



CAMBODIA

ARTICLE 5 DEADLINE: 1 JANUARY 2020
(NOT ON TRACK TO MEET DEADLINE)

MINE ACTION PROGRAMME PERFORMANCE

For 2016

For 2015

MINE ACTION PROGRAMME PERFORMANCE	For 2016	For 2015
Problem understood	8	8
Target date for completion of mine clearance	6	6
Targeted clearance	6	6
Efficient clearance	6	6
National funding of programme	6	6
Timely clearance	5	6
Land release system in place	8	8
National mine action standards	8	8
Reporting on progress	4	5
Improving performance	6	7
PERFORMANCE SCORE: AVERAGE	6.3	6.6

PERFORMANCE COMMENTARY

The pace of land release slowed sharply in 2016 as cancellation of reclaimed land peaked and operators adjusted to greater financial constraints. These placed a question mark against the prospects for achieving the goal of completion of clearance by 2025 being discussed in the context of a new national mine action strategy.

RECOMMENDATIONS

- Cambodia should expedite adoption and publication of its new national mine action strategy detailing evidence-based plans for completing its Article 5 obligations.
- The Cambodian Mine Action and Victim Assistance Authority (CMAA) should adjust criteria for prioritising clearance in order to accelerate release of areas of dense anti-personnel mine contamination (category A1).
- Cambodia should ensure clearance is only conducted on land where there is firm evidence of contamination.
- The CMAA should take action to strengthen information management.
- The CMAA should present an annual report detailing progress towards strategic targets.
- Cambodia should accelerate cooperation with Thailand to facilitate clearance of mined areas along both sides of their common border.

CONTAMINATION

Cambodia is affected by mines and explosive remnants of war (ERW) left by 30 years of conflict that ended in the 1990s. Its anti-personnel mine problem is concentrated in, but not limited to, 21 north-western districts along the border with Thailand that account for the great majority of mine casualties. The K5 mine belt, which was installed along the border with Thailand in the mid-1980s in an effort to block insurgent infiltration, ranks among the densest contamination in the world.¹

After 25 years of mine action in Cambodia, estimates of the extent of mine contamination continue to fluctuate. A baseline survey (BLS) of Cambodia's 139 most mine-affected districts completed in 2013 estimated total mine and ERW contamination at 1,915km². The BLS identified hazardous areas affected to some degree by mines, covering a total of more than 1,111km², of which 1,043km² were affected by anti-personnel mines.

This included some 73km² of dense contamination but most areas, covering 892km², contained "scattered or nuisance" anti-personnel and anti-vehicle mines.²

At the end of 2016, the CMAA estimate of dense anti-personnel mine contamination had risen to more than 100km² and the estimate of total mine contamination was 4% higher at 897km², reflecting mainly increased estimates of scattered/nuisance mines and anti-vehicle mines (see Table 1).³ The reason for the higher level of contamination has not been explained but the CMAA acknowledges that mined areas continue to be found outside the polygons identified in the BLS.⁴ As an example, Mines Advisory Group (MAG) reported it found 16 minefields in Rattanakiri province in 2016 which had not been caught in previous survey.⁵

Table 1: Mine contamination based on BLS results for 139 districts and additional survey⁶

Contamination classification	Area (m ²) May 2013	Area (m ²) End-2014	Area (m ²) End-2015	Area (m ²) End-2016
A1 Dense AP mines	63,894,629	99,750,628	99,490,452	100,778,056
A2 Mixed AP and AV mines	78,601,787	N/R	40,064,014	36,361,353
A2.1 Mixed dense AP/AV mines	9,154,925	N/R	6,561,919	7,090,672
A2.2 Mixed scattered AP/ AV mines	216,840,425	N/R	173,915,747	168,694,189
A2 Total	304,597,137	255,370,490	220,541,680	212,146,214
A3 AV mines	68,187,332	N/R	31,510,235	47,082,941
A4 Scattered or nuisance mines	674,882,897	627,720,309	508,247,851	537,184,712
Totals	1,111,561,995	982,841,427	859,790,218	897,191,923

