic Counselor, US Embassy, Vientiane, 3 May 2018.

120 Statement of Lao PDR on National Implementation Efforts, CCM Eighth Meeting of States Parties, Geneva, 3 September 2018.

121 Email from Douangsy Thammavong, NRA, 20 June 2022.

122 Email from Olivier Bauduin, US PM/WRA, 13 July 2022.

123 Email from Douangsy Thammavong, NRA, 20 June 2022.

124 Email from Olivier Bauduin, US PM/WRA, 13 July 2022.

125 Statement of Lao PDR on Clearance and Risk Reduction, Second CCM Review Conference (Part 1, virtual meeting), 25–27 November 2020.

126 2019 UXO Sector Annual Report, NRA, undated, p. 14.

127 CCM Extension Request 2019, Executive Summary, p. 4; and Part B, Detailed Narrative, p. 21.

As at the end of 2021, a total of almost 1,523km² of CHA had already been identified through the survey and entered into IMSMA, representing several years of clearance efforts based on current clearance capacity.¹²⁸ The NRA predicts that the number of CHAs containing CMR will significantly increase during the five-year period of the extension request, at a rate far faster than the CMR-contaminated areas can be cleared.¹²⁹

In its 2019 Article 4 extension request, Lao PDR outlines three different estimates for CMR clearance, based on three different scenarios for available resources. The first outlines predicted clearance output based on existing resources during 2020–25; namely 108 teams, with a total clearance output of 50km² per annum, at a cost of US\$12.5 million per year. This would result in clearance of 250km² at a cost of US\$62.5 million, during the five-year extension request period.¹³⁰ While even this first scenario was ambitious, and Lao PDR has yet to achieve annual CMR clearance of 50km², it is getting closer to this goal and in 2021 cleared 46.68km² of cluster munition-contaminated area (excluding commercial clearance), despite the continuing impact of COVID-19.

The second, even more ambitious estimate, predicts clearance output based on the additional resources needed to address the 800km² of CHA already recorded in IMSMA as at end of 2018. This would see annual clearance output incrementally increased from 60km² per annum in 2020 to 280km² per annum in 2024, with total clearance output of 800km² during the five-year extension request period, at a total cost of US\$200 million.¹³¹

The third estimate predicts clearance based on the additional resources needed to address 1,600km² of CHA, which includes the further 800km² of CHA predicted to result from CMRS during the five-year extension request period, at a total cost of US\$400 million.¹³²

Lao PDR will, “for the foreseeable future”, integrate the Article 4 Extension Plan into the indicators of the 9th National Social-Economic Development Plan (NSEDP) 2021–2025, where the five-year plan sets targets to conduct non-technical survey in 2,776 villages; conduct technical survey to confirm hazardous area of 250,000 hectares

(2,500km²) (an average of 500km² per year); and conduct UXO clearance of 500km² (an average 100km² per year).¹³³ These are extremely ambitious targets, which are a long way from being achieved.

To the extent possible, the United States will continue to support the Lao government’s strategic plan to increase clearance capacity to clear more high-priority CHAs in 2022–25. US funding support to the UXO Sector in the Lao PDR continues to increase and in June 2022 Deputy Secretary of State Wendy Sherman visited Vientiane and announced an additional US\$45 million for survey and clearance.¹³⁴

In its latest Article 7 report, Lao PDR reported that due to limitations in clearance capacity and technology, clearance tasks cannot always cover the entire village, and clearance is often conducted on multiple occasions in order to clear all contaminated areas in a village.¹³⁵

Prioritisation of clearance is a critical step in the land release cycle. But no comprehensive national-level guidance on the prioritisation of clearance tasks yet exists, and prioritisation systems and criteria vary markedly between the operators.¹³⁶ The co-chairs of the UXO Sector Working Group, the United States and UNDP, believe a prioritisation plan will need to be developed for the entire UXO Sector, including both commercial and humanitarian operators.¹³⁷ The sector would benefit from the strengthening of the capacity and participation of the NRA at the provincial level and of district officers from the Labour and Social Welfare authorities. Operators also stressed the need for community participation in the process.¹³⁸ The NRA acknowledges difficulties in sector planning and prioritisation by local authorities.¹³⁹

TetraTech is supporting the NRA in the development of the nationwide prioritisation matrix.¹⁴⁰ The NRA said that following a delay to the prioritisation development process and accompanying national standard, work on the prioritisation matrix would resume and be finalised in 2022.¹⁴¹

At the micro level, prioritisation of clearance tasks in Lao PDR is in part dictated by the wet and dry seasons. During the dry season, operators are able to access and clear paddy fields, while in the wet season, they focus on clearing grazing and community land, or on higher elevations.¹⁴²

128 Statement of Lao PDR on Clearance, CCM Intersessional meetings, Geneva, 16–17 May 2022; and Lao PDR’s Article 7 Report (covering 2021), Form F, which put the extent of cluster munition-contaminated area at end of 2021 at 1,522,785,799m².

129 CCM Extension Request 2019, Executive Summary, pp. 1, 4, and 6, and Part B, Detailed Narrative, pp. 22 and 25.

130 CCM Extension Request 2019, Executive Summary, p. 4; and Part B, Detailed Narrative, pp. 7 and 22.

131 Ibid.

132 Ibid.; and Article 7 Report (covering 2021), Form J.

133 Statement of Lao PDR on Clearance and Risk Reduction, Second CCM Review Conference (Part 1, virtual meeting), 25–27 November 2020; and the 9th Five-year National Socio-Economic Development Plan (2021–2025), draft report; and Article 7 Report (covering 2021), Form J.

134 Email from Olivier Bauduin, US PM/WRA, 13 July 2022.

135 Article 7 Report (covering 2021), Form F.

136 Interviews with national and international clearance operators, Lao PDR, 1–12 May 2018.

137 2019 UXO Sector Annual Report, NRA, undated, Foreword by US Ambassador and UNDP Resident Representative, Co-Chairpersons of the UXO Sector Working Group, p. iv.

138 Interviews with international operators, UNDP, and US Embassy in Vientiane, Lao PDR, 1–12 May 2018.

139 Email from Bouala Thongsavanh, Assistant to the Director of the NRA, on behalf of Phoukhieo Chanthasomboune, NRA, 30 April 2018.

