

**ARTICLE 5 DEADLINE: 31 OCTOBER 2023**

THIRTY-EIGHT MONTH EXTENSION REQUESTED TO 31 DECEMBER 2026

## KEY DATA

**ANTI-PERSONNEL (AP)  
MINE CONTAMINATION: HEAVY**

MINE ACTION REVIEW ESTIMATE

**OVER 20 KM<sup>2</sup>**

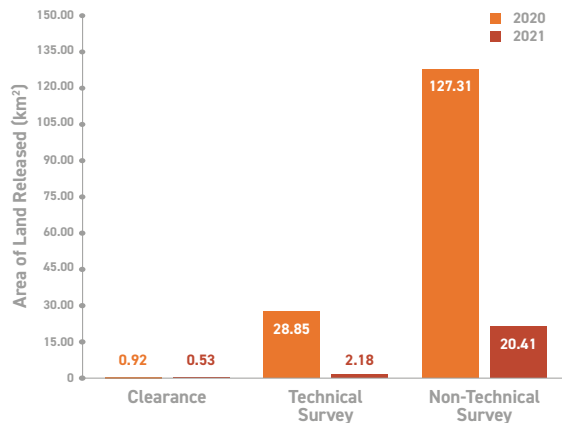
AP MINE  
CLEARANCE IN 2021

**0.53 KM<sup>2</sup>**

AP MINES  
DESTROYED IN 2021

**19,002**

## LAND RELEASE OUTPUT



**CURRENT LIKELIHOOD OF MEETING 2025 CLEARANCE TARGET (as per the Oslo Action Plan commitment): LOW**

## KEY DEVELOPMENTS

Thailand acknowledged it would not be able to complete mine clearance within its Article 5 deadline and in March 2022 submitted a third extension request that would push its deadline back from the end of October 2023 to the end of December 2026. Land release results fell