AP = Anti-personnel

AV = Anti-vehicle

N/R = Not reported

A draft national mine action strategy for 2017–25 said that as at March 2017 Cambodia had 946km² of mine contamination, including 103km² of A1 category dense anti-personnel mine contamination, 220km² of A2 category (mixed anti-personnel and anti-vehicle mines), and 544km² of A4 category (scattered mines).⁷

After a spike in the number of mine and ERW casualties in 2014, the total number of people killed or injured

continued to decline in 2015 and 2016 (see Table 2). The number of anti-personnel mine casualties more than doubled in 2016 but remained at about the same level as in 2012–14. After increased attention to clearing anti-vehicle mines in the past two years the number of casualties from these devices as well as from other ERW has steadily declined since 2014 and the total number of people killed or injured in 2016 was less than half the 205 casualties in 2011.⁸

Table 2: Casualties by device in 2012–16⁹

Device	2016		2015		2014		2013		2012	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
AP mine	3	23	2	10	1	36	3	21	2	27
AV mine	4	12	3	14	9	26	12	12	23	14
ERW	18	23	11	68	11	71	7	56	18	102
Totals	25	58	16	92	21	133	22	89	43	143

PROGRAMME MANAGEMENT

The CMAA, set up in September 2000, regulates and coordinates mine action, responsibilities previously assigned to the Cambodian Mine Action Centre (CMAC).¹⁰ The CMAA's responsibilities include regulation and accreditation of all operators, preparing strategic plans, managing data, conducting quality control, and coordinating risk education and victim assistance.¹¹

The CMAA's President is Prime Minister Hun Sen who in 2016 changed the senior officials responsible for managing the sector. Prak Sokhonn, CMAA vice-president and chairman of a Joint Government-Development Partners' Mine Action Technical Working Group maintaining relations with donors was appointed foreign minister in April 2016. Two senior government officials, Serei Kosal and Ly Thuch, were named as CMAA's first and second vice-presidents respectively.¹² In May 2016, Ly Thuch, who also serves as a government minister, was appointed CMAA Secretary General, replacing Prum Sophakmonkol, who moved to the Ministry of Foreign Affairs.

The CMAA identifies priority communes for clearance on the basis of casualty data and provincial-level Mine Action Planning Units (MAPUs) are responsible for preparing annual clearance task lists, working in consultation with local authorities to identify community priorities and with operators, taking account of donor funding and objectives. Task lists are reviewed and approved by Provincial Mine Action Committees (PMACs) and the CMAA. Reviews of the system in 2015 identified weaknesses, notably in reconciling local-level priorities with wider strategic goals,¹³ and CMAA management acknowledged a need to review the criteria for prioritising clearance in discussions on a new mine action strategy.¹⁴

UNDP has supported the CMAA through a "Clearing for Results" (CFR) programme since 2006, awarding contracts funded by international donors through a process of competitive bidding. The first two phases from 2006 to the end of 2015 resulted in release of 167km² at a cost of \$37 million.¹⁵ Prospects for the third phase were overshadowed by waning donor support.

By May 2016, donors had committed to provide \$11 million for four years, of which \$7 million was pledged by Australia.¹⁶ For 2016, CMAA issued three contracts worth a total of \$1.65 million. This included two contracts worth \$1.1 million awarded to CMAC to clear 7.6km² in Battambang and Banteay Meanchey provinces and one contract worth \$0.43 million awarded to the National Centre for Peacekeeping Forces Management, Mines and Explosive Remnants of War Clearance (NPMEC) to clear 2.2km² in Pailin.¹⁷