140 Email from Rebecca Letven, MAG, 30 March 2022.

141 Email from Douangsy Thammavong, NRA, 20 June 2022.

142 Interviews with international and national operators, Laos, 1–12 May 2018.

LAND RELEASE SYSTEM

STANDARDS AND LAND RELEASE EFFICIENCY

The "Lao PDR UXO Survey Standards" (UXO Survey Standard No. 21/NRA) specify the minimum requirements for the survey of all cluster munition-contaminated areas in Lao PDR.¹⁴³ The standards were officially approved by the NRA in 2018.¹⁴⁴ They are said to conform to the International Mine Action Standards (IMAS)¹⁴⁵ and are fully reflected in the SOPs of clearance operators, who confirm their relevance to the local threat and context.¹⁴⁶

The NRA plans to formally review the national standards at least every three years, in collaboration with stakeholders, to ensure they evolve to meet changing circumstances and the introduction of new technologies and methodologies.¹⁴⁷ In 2021, operators were invited by the NRA to submit recommendations to the national standards, but as at March 2022 there had yet to be follow-up discussions.¹⁴⁸

With capacity development support from NPA, revisions to the IM NMAS were submitted to the NRA for consideration in 2019, but as at May 2022 had yet to be approved or shared with operators.¹⁴⁹ NPA has encouraged the NRA to approve the revised NMAS on IM as soon as possible, rather than delay approval while waiting for the other 23 chapters of NMAS to be revised and approved.¹⁵⁰ IM SOPs for the NRA, including IM process maps and guidelines, were also drafted.¹⁵¹

Prior to 2014, UXO operators in Lao PDR primarily conducted general survey on areas intended for clearance and roving clearance tasks, based on requests and reports from villagers.¹⁵² CMRS has resulted in clearance being directed to confirmed cluster munition strikes, across land boundaries where necessary, and away from the clearance of areas with low or no CMR contamination. There has been a significant improvement in the number of CMR destroyed per hectare cleared since 2015.¹⁵³ As part of the new CMRS procedure, and the corresponding national standard, non-technical survey is to be conducted on whole villages (i.e. all land within a village boundary), not just individual areas of land, with the aim to identify evidence points for follow-on technical survey. An additional aim during survey is to correct errors or omissions in historical data in IMSMA or in operator files.¹⁵⁴

The survey approach has been strengthened over the last couple of years, with more emphasis on desk assessment of historical data and comprehensive non-technical survey. Technical survey is only conducted based on CMR evidence points and is also conducted on whole villages.¹⁵⁵ Technical survey works outwards from the initial evidence point, searching no less than 50% of each 50 metre by 50 metre box with a detector, with emphasis on finding a submunition. As soon as a submunition is found, technical survey moves to the adjacent boxes. If cluster munition fragments are found, searching must continue until a submunition is found or at least 50% of the box is covered.¹⁵⁶

Operators continue to refine their CMRS methodology in a bid to accelerate operations, including using the technique of "skipping boxes", in which teams finding CMR in one survey box skip one or more of the immediate neighbouring boxes and then survey the next box. Skipping boxes is permitted in the national survey procedure, and, where appropriate, has become standard practice for technical survey teams, where the focus is on identifying the boundaries of CHAs.¹⁵⁷

CHAs are established based on red boxes and include a 50-metre fade-out from the place submunitions are found during technical survey, unless fade-out extends into inaccessible or commercial concession areas (responsibility for survey and clearance in commercial concession areas is then that of the concession holder).¹⁵⁸

According to the national survey standards, clearance must only be conducted in CHAs, unless either "official agreements with the NRA permit a dispensation" or "the UXO clearance is being paid for by a client and 100% clearance without survey is a requirement of the agreement".¹⁵⁹ The NRA maintained the need to retain some flexibility to accommodate donor stipulations which sometimes require full clearance of UXO in non-CHAs, for development projects such as schools, and there is an official procedure for such instances.¹⁶⁰ In 2016, Prime Ministerial Order No. 43 stipulated that development projects in provinces and districts affected by UXO must benefit from survey and clearance before project

143 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017; and CCM Extension Request 2019, Executive Summary, p. 3.

144 Emails from Olivier Bauduin, UNDP, 10 July 2018; and Nigel Orr, (then with) Janus Global Operations, 13 July 2018; interviews with international operators, Lao PDR, 1–12 May 2018; and Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018; and Statement of Lao PDR on National Implementation Efforts, CCM Eighth Meeting of States Parties, Geneva, 3 September 2018.

145 CCM Extension Request 2019, Executive Summary, p. 2; CCM Extension Request 2019, Part B, Detailed Narrative, pp. 9 and 17.

146 Emails from Cameron Imber, HALO, 7 April 2020; Simon Rea, MAG, 17 June 2020; Katherine Harrison, NPA, 6 May 2020; and Saomany Manivong, UXO Lao, 10 May 2019.

147 CCM Extension Request 2019, Part B, Detailed Narrative, p. 18.

148 Emails from Cameron Imber, HALO, 31 March 2022; Julien Kempeneers, HI, 30 March 2022; and Rebecca Letven, MAG, 30 March 2022.

149 Emails from Julien Kempeneers, HI, 30 March 2022; and Katherine Harrison, NPA, 11 May 2022.

150 Email from Katherine Harrison, NPA, 11 May 2022.

151 Emails from Katherine Harrison, NPA, 6 May and 9 September 2020.

152 Interview with Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018.

153 CCM Extension Request 2019, Executive Summary, p. 2; and Part B, Detailed Narrative, p. 9.

154 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017.

155 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017; and emails from Cameron Imber, HALO, 11 June; Rebecca Letven, MAG, 18 June; and Katherine Harrison, NPA, 18 June.

156 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017.

157 *Ibid.*, p. 17; and interviews with Neil Arnold, MAG, Phonsavanh, 6 May 2018, and Robby Dehondt, Sterling International, Sepon, 11 May 2018; and email from Ulric Eriksson, NPA, 1 May 2018.

158 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017.

159 *Ibid.*

160 Interviews with Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018 and 7 February 2019, Geneva.

implementation, and further these development projects must allocate funding for survey and clearance.¹⁶¹

Except in the case of permanently inaccessible land or commercial concession areas, CHAs that are incomplete or have not been created using the technical survey process are not to be entered into IMSMA.¹⁶² Interpretation and understanding as to what constitutes “inaccessible” is not clearly defined and can vary between clearance operators,¹⁶³ but according to the national survey standards, dense vegetation and seasonal flooding are not valid reasons for the non-technical survey.¹⁶⁴ Clearance teams deployed to CHAs are required to have the knowledge and necessary equipment to operate in difficult areas such as steep hillsides and dense jungle terrain, which requires strong monitoring mechanisms to ensure that the physical obstacles do not reduce the quality of the survey and clearance work.¹⁶⁵ The minimum clearance depth in Lao PDR is 25cm, which is intended to capture all surface and shallow CMR contamination.¹⁶⁶ Operators have been collecting data on the depth at which CMR are found.¹⁶⁷