Strategic Planning

The CMAA's management reshuffle came as it prepared to draw up a new strategic plan that operators hoped would help to invigorate donor support. The CMAA convened technical discussions on the plan in 2016 and had intended to complete it that year but progress was held back by the CMAA's management reshuffle and wider political developments in the build-up to national elections. A draft National Mine Action Strategy 2017–2025 was still under discussion between CMAA, operators, and other stakeholders as at September 2017 but one proposal under consideration was to present it at the Anti-Personnel Mine Ban Convention (APMBC) Sixteenth Meeting of States Parties in December 2017.¹⁸

The draft plan vision called for a Cambodia that “is mine free and the threat from explosive remnants of war is minimized and human and socio-economic development takes place safely.” It further identified the mission of mine action as “to release all known landmine and prioritized cluster munitions contaminated areas and to minimize the residual risks caused by explosive remnants of war in Cambodia; and to advocate for the rights and services for landmines and ERW survivors and indirect victims.”¹⁹

The draft plan set eight goals and twenty-seven objectives. The goals were:

- Release all known mined areas by 2025.
- Release prioritised cluster munition-contaminated areas by 2025
- Address the threats from ERW
- Minimise mine/ERW (including cluster munition remnants) casualties and improve survivors’ livelihoods
- Contribute to economic growth and poverty reduction
- Promote regional and international disarmament and cooperation in mine action
- Establish a sustainable national capacity to address residual mine/ERW contamination after 2025
- Ensure mine action activities are supported by enhanced quality management systems, effective information management and are gender- and environment-protective sensitive.

The draft said total known mine contamination amounted to 946km². It said Cambodia had released an average of 94km² a year for the last three years and at this rate would need 10 years to complete release of all known mine contaminated areas. To meet the goals of the Maputo Declaration and achieve completion by 2025 Cambodia would need to increase productivity by 22% to release 115km² a year.²⁰ It said clearance assets should only deploy in areas where there is clear evidence of mines and future clearance tasks should be prioritised on the basis of effective re-survey.²¹

An initial draft of the plan had observed that demining operations in 2014–15 had released mainly A4 and A2 land and very little A1 dense contamination and called for more balance in the categories of land prioritised for clearance, signalling the need to accelerate clearance of A1 land.²²

The initial draft plan also acknowledged that “a significant number” of mined areas cleared in 2016 either did not contain any mines or only contained mine types that experience showed had degraded and no longer functioned.²³ The observation echoed a finding by the Geneva International Centre for Humanitarian Demining (GICHD) in a 2016 report, citing official data that almost half the land released by full clearance or reduced by technical survey in 2015 contained no mines (26%) or very few (one to three) devices (23%). It also found that dense anti-personnel mine contamination accounted for 7% of land released by full clearance in 2015 and 3.5% of land cleared in 2010–15. Land contaminated by nuisance or scattered mines accounted for almost half the area released in 2010–15.²⁴

The draft strategy said planning and prioritisation should take device types into consideration and that clearance tasks should be prioritised on the basis of effective re-survey (non-technical survey) that identified areas with clear evidence of the presence of mines. It said planning and prioritisation should respond to needs of communities on its border and that donor funding should be directed to priority areas where communities are impacted by high-risk mine types which are likely to function.²⁵

The HALO Trust had previously pointed to the need to avoid clearing areas about to reach the status of reclaimed land (after three years’ cultivation without mines being encountered). It also argued for more clearance of land with highly functional mine types (such as PMN, PPM-2, and 72 Alpha anti-personnel and anti-vehicle mines) rather than areas with mine types known by local communities to be particularly prone to degrading (Type 69, PMD 60, POM).²⁶

A Concept Paper on resource mobilisation released by the CMAA in early 2016 said Cambodia would need almost \$340 million to deal with contamination totalling 1,638km², of which some 930km² was mined area and 707km² was battle area. It said Cambodia would be able to release 1,545km² (94% of the total) by 2025 through technical survey and clearance but warned that mine action targets were “seriously threatened” by lack of funding.²⁷ The CMAA believed Cambodia would need around \$400 million to tackle 1,970km² of mine and ERW contamination by 2025.²⁸

Information Management

The CMAA manages a database that upgraded to operating Information Management System for Mine Action (IMSMA) New Generation in 2014 that receives regular operational progress reports from operators but in 2017 information management remained a major challenge.

A GICHD information management assessment in 2015 concluded that “the overall level of data analysis and information usage within CMAA is good. Reports, charts, maps, extracts from IMSMA are being produced.” It also said “the full potential of IMSMA as an operational tool and its data for planning, prioritization, and tasking could significantly be enhanced in the future.” It also observed that the flow of data from CMAC remained a major challenge.

The GICHD reported in 2016 that the Database Unit staff “possesses the skills and knowledge to realize solutions to the increasing analysis and reporting requirement of the CMAA management” and demonstrated a strong commitment to improving the quality of data.²⁹ In 2017, however, the CMAA still struggled to produce consistent, disaggregated data detailing the progress of survey and clearance.

Operators

Mine clearance is undertaken mainly by the national operator, CMAC, and two international mine action non-governmental organisations (NGOs), The HALO Trust and Mines Advisory Group (MAG). A national NGO, Cambodian Self-help Demining (CSHD), has been active since 2011. The CMAA identified three commercial companies as accredited to operate in 2017, including BACTEC, D&Y, and MUCC.³⁰ The CMAA said in April 2016 that NPMEC had thirteen demining and four explosive ordnance disposal (EOD) teams accredited with the CMAA in 2016, an increase of two EOD teams compared to the start of 2015. In 2017, it reported only 10 NPMEC units accredited with the CMAA.³¹

The CMAA is responsible for quality management and in 2016 deployed eight QA/QC teams. It expected to maintain the same capacity in 2017.³²

LAND RELEASE

The CMAA reported release of a total of 68.7km² of mined area through survey and clearance in 2016 but inconsistencies in the CMAA’s data as well as between CMAA data and results reported by operators meant this was an approximate figure.³³ Even with this caveat, it was clear that the pace of land release had slowed sharply from 2015, when Cambodia appeared to have released a total of approximately 147km².³⁴

The slowdown had been expected as operators completed the survey of areas reclaimed by local communities which had started in 2015 and produced a spike in the amount of land cancelled by non-technical survey. The result underscored that land release in future would increasingly require technical survey and/or full clearance, further slowing progress towards completion, particularly as operators are tasked onto more A1 densely contaminated areas.³⁵

Table 3: Land release in 2014–16 (km²)³⁶

Year	Area cancelled by NTS	Area reduced by TS	Area cleared	Totals
2014	22.21	23.77	50.24	96.22
2015	70.38	30.11	46.47	146.96
2016	28.93	14.48	25.33	68.73

NTS = Non-technical survey TS = Technical survey

Survey in 2016

The CMAA reported release of 43.41km² through cancellation by non-technical survey and reduction through technical survey in 2016 (see Table 4) but its figures differed significantly from those reported by operators. MAG said that it cancelled 1.68km² through non-technical survey in 2016 and reduced 0.8km² as part of its technical survey.³⁷

Table 4: Land released by survey in 2016 (m²)³⁸

Operator	Area cancelled by NTS	Area reduced by TS	Total release by survey
CMAC	17,010	12,438,399	12,455,409
CSHD	0	43,254	43,254
MAG	1,265,770	1,302,961	2,568,731
NPMEC	0	451,161	451,161
HALO	27,644,284	244,192	27,888,476
Totals	28,927,064	14,479,967	43,407,031

Clearance in 2016

The amount of land released through clearance appears to have fallen sharply in 2016, though data inconsistencies make it difficult to determine results precisely. The CMAA reported clearance of 26.7km² in 2016, little more than half the estimated 46.5km² cleared in 2015 but may have understated results by some operators. Operators destroyed a total of 7,349 mines, 17% less than the previous year. CMAA data, however, showed clearance of less than 1km² of a total estimate of 106km² of densely contaminated land (A1 and A2.1) in 2016 and 15.4km² of a total of 682km² scattered/nuisance mine contamination (A2.2 and A4).³⁹ Data is indicative only in view of discrepancies in the figures presented in Tables 5 and 6. The total area cleared (C3) in Table 5 is less than the total area cleared in Table 6.