With regard to completion of CHAs/cluster munition footprints, international clearance operators reported difficulty conducting CMRS in certain areas, due to national security or restrictions to access land due to cultural sensitivities and beliefs.¹⁶⁸ Furthermore, in technical survey tasks in areas of massive contamination, with overlapping strikes, it is not always possible to continue to fade-out, as the confirmed areas extend too far.¹⁶⁹

HI has suggested that as CMRS can be time consuming, clearance could replace CMRS earlier where it is well established that there is CMR contamination, as clearance would cover the entire CHA anyhow, including a 50m buffer zone. In locations where operators are called back year-on-year to destroy submunitions found by farmers, HI believes evidence-based clearance could be commenced directly, rather than needing to first conduct CMRS. HI believes that the remoteness of target villages in Houaphanh and the presence of landmines and anti-handling fuses (M83 cluster munitions) discovered in 2021, justifies that it continues to conduct a “Clearing While Surveying” approach when there is a risk for its teams. In Houaphanh province, HI does not conduct CMRS strictly village by village, but instead focuses on highest priority areas first, as it is working in very remote forested areas, with steep terrain. In Phongsaly province, HI said CMRS had yet to begin and there were no defined CHAs yet.¹⁷⁰ UXO Lao is focusing

its technical survey on its annual clearance work plan, which is based on the needs of local authorities and communities.¹⁷¹ For development projects, clearance is conducted without technical survey having first taken place.¹⁷²

Based on the areas in which it is operational, NPA reported that typically CHAs cover the strike area and submunitions are not being found outside of CHAs polygons during clearance,¹⁷³ an indication of the effectiveness of evidence-based CMRS.

MAG uses Evidence Point Polygon (EPP) mapping methodology to support CMRS planning. The technique, pioneered by MAG, uses historical and ongoing operational data from GPS-recorded EOD spot tasks involving submunitions to plot what are termed Initial CHAs (iCHAs). Within the boundaries of iCHAs, including fade-out, no technical survey is required, resulting in time and resources efficiencies. However, in order to be effective, this technique relies on accurate and reliable EOD spot-task data, which is not always available. In areas where MAG is applying EPP mapping, it uses its own EOD data.¹⁷⁴

According to the NRA, understanding of the CMRS process, especially at the local and field levels, is sometimes limited.¹⁷⁵ Stakeholders across the mine action sector in Lao PDR agreed on the importance of strengthening coordination with village authorities as an integral component of the survey process, ensuring that communities understand and accept the results of survey. It is especially important that villagers fully understand that, despite demolition of UXO during the CMRS process, CHAs identified through survey remain hazardous until full clearance has taken place, which may not be for many years.¹⁷⁶

With regards to the discovery of landmines during CMRS, HI developed a “clearance while surveying” (CWS) procedure, to allow for safe release of CMR contamination in areas where there is a potential risk of landmines. CWS involves the commencement of full clearance from the evidence point.¹⁷⁷ HI revised its clearance SOP to integrate CWS. As at March 2022, the SOP had yet to be formally approved, but the NRA had deemed the procedure as being adequate, including during QA and QC inspections and during a TWG presentation. Furthermore, UXO Laos Houaphanh and the provincial NRA have also requested specific trainings on this procedure, which may be conducted in 2022, as they are also facing this same issue in Houaphanh. HI has also proposed to the NRA that a modification is made to the national standards.¹⁷⁸

161 Statement of Lao PDR on National Implementation Efforts, CCM Seventh Meeting of States Parties, Geneva, 4–5 September 2017.

162 NRA, draft “Lao PDR UXO Survey Procedures”, 20 September 2017.

163 Interviews with international operators, Laos, 1–12 May 2018.

164 NRA, draft “Lao PDR UXO Survey Procedures”, 20 September 2017.

165 CCM Extension Request 2019, Executive Summary, p. 5; and Part B, Detailed Narrative, pp. 24–25.

166 CCM Extension Request 2019, Part B, Detailed Narrative, p. 17.

167 Email from Katherine Harrison, NPA, 9 September 2020.

168 Interviews with Ulric Eriksson, NPA Laos, Saravan, 4 May 2018; and Olivia Meader, HALO Trust, Sepon, 11 May 2018.

169 Interview with Neil Arnold, MAG, Phonsavan, 6 May 2018.

170 Email from Julien Kempeneers, HI, 30 March 2022.

171 Email from Saomany Manivong, UXO Lao, 11 May 2021.

172 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

173 Email from Katherine Harrison, NPA, 6 May 2020.

174 Interview with Neil Arnold, MAG, Phonsavan, 6 May 2018.

175 Email from Bouala Thongsavan, on behalf of Phoukhieo Chanthasomboune, NRA, 30 April 2018.

176 Response to Mine Action Review questionnaire from Olivia Meader, HALO Trust, 11 May 2018; and interview with Olivier Bauduin, UNDP, Vientiane, 2 May 2018.

177 Email from Julien Kempeneers, HI, 25 March 2020.

178 Email from Julien Kempeneers, HI, 30 March 2022.

OPERATORS AND OPERATIONAL TOOLS

Land release operations in Lao PDR are conducted by a range of implementing partners, which includes humanitarian operators such as the national operator UXO Lao; international NGOs, HALO Trust, HI, MAG, and NPA; commercial clearance operators; and humanitarian teams of the Lao People's Army (Unit 58).¹⁷⁹

With regard to survey capacity in 2021: the Lao People's Army (Unit 58) deployed three technical survey teams totalling twenty-one personnel;¹⁸⁰ HALO deployed 20 technical teams, totalling 160 personnel;¹⁸¹ HI had 1 non-technical survey team of 2 personnel and 1 technical survey team of 6 personnel;¹⁸² MAG had 5 non-technical survey (community liaison) teams, totalling 20 personnel and 21 technical survey teams (20 in Xiengkhouang and 1 in Khammouane), totalling 168 personnel;¹⁸³ NPA has 8 CMRS (non-technical survey and technical survey) teams totalling 48 survey personnel (a significant decrease on the 24 CMRS teams and 120 personnel in 2020); and UXO Lao had 9 non-technical survey teams totalling 27 personnel and 16 technical survey teams totalling 108 personnel.¹⁸⁴

Table 2: Operational clearance capacities deployed in 2021¹⁸⁵

Operator	Manual teams	Total clearance personnel	Machines	Comments
Lao People's Army (Unit 58)	5	65	0	
HALO	47	505	0	This is a significant increase on the 25 teams totalling 269 personnel deployed previously. Medics are included as HALO has technician medics.
HI	2	16	0	HI's two multi-task teams are used to conduct technical survey, clearance, or roving tasks, as required.
MAG	47	376	0	MAG had 30 clearance teams (8 technicians per team) in total across Khammouane province and Xiengkhouang province; with capacity rising to 47 teams, following the deployment of an additional 17 teams in Xiengkhouang between July and September 2021. It does not have any mechanical assets for clearance, but does have five machines for ground preparation.
NPA	20	300	0	Significant increase on the 9 clearance teams, totalling 108 personnel, in 2020.
UXO Lao	81	506	*9	*Two cluster munition demolition machines in Xiengkhouang province. The seven brush cutter machines operating across Saravan, Xekong, and Champassak provinces only provide support to area clearance operations, by preparing access roads and vegetation cutting where this cannot be done by hand.
Totals	202	Approximately 1,768 clearance personnel	9	