Table 5: Land release in 2016 by land classification and methodology (m²)⁴⁰

	Area cancelled by NTS	Area reduced by TS	Area cleared	Totals	AP mines destroyed	AV mines destroyed	ERW destroyed
A1	202,428	59,992	699,774	962,194	1,698	0	44
A2	301,648	324,412	1,319,324	1,945,384	130	8	279
A2.1	70,020	62,785	240,287	373,092	560	6	5,713
A2.2	6,932,983	6,528,992	9,055,794	22,517,769	2,774	45	1,267
A3	189,996	22,530	6,654,607	6,867,133	93	56	249
A4	17,792,584	6,121,746	6,279,342	30,193,672	2,166	38	975
B2	3,437,406	1,359,510	1,078,636	5,875,552	157	0	493
Total	28,927,065	14,479,967	25,327,764	68,734,796	7,578	153	9,020

The sharpest fall in operating results came from CMAC, Cambodia's biggest demining organisation, which the CMAA said cleared 13.74km² in 2016,⁴¹ down from about 22.86km² in 2015. CMAC said it cleared 17.5km² in 2016,⁴² a discrepancy which may be attributable to delays in the submission and data entry of CMAC operating results. CMAC said it cleared 0.12km² of A1/dense anti-personnel mine contamination and 6.6km² of A4/scattered anti-personnel mine contamination but its director said in 2017 it would clear more A1 tasks in line with shifting national priorities.⁴³

The downturn followed two years of severe financial constraints which led to downsizing of the number of personnel. CMAC had 1,245 staff at the end of 2016, compared with 1,700 the previous year. Germany ended financial support for CMAC's Demining Unit 6 in Siem Reap in 2016 and the organisation faced a reduction in the value of contracts awarded by the UNDP-managed Clearing for Results programme. CMAC said it received some \$8.7 million in 2016, including \$5.9 million from international donors and just under \$3 million from unspecified "internal" sources.⁴⁴

CMAC saw improved prospects for donor support in 2017. Japan agreed to provide \$12 million worth of equipment, including 88 vehicles, 788 deep-search detectors, 90 brush cutters, and 450 sets of personal protective equipment. It also agreed to provide \$18 million in funding over three years from 2017 to 2019. CMAC planned to use the funding to focus on clearance in four heavily mined districts of Battambang province with a view to making them impact-free. It also expected to receive around \$3 million worth of work from the government in 2017, including clearance or verification for road development, power lines and irrigation systems.⁴⁵

Table 6: Mine clearance in 2016⁴⁶

Operator	Areas cleared	Area cleared (m ²)	AP mines destroyed	AV mines destroyed	Submunitions destroyed	UXO destroyed
CMAC	230	13,739,804	3,038	32	3	1,692
CSHD	23	434,075	139	2	0	174
HALO	232	11,268,298	3,248	97	0	6,079
MAG*	9	151,908	314	0	0	153
NPMEC	18	1,061,376	610	17	0	524
Totals	512	26,655,461	7,349	148	3	8,622

* MAG reported clearance of 1,971,204m² and destroying 830 anti-personnel mines.