179 CCM Extension Request 2019, Part B, Detailed Narrative, p. 20.

180 Email from Douangsy Thammavong, NRA, 20 June 2022.

181 Email from Cameron Imber, HALO, 31 March 2022.

182 Email from Julien Kempeneers, HI, 30 March 2022.

183 Email from Rebecca Letven, MAG, 30 March 2022.

184 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

185 Emails from Cameron Imber, HALO, 31 March 2022; Julien Kempeneers, HI, 30 March 2022; Rebecca Letven, MAG, 30 March and 20 June 2022; Katherine Harrison, NPA, 11 May 2022; and Noupin Phimmasy, UXO Lao, 4 June 2022.

UXO Lao, the oldest and largest clearance operator in Lao PDR, is a government organisation working under the Ministry of Labour and Social Welfare,¹⁸⁶ operating in nine provinces (Attapeu, Champassak, Houaphanh, Khammouane, Luang Prabang, Savannakhet, Saravan, Xekong, and Xiengkhouang).¹⁸⁷ In Luang Prabang, UXO Lao was operating with funding from Norway and management support from NPA, up until the agreement ended on 31 December 2020 and UXO Lao's field operations were stood down in the province.¹⁸⁸ The United States has subsequently provided funding through Tetra Tech, allowing UXO Lao's operations in Luang Prabang to resume. A new Director of UXO Lao was appointed in 2019. While UXO Lao's capacity in 2021 was broadly consistent with 2020, it did, however, report that funding challenges in 2022 will result in a decrease of 360 personnel (200 clearance personnel, 66 in technical survey, 16 in non-technical survey, 24 in mine risk education, and 54 in Brush Cutter operations).¹⁸⁹

The HALO Trust's survey and clearance efforts are focused on Savannakhet province. Capacity increased in 2020 as part of the new US-funded clearance project. With new US funding, HALO's combined survey and clearance capacity increased by 53% in 2021, from 569 personnel in 2020 to 876 personnel in December 2021, as part of an ongoing expansion. HALO expected combined technical survey and clearance personnel to increase to 952 personnel by the end of 2022.¹⁹⁰

HI is conducting survey and clearance in Houaphanh province, where it also provides capacity building support to the provincial NRA, through training on IM, QM, and first aid.¹⁹¹ From 2021, HI is deploying multi-task teams which can conduct technical survey, area clearance, or roving tasks.¹⁹² HI also implements projects in Champassak, Savannakhet, and Vientiane provinces, relating to other fields (such as disability inclusion and health and rehabilitation).¹⁹³ HI expected to increase its EOD capacity, with funding approved from the Netherlands for extension of the project into Phongsaly province (two districts) and Houaphanh province (two districts, including the current one of Houamuang). As at March 2022, the MoU for Phongsaly province was still under discussion, but operations were expected to start during the year.¹⁹⁴

MAG is the largest international survey and clearance operator in Lao PDR, and is operational in Xiengkhouang province, in the north and Khammouane province in the

south. MAG's overall clearance capacity expanded from 30 to 47 clearance teams in total, with the deployment of 17 additional clearance teams in Xiengkhouang province between July and September 2021 thanks to US funding.¹⁹⁵

NPA is operational in the four southern and heavily contaminated provinces of Attapeu, Champassak, Saravan, and Xekong. In 2021, NPA shifted its focus from CMRS to clearance of CHAs identified through survey. It increased its clearance capacity from 9 to 20 BAC teams, while retaining a survey capacity of 8 CMRS teams to address any limited additional survey requirements.¹⁹⁶

The Lao armed forces humanitarian demining teams (Unit 58) had five clearance teams in 2021, totalling 65 personnel.¹⁹⁷ According to the NRA, the Unit 58 humanitarian clearance teams of the Lao Army are a valuable asset, conducting survey and clearance in the same way as national and international clearance operators, and with good coordination between the NRA and the army.

In addition, the army was being trained to use IMSMA. Lao Army teams (completely separate to the humanitarian "Army 58" teams) and not coordinated by the NRA started clearance of UXO to enable construction work on the US\$6 billion Laos-China high-speed railway to proceed in safety.¹⁹⁸ According to an online media source, Russian troops are working with Lao counterparts to clear an area of 500 hectares (5km²) to build a new airport and military facility in Xiengkhouang.¹⁹⁹

While MAG had previously secured a drone permit in late 2019, and used drones in 2020 to assess the ground situation,²⁰⁰ its drone was under repair for most of 2021 and therefore not used.²⁰¹ In Houaphanh province, HI had yet to secure approval from local authorities for the use of drones to ensure the safety radius when disposing large items of explosive ordnance, such as aircraft bombs. HI has also raised this issue in its feedback on recommended changes to the national standards.²⁰² NPA had lengthy discussions with the NRA throughout 2021 regarding the use of drones for survey and clearance activities. However, in May 2022, the NRA informed NPA that the use of drones is currently not permitted for survey and clearance of UXO in Lao PDR or under the NMAS.²⁰³

186 Presentation by Saomany Manivong, UXO Lao, Vientiane, 2 May 2018.

187 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

188 Emails from Katherine Harrison, NPA, 31 March 2021; and Saomany Manivong, UXO Lao, 11 May 2021.

189 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

190 Email from Cameron Imber, HALO, 31 March 2022.

191 Email from Julien Kempeneers, HI, 16 March 2021.

192 Email from Julien Kempeneers, HI, 30 March 2022.

193 Emails from Julien Kempeneers, HI, 25 March 2020 and 16 June 2021.

194 Emails from Julien Kempeneers, HI, 16 March and 16 June 2021, and 30 March 2022.

195 Emails from Rebecca Letven, MAG, 30 March and 20 June 2022.

196 Email from Katherine Harrison, NPA, 11 May 2022.

197 Email from Douangsy Thammavong, NRA, 20 June 2022.

198 Souksakhone Vaenko, "Army deployed to clear UXO for Laos-China railway", *Vientiane Times*, 6 January 2017; and email from Bouala Thongsavanh, NRA, on behalf of Phoukhieo Chanthasomboune, NRA, 30 April 2018.

199 "Russia to Build Airport in Laos, Train Armed Forces in Sign of Strengthening Military Ties", *Radio Free Asia*, 4 April 2021.