The HALO Trust continued to operate with 1,100 personnel in five western and northern provinces in 2016 but recorded a slight downturn in productivity. It released 11.27km² through clearance in 2016, about half of it involving areas contaminated by anti-vehicle mines. This represented a drop of 8% from the previous year, though it destroyed 17% more anti-personnel mines in the course of clearance according to CMAA data. HALO Trust continued to work on clearing parts of the K5 mine belt and expanded its presence in Prey Vihear province but faced restrictions on access to some areas close to disputed parts of Cambodia's border with Thailand. In 2017, The HALO Trust deployed teams for the first time to Koh Kong province, an area starting to attract large numbers of settlers but left out of survey and clearance. HALO Trust also reviewed possible use of mine detection dogs in technical survey of mined areas and planned to conduct a trial of rats provided by APOPO in 2017, starting with four rats and rising to eight, to explore their possible use in technical survey.⁴⁷

MAG had eight mine action teams and a total of 128 deminers operating in 2016 in Battambang and Pailin of a total of 228 staff that included BAC, EOD, community liaison, and mechanical clearance teams. MAG reported clearance of 1.97km², and said its record of results differed from the CMAA's because the CMAA combined clearance and area-reduction results under technical survey and experienced delays in uploading results to its database. MAG received some \$2.9 million in donor funding in 2016 and expected support to continue at that level in 2017, enabling it to maintain the same operational capacity. In 2017, it also expected to target a higher proportion of densely contaminated minefields.⁴⁸

ARTICLE 5 COMPLIANCE

Under Article 5 of the APMBC (and in accordance with the 10-year extension granted by states parties in 2009), Cambodia is required to destroy all anti-personnel mines in mined areas under its jurisdiction or control as soon as possible, but not later than 1 January 2020. It is not on track to meet this deadline.

Cambodia's draft mine action strategy for 2017–25 sets a target of completing clearance of known mine contaminated areas by 2025 but makes clear this is dependent on a attracting donor support of around \$400 million, averaging more than \$40 million a year, a much higher level than achieved in recent years.

Table 7: Release of mined areas in 2012–16 (km²)⁴⁹

Year	Area cleared	Area released by survey	Total area released
2016	25.33	43.41	68.73
2015	46.47	100.49	146.96
2014 ⁵⁰	54.38	42.08	96.46
2013	45.59	21.46	67.05
2012	45.96	6.62	52.58
Totals	217.73	214.06	431.78

- 1 HALO Trust, "Mine clearance in Cambodia–2009", January 2009, p. 8.
- 2 Revised BLS data presented in statement of Cambodia, Intersessional meetings (Standing Committee on Mine Clearance), Geneva, 10 April 2014.
- 3 Email from the CMAA, 2 May 2017.
- 4 Cambodia's Article 7 report for 2016, Form D, identified only 81.83km² of anti-personnel mine contamination, compared with the 646km² reported by Cambodia in its Article 7 report for 2015, Form C.
- 5 Interview with Greg Crowther, Regional Director, South and South East Asia, Mines Advisory Group (MAG), Phnom Penh, 1 May 2017.
- 6 Data received by email from CMAA, 2 May 2017.
- 7 CMAA, "National Mine Action Strategy 2017–2025", Draft, 2017, pp. 16–17.
- 8 Cambodia Mine Victim Information System (CMVIS) casualty data for 2014, received by email from Nguon Monoketya, CMVIS Officer, CMAA, 14 March 2015.
- 9 Compiled from CMVIS casualty data for the period 2012–16.
- 10 CMAC is the leading national demining operator, but does not exercise the wider responsibilities associated with the term "centre". Set up in 1992, CMAC was assigned the role of coordinator in the mid-1990s. It surrendered this function in a restructuring of mine action in 2000 that separated the roles of regulator and implementing agency and led to the creation of the CMAA.
- 11 Geneva International Centre for Humanitarian Demining (GICHD), "A Study of the Development of National Mine Action Legislation", November 2004, pp. 64–66.
- 12 Interview with Prum Sophakmonkol, CMAA, Phnom Penh, 11 May 2016.
- 13 Ibid.; and "Review of MAPU-led prioritization decisions in CFR11 target provinces, western Cambodia", Draft report, 24 January 2016, pp. 4 and 47.
- 14 Interview with Ly Thuch, Secretary General, CMAA, Phnom Penh, 2 May 2017.
- 15 "Clearing for Results Phase II, Annual Report 2014", UNDP, undated but 2015, pp. 18–19. Results included contracts awarded in 2015 for release of 54.1km² at a cost of \$4.9 million.
- 16 Interview with Prum Sophakmonkol, CMAA, Phnom Penh, 11 May 2016; and Enrico Gaveglia, Acting Country Director, UNDP, Phnom Penh, "Mine Action in Cambodia: beyond clearing landmines", *Phnom Penh Post*, 12 January 2016.
- 17 Information provided by Tong Try, Senior Project Officer, Clearing for Results/UNDP, 11 May 2016.
- 18 Email from Edwin Faigmane, Chief Technical Adviser, UNDP, 21 September 2017.
- 19 CMAA, "National Mine Action Strategy 2017–2025", Draft 02, 2017, p. 12.
- 20 CMAA, "National Mine Action Strategy 2017–2025", Draft 02, 2017, p. 15.
- 21 Ibid., p. 17.
- 22 CMAA, "National Mine Action Strategy 2017–2025", Version 26.4.2017, pp. 17–18.
- 23 Ibid., pp. 18–19.
- 24 GICHD, "'Finishing the Job', an independent review of Cambodia's mine action sector", Geneva, 30 April 2016, pp. 41–42.
- 25 CMAA, "National Mine Action Strategy 2017–2025", Draft, 2017, p. 35.
- 26 Interview with Matthew Hovell, Programme Manager, HALO Trust, Siem Reap, 12 May 2016.
- 27 "Concept Paper: Cambodian Mine Action Resources Mobilisation", CMAA, undated but 2016.
- 28 Interview with Ly Thuch, CMAA, Phnom Penh 2 May 2017; and CMAA, "National Mine Action Strategy 2017–2025" (Draft), pp. 7 and 18.
- 29 GICHD, "'Finishing the Job', an independent review of Cambodia's mine action sector", Geneva, 30 April 2016, p. 58
- 30 Email from CMAA, 2 May 2017.
- 31 Emails from CMAA, 18 April 2016 and 2 May 2017.
- 32 Email from CMAA, 2 May 2017.
- 33 Ibid.
- 34 Ibid.; and 2016 data compiled by Mine Action Review from results reported by the CMAA and operators.
- 35 Interviews with Greg Crowther, MAG, Phnom Penh, 1 May 2017; and Matthew Hovell, Programme Manager, HALO Trust, Siem Reap, 4 May 2017.
- 36 Data for 2014 and 2015 was compiled by Mine Action Review from results reported by CMAA and operators. Data for 2016 received by email from CMAA, 2 May 2017.
- 37 Email from Greg Crowther, MAG, 4 April 2017.
- 38 Email from CMAA, 2 May 2017.
- 39 Emails from CMAA, 2 May and 7 June 2017.
- 40 Ibid.
- 41 Ibid.
- 42 Email from Rath Pottana, Information Officer, CMAC, 9 May 2017.
- 43 Interview with Heng Rattana, Director, CMAC, Phnom Penh, 2 May 2017; and email from Rath Pottana, CMAC, 9 May 2017.
- 44 Email from Rath Pottana, CMAC, 9 May 2017.
- 45 Interview with Heng Rattana, CMAC, Phnom Penh, 2 May 2017.
- 46 Email from CMAA, 2 May 2017.
- 47 Interview with Matthew Hovell, HALO Trust, Siem Reap, 12 May 2016; and email from CMAA, 2 May 2017.
- 48 Email from Greg Crowther, MAG, 4 April and 28 September 2017; and interview, Phnom Penh, 1 May 2017.
- 49 Compiled by Mine Action Review from data provided by the CMAA and operators.
- 50 CMAA reported release of 96.2km² in 2014: 50.2km² released by clearance and 46km² cancelled or reduced by survey.