200 Email from Rebecca Letven, MAG, 26 March 2021.

201 Email from Rebecca Letven, MAG, 30 March 2022.

202 Emails from Julien Kempeneers, HI, 16 March 2021 and 30 March 2022.

203 Email from Katherine Harrison, NPA, 11 May 2022.

NPA was also seeking permission to use innovations already approved in Lao PDR's National Standards, such as the use of mine detection dogs (MDDs) as a tool for QM and rapid response, as well as in areas of high metal density, or around powerlines, where the use of metal detectors can be disrupted.²⁰⁴ However, the NRA did not approve NPA's request to introduce the use of MDDs.²⁰⁵

HALO completed a trial of the Minelab F3 UXO detector in early 2021 which produced favourable results. The widespread use of these detectors on clearance tasks commenced in August 2021, and by the end of the year HALO's clearance rates in areas with high soil mineralisation were significantly improved.²⁰⁶ In 2021, MAG started using Vallon large-loop and handheld detectors in both Xiengkhouang and Khammouane provinces, and it intended to equip all teams with Vallon detectors going forward as budgets allow.²⁰⁷

DEMINER SAFETY

NPA had two demining incidents in 2021, although neither was the result of a submunition. One NPA employee sustained minor injuries from an aircraft bomb fuse during CMRS; and a second employee sustained minor injuries during low order disposal of an Aircraft Bomb MK-82, during roving task EOD activities. Both accidents occurred in Champassak province. Internal NPA and external NRA investigations were conducted, both of which came to similar conclusions and recommendations.²⁰⁸

UXO Lao reported two incidents in 2021. The first was in Xiengkhouang province and resulted in injury to one Senior Explosive Ordnance Disposal Technician (SEODT), as a result of the explosion of a BLU 49 submunition. The second incident was in Champassak province, where explosion of a BLU 3/B submunition resulted in three fatalities and injury to a further two staff. An accident investigation was conducted by the NRA and UXO Lao headquarters. The investigation report was prepared by UXO Lao and submitted to the NRA in March 2022. The final investigation report shall be shared by the NRA with development partners and donors.²⁰⁹

LAND RELEASE OUTPUTS AND ARTICLE 4 COMPLIANCE

LAND RELEASE OUTPUTS IN 2021

According to data reported by NRA to Mine Action Review, CMR clearance output in Lao PDR in 2021 was more than 46.68km². A total of 66,800 submunitions, 17,934 other items of UXO, and 56 anti-personnel mines were destroyed during area clearance, technical survey, and spot tasks.²¹⁰

A slightly lower figure was reported in Lao PDR's Article 7 report covering 2021, which showed more than 45.5km² of CMR clearance, with the destruction of 64,304 submunitions, 157 big bombs, 17,129 other UXO, and 56 mines.²¹¹

The total amount of submunitions reported as destroyed in 2021 was significantly less than the total reported by humanitarian operators to Mine Action Review, which came to 77,191 submunitions (18,837 through technical survey, 45,255 through clearance, and 13,099 through spot tasks).²¹²

SURVEY IN 2021

According to the NRA data reported to Mine Action Review, a total of more than 228km² of CHA containing CMR was identified in 2021 (see Table 3). This is an increase on the more than 181km² of CHA identified in 2020.

In February 2021, HALO trained and deployed a non-technical survey team with the express goal of identifying areas of landmine contamination in Savannakhet Province. CMRS was postponed in villages that were suspected of containing landmine contamination until the extent and nature of the contamination was confirmed by the non-technical survey team. This did not, however, significantly delay CMRS operations. HALO expected to complete CMRS in Savannakhet province in 2022.²¹³

204 Email from Katherine Harrison, NPA, 19 June 2021.

205 Email from Katherine Harrison, NPA, 11 May 2022.

206 Email from Cameron Imber, HALO, 31 March 2022.

207 Email from Rebecca Letven, MAG, 30 March 2022.

208 Email from Katherine Harrison, NPA, 11 May 2022.

209 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

210 Email from Douangsy Thammavong, NRA, 20 June 2022.

211 Article 7 Report (covering 2020), Form F. Table 3 in the Article 7 report, reported the sum clearance to be 45,569,498m², however the sum of the sub-totals in fact sums to 45,542,407m².

212 Emails from Cameron Imber, HALO, 31 March 2022; Julien Kempeneers, HI, 30 March 2022; Rebecca Letven, MAG, 30 March 2022; Katherine Harrison, NPA, 11 May 2022; and Noupin Phimmasy, UXO Lao, 4 and 15 June 2022.

213 Email from Cameron Imber, HALO, 31 March 2022.

The amount of area surveyed by HI in 2021 was similar to the previous year. HI reported that it found fewer suspected and confirmed minefields in its new target villages in 2021: four suspected mine fields identified in three villages (Ban Pacha, Ban Bouamngam, Ban Nakeng). Nonetheless, the issue of landmine contamination remains significant in the Houamuang and significantly impedes HI's capacity to establish CHA and therefore to complete the planned CMRS in at least 22 villages of the district.²¹⁴

Table 3: Technical survey of CMR-suspected area in 2021 (based on NRA data)²¹⁵

Operator	Area surveyed (m ²)	Area identified (m ²)	Submunitions destroyed	Other UXO destroyed	Mines destroyed
Lao People's Army (Unit 58)	2,992,500	284,500	42	8	0
HALO Trust	60,680,254	23,488,681	6,049	1,022	0
HI	1,150,000	570,000	140	3	1
MAG	164,903,356	160,531,323	10,399	12	0
NPA	5,015,000	1,589,216	192	13	0
UXO Lao	68,257,200	41,844,116	5,477	1,108	1
Totals	302,998,310	228,307,836	*22,299	2,166	2

* Already included in EOD roving task total

CLEARANCE IN 2021

According to the NRA data reported to Mine Action Review, a total of more than 46.68km² of cluster munition-contaminated area was cleared in 2021, with the destruction of 66,800 submunitions, 17,934 other items of UXO, and 56 anti-personnel mines during area clearance (see Table 4).²¹⁶ This includes submunitions destroyed during technical survey and 26,287 submunitions destroyed during roving tasks in 2021.²¹⁷ The 46.68km² area clearance total used by Mine Action Review excludes: 7,173m² of commercial clearance by BSL, during which no submunitions were found; 640,378m² cleared by Milsearch during which only three submunitions were found; and 228,421m² cleared by OUMMA during which only four submunitions were found. Commercial clearance, unlike humanitarian clearance, involves clearance of land in which no or very few submunitions are destroyed. This confirms that

this is not targeted clearance of CHAs, but instead clearance of often uncontaminated land, required for confidence building for construction and development projects. Mine Action Review does not consider this as CMR clearance.

The 2021 clearance output reported by the NRA to Mine Action Review of nearly 46.68km², was an increase on the 42.90km² of humanitarian clearance of CMR in the data for 2020 used by Mine Action Review in last year's *Clearing the Mines* report on Lao PDR.²¹⁸ The increase in clearance in 2021, compared to 2020, is largely due to increased funding for humanitarian clearance resulting in additional clearance capacity and output.²¹⁹

²¹⁴ Email from Julien Kempeneers, HI, 30 March 2022.

²¹⁵ Email from Douangsy Thammavong, NRA, 20 June 2022. There was a discrepancy in data reported by the NRA and data reported directly by some operators. HALO Trust reported that it surveyed 48,900,000m², identified 23,484,117m², and destroyed 2,610 submunitions and 383 other UXO (email from Cameron Imber, HALO, 31 March 2022); HI's data matched that reported by the NRA (email from Julien Kempeneers, HI, 30 March 2022); MAG's data matched that reported by the NRA (email from Rebecca Letven, MAG, 30 March 2022); NPA reported that it surveyed 4,920,000m² in Attapeu, Champassak, and Saravan, and identified 1,589,216m², and destroyed 183 submunitions and 13 other UXO (email from Katherine Harrison, NPA, 11 May 2022); and UXO Lao reported that it surveyed 69,659,700m², identified 47,309,991m², and destroyed 5,505 submunitions, 1,120 other UXO, and 1 anti-personnel mine (emails from Noupin Phimmasy, UXO Lao, 4 and 15 June 2022).

²¹⁶ Email from Chomyaeng Phengthongsawat, NRA, 21 June 2021. According to Lao PDR's reporting under the CCM and CCW, a total of 32 landmines were discovered and destroyed. CCW Protocol V Article 10 Report (covering 2020), Form A; and CCM Article 7 Report (covering 2020), Form F.

²¹⁷ Email from Chomyaeng Phengthongsawat, NRA, 21 June 2021. According to Lao PDR's reporting under the CCM and CCW, a total of 32 landmines were discovered and destroyed. CCW Protocol V Article 10 Report (covering 2020), Form A; and CCM Article 7 Report (covering 2020), Form F. HALO Trust reported that it destroyed 1,818 submunitions, 740 UXO, and 14 landmines during spot tasks (email from Cameron Imber, HALO, 31 March 2022); HI reported that it destroyed 157 submunitions (email from Julien Kempeneers, HI, 30 March 2022); MAG reported that it destroyed 2,091 submunitions, 1,415 UXO, and 2 AP mines (email from Rebecca Letven, MAG, 30 March 2022); NPA reported that it destroyed 355 submunitions (email from Katherine Harrison, NPA, 11 May 2022); and UXO Lao reported that it destroyed 8,678 submunitions during spot tasks (email from Noupin Phimmasy, UXO Lao, 4 June 2022).

²¹⁸ 2019 UXO Sector Annual Report, NRA, undated, pp. 5 and 7.

²¹⁹ Email from Douangsy Thammavong, NRA, 20 June 2022.

Table 4: CMR clearance by operator in 2021 (based on NRA data)²²⁰

Operator	Area cleared (m ²)	Submunitions destroyed	UXO destroyed	Anti-personnel mines destroyed
Lao People's Army (Unit 58)	103,796	263	1,144	3
BSL	N/A	0	0	0
HALO Trust	4,922,051	7,245	3,116	13
HI	254,083	393	370	9
LXML	501,589	536	43	0
MAG	10,357,454	18,288	2,056	4
Milsearch	N/A	3	124	0
NPA	5,421,846	6,011	500	1
OUMMA	N/A	4	1	0
UXO Lao	25,114,970	34,057	10,580	26
Totals	46,675,789	*66,800	*17,934	56

N/A = Not applicable. This relates to commercial clearance in which no or very few submunitions were found.

* Believed to include submunitions destroyed during technical survey, in addition to 26,287 destroyed during roving tasks by the Lao People's Army humanitarian teams, HALO, HI, MAG, Milsearch, NPA, and UXO Lao.²²¹

According to Lao PDR's Article 7 report, a total of more than 45.54km² was cleared in 2021, across 13 provinces, with the destruction of nearly 64,304 CMR, in addition to 56 mines, 157 big bombs, and 17,129 items of other UXO, during clearance, technical survey, and roving tasks (see Table 5). Nearly 2.56km² of the total clearance was for development areas, and the remainder for agricultural areas.²²²

The 45.54km² of total CMR clearance (including humanitarian and commercial clearance) reported in Lao PDR's Article 7 report covering 2021, is a reduction compared to the reported 53.92km² of total clearance in 2020 (similarly including humanitarian and commercial clearance), with the destruction of nearly 71,235 submunitions. This appears to be because far less commercial clearance was recorded in 2021, compared to the previous year.

HALO reported that of the CMR cleared in 2021, 26 tasks totalling 452,888m² proved not to contain CMR, although 10 of the 26 tasks did contain other ERW.²²³ HI found submunitions in all its clearance tasks in 2021, which were on CHAs established by HI.²²⁴ MAG reported that 9 clearance tasks (2 in Khammouang and 7 in Xiengkhouang), totalling 397,156m², were completed in 2021 in which no further CMR were discovered during clearance. A further 18 sites (two in Khammouang and 16 in Xiengkhouang),

totalling 158,587m², were cleared in which no CMR were discovered, but these sites were outside of CHAs and were for specific development projects.²²⁵

Six task areas were cleared by NPA in 2021 which proved to contain no CMR, with a total size of 222,710m². One of these tasks was cleared as a non-CHA task requested as emergency clearance and approved by the NRA and the donor. The other five were cleared based on findings during technical survey.²²⁶

UXO Lao's CMR clearance in 2021 was broadly the same (just a little below) the previous year.²²⁷ The preliminary work plan for land clearance of UXO Lao is mainly focused on CHA, and the cleared areas contained submunition and other type of UXO. However, UXO Lao also supports development projects, for which the areas requested for clearance by local authorities sometimes do not contain CMR, and clearance is conducted to ensure the areas were free from UXO in order for development projects to take place. In 2021, 27.6 hectares (nearly 0.28km²) of non-CHA was cleared which contained no CMR. Prior to clearance, desk analysis was conducted initially to verify if bombing or fighting took place in those areas. Upon completion of clearance, a certificate was handed to local authorities to start development activities, such as the construction of schools, health centres, and a gravity-fed water system.²²⁸

220 Email from Chomyaeng Phengthongsawat, NRA, 21 June 2021. Excludes 7,173m² of commercial clearance by BSL, in which no submunitions were found; 640,378m² cleared by Milsearch in which only three submunitions were found; and 228,421m² cleared by OUMMA in which only four submunitions were found. There was a discrepancy in data reported by the NRA and data reported directly by some operators. HALO Trust reported that it cleared 4,930,784m², and destroyed 3,288 submunitions and 1,992 other UXO (email from Cameron Imber, HALO, 31 March 2022); HI reported that it cleared 254,083m², and destroyed 236 submunitions, 124 other UXO, and 1 anti-personnel mine (email from Julien Kempeneers, HI, 30 March 2022); MAG reported that it cleared 10,357,454m², and destroyed 5,798 submunitions, 629 other UXO, and 2 anti-personnel mines (email from Rebecca Letven, MAG, 30 March 2022); NPA reported that it cleared 7,120,076m², destroyed 9,553 submunitions, and 378 other UXO (Email from Katherine Harrison, NPA, 11 May 2022); and UXO Lao reported that it cleared 26,251,935m², and destroyed 26,380 submunitions, 7,343 other UXO, and 3 anti-personnel mines (email from Noupin Phimmasy, UXO Lao, 4 June 2022).

221 Email from Douangsy Thammavong, NRA, 20 June 2022. HALO Trust reported that it destroyed 1,818 submunitions, 740 UXO, and 14 landmines during spot tasks (email from Cameron Imber, HALO, 31 March 2022); HI reported that it destroyed 157 submunitions (email from Julien Kempeneers, HI, 30 March 2022); MAG reported that it destroyed 2,091 submunitions, 1,415 UXO, and 2 AP mines (email from Rebecca Letven, MAG, 30 March 2022); NPA reported that it destroyed 355 submunitions (email from Katherine Harrison, NPA, 11 May 2022); and UXO Lao reported that it destroyed 8,678 submunitions during spot tasks (email from Noupin Phimmasy, UXO Lao, 4 June 2022).

222 Article 7 Report (covering 2021), Form F.

223 Email from Cameron Imber, HALO, 31 March 2022.

224 Email from Julien Kempeneers, HI, 30 March 2022.

225 Email from Rebecca Letven, MAG, 30 March 2022.

226 Email from Katherine Harrison, NPA, 11 May 2022.

227 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

228 Ibid.

Compared to the previous year, and based on operator data, HALO and MAG's clearance output was slightly higher in 2021.²²⁹ HALO said the increase was a result of the number of clearance teams deployed during 2021 and the introduction of a new detector that increased productivity in areas with mineralised soil.²³⁰ MAG said that the increase was primarily due to the deployment of 17 new teams in Xiengkhouang between July and September 2021, although it did lose operational time as a result of COVID-19.²³¹ HI's clearance output in 2021 roughly halved compared to the previous year, in part due to time lost in negotiating the new MoU in 2021 and the impacts caused by the COVID-19 pandemic.²³²

In 2021, NPA changed its focus from CMRS to clearance in 2021, increasing its BAC capacity significantly and resulting in a significant increase in the area of cluster munition-contaminated area cleared, compared to 2020. However, at the same time, NPA did not achieve its increased clearance target for 2021 due to the delay in the MoU process which blocked the employment and deployment of 72 deminers (surveyors) for the whole of Q1 2021. Furthermore, COVID-19 prevention measures and lockdowns in the four southern provinces partially prevented deployment of NPA teams in Q2 and Q3. NPA's total clearance output was therefore just over 71% of the 2021 clearance target.²³³

UXO Lao said that its CMR clearance output in 2021 was broadly consistent, but slightly down, on the previous year, due to COVID-19 restrictions preventing deployment of teams across the country.²³⁴

All clearance organisations in Lao PDR are required to have a documented internal QM system, covering both quality assurance (QA) and quality control (QC) procedures. External QM inspections of clearance organisations are conducted by

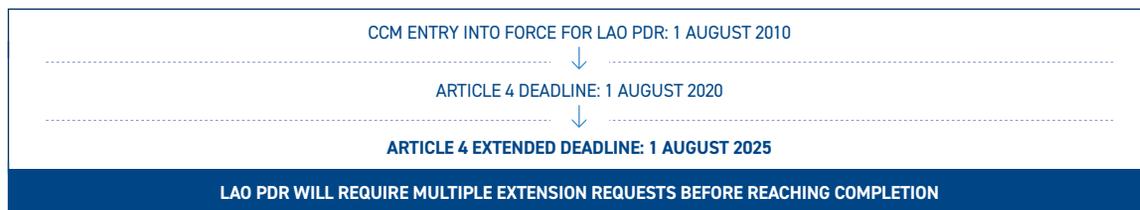
the NRA.²³⁵ The NRA's QM capacity is extremely limited, with only two QM teams to cover sector-wide clearance, but the NRA planned to double QM capacity to four teams in 2022.²³⁶

Table 5: CMR clearance by province in 2021 (Article 7 data)²³⁷

Province	Area cleared (m ²)
Attapeu	3,127,025
Bolikhamxai	48,565
Champassak	3,547,537
Houaphanh	1,309,330
Khammouane	6,959,273
Luangnamtha	0
Luang Prabang	509,203
Oudomxay	22,198
Saravan	4,566,546
Savannakhet	9,482,229
Vientiane Province	21,821
Vientiane Capital	0
Xaisomboun	591,460
Xekong	3,003,914
Xiengkhouang	12,353,306
Total	*45,542,407

* In Lao PDR's Article 7 report, the total was said to be 45,569,498, but the sum of the subtotals is 45,542,407m².

ARTICLE 4 DEADLINE AND COMPLIANCE



229 Emails from Cameron Imber, HALO, 31 March 2022; and from Rebecca Letven, MAG, 30 March 2022.

230 Email from Cameron Imber, HALO, 31 March 2022.

231 Email from Rebecca Letven, MAG, 30 March 2022.

232 Email from Julien Kempeneers, HI, 30 March 2022.

233 Email from Katherine Harrison, NPA, 11 May 2022.

234 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

235 NRA, draft "Lao PDR UXO Survey Procedures", 20 September 2017.

236 Email from Douangsy Thammavong, NRA, 20 June 2022.

237 Article 7 Report (covering 2020), Form F.

Under Article 4 of the CCM, Lao PDR is required to destroy all CMR in areas under its jurisdiction or control as soon as possible, but not later than 1 August 2025, having been granted a five-year extension (the maximum that can be requested per extension request under the CCM) in 2019. Based on current capacity and output, Lao PDR will require multiple extensions to its Article 4 deadline. According to the NRA, based on current resources and land release practices, "progress towards reaching a residual level of contamination as provided for in the CCM is decades away".²³⁸

As at end of 2021, a total of more than 1,530km² of CHA had already been identified through the ongoing nationwide survey.²³⁹ As the baseline survey continues the area of confirmed contamination/CHA is expected to continue to increase rapidly. An estimate of the true extent of CMR contamination will not be known until the nationwide CMRS is completed.²⁴⁰

Clearance of CMR in Lao PDR will take many years and will require long-term national capacity and funding. According to Lao PDR's 2019 Article 4 extension request, annual clearance output based on current capacity and resources available averages approximately 50km².²⁴¹ Although annual humanitarian clearance output over the last five years has been significantly less (see Table 7), the 46.68km² of clearance of cluster munition-contaminated area achieved in 2021 is getting closer to achieving this target.

Table 7: Five-year summary of CMR clearance

Year	Area cleared (km ²)
2021	*46.68
2020	*42.90
2019	*45.77
2018	36.20
2017	33.02
Total	204.57

* Excluding commercial clearance

The NRA has highlighted the challenges in balancing resources for survey and clearance. While nationwide CMRS is essential to quantify the extent of actual contamination in Lao PDR, there is also a need for follow-on clearance in priority areas, which also demands significant resources.²⁴² Commencement of FCDO-funded clearance operations in Lao PDR in 2019 helped increase clearance output of HALO Trust, MAG, and NPA.²⁴³ While NPA withdrew from the partnership in April 2020, FCDO funding continued for HALO and MAG, but decreased by more than half from April 2021.²⁴⁴ The United States is however, supporting increased clearance capacity of both international clearance operators and UXO Lao,²⁴⁵ which resulted in a significant increase in clearance capacity in 2021.²⁴⁶

Lao PDR has identified several challenges in Article 4 implementation. These include insufficient funding (in particular to the NRA and UXO Lao), and the need to strengthen coordination and collaboration among sector stakeholders in order to increase effectiveness and efficiency of the mine action sector in Lao PDR.²⁴⁷ Existing clearance capacity is not sufficient to address the area of CHA identified for clearance through the ongoing nationwide CMRS. Furthermore, because the number of CMR found per hectare during clearance is now much higher, thanks to application of evidence-based land release methodology, more explosives are needed for the destruction of CMR. This increases operational costs as explosives in Lao PDR are reportedly among the most expensive in the region.²⁴⁸

In addition to insufficient clearance capacity, Lao PDR cites as challenges to implementation of its Article 4 extension request work plan mountainous terrain (which can impede comprehensive survey to accurately identify the location and size of CMR-contaminated area and make clearance more complex and time-consuming); inadequate and unpredictable funding (which sometimes results in the halting of operations or reduction in number of employees); and outdated clearance equipment (e.g. in struggling to distinguish between CMR and scrap metal).²⁴⁹ The NRA is seeking international assistance in order to comprehensively update its national prioritisation system; expand clearance capacity, including that of the Humanitarian Demining units of the Army (Unit 58); and upgrade its data and IM systems.²⁵⁰

238 CCM Extension Request 2019, Executive Summary, p. 1; Part B, Detailed Narrative, p. 5; and Statement of Lao PDR, CCM Eighth Meeting of States Parties, Geneva, 3–5 September 2018.

239 Email from Chomyaeng Phengthongsawat, NRA, 21 June 2021.

240 Interview with Phoukhieo Chanthasomboune, NRA, Vientiane, 2 May 2018.

241 CCM Extension Request 2019, Executive Summary, p. 3.

242 Statement of Lao PDR, CCM Seventh Meeting of States Parties, Geneva, 4–5 September 2017; email from Bouala Thongsavanh on behalf of Phoukhieo Chanthasomboune, NRA, 30 April 2018; and interview with Phoukhieo Chanthasomboune, NRA, in Geneva, 7 February 2019.

243 Emails from Rebecca Letven, MAG, 26 March 2021; Cameron Imber, HALO, 14 March 2021; and Katherine Harrison, NPA, 22 March 2021.

244 Emails from Rebecca Letven, MAG, 20 June 2022; and Cameron Imber, HALO, 28 June 2022.

245 Interview with Olivier Bauduin, US PM/WRA, in Geneva, 13 February 2020.

246 Emails from Cameron Imber, HALO, 31 March 2022; Rebecca Letven, MAG, 30 March 2022; Katherine Harrison, NPA, 11 May 2022; and Noupin Phimmasy, UXO Lao, 4 and 15 June 2022.

247 Statement of Lao PDR on National Implementation Efforts, CCM Eighth Meeting of States Parties, Geneva, 3 September 2018.

248 CCM Extension Request 2019, Executive Summary, p. 5; and Part B, Detailed Narrative, pp. 24–25.

249 CCM Article 7 Report (covering 2021), Form F.

250 CCM Article 7 Report (covering 2021), Form F; and Statement of Lao PDR on Clearance, CCM Intersessional meetings, Geneva, 16–17 May 2022.

In 2021, COVID-19 continued to disrupt survey and clearance operations. HI, HALO, MAG, NPA, and UXO Lao all reported losing working days or having to delay deployments, as a result of COVID-19 infections or COVID-related restrictions, including national and province-by-province lockdowns and travel restrictions.²⁵¹ Most impacted was UXO Lao, whose field operations were suspended for three months (August–October 2021) as the result of the COVID-19 pandemic, resulting in lower outputs than its annual targets. UXO Lao has revised its work plan to take into account the actual situation and capacity.²⁵²

Currently impacting HI's operations in Houaphanh province is the discovery of mines during CMRS, which impedes operations.²⁵³ Other operational challenges in clearance tasks include heavy rains during the wet season; high scrap-metal contamination and fragmentation from other UXO; difficulty accessing tasks due to flooding and vehicles getting stuck in the mud; and the proximity of high-voltage pylons and power lines.²⁵⁴

PLANNING FOR MANAGEMENT OF RESIDUAL CONTAMINATION

Lao PDR is still determining the extent of its baseline of CMR contamination and is many years from fulfilling its Article 4 obligations. The GICHD believes the NRA would still, however, benefit from taking a strategic view on how to prepare for transition to a more reactive phase, and ultimately for completion within the same framework. In June 2022, the GICHD organised a workshop on planning for residual contamination, which the NRA attended along with other national authorities and implementing partners from the region.²⁵⁵

251 Emails from Julien Kempeneers, HI, 30 March 2022; Cameron Imber, HALO, 31 March 2022; Rebecca Letven, MAG, 30 March 2022; Katherine Harrison, NPA, 11 May 2022; and Noupin Phimmasy, UXO Lao, 4 June 2022.

252 Email from Noupin Phimmasy, UXO Lao, 4 June 2022.

253 Emails from Julien Kempeneers, HI, 25 March 2020 and 16 March 2021.

254 Presentation by HALO Trust, Sepon, 10 May 2018.

255 Email from GICHD, 21 June 2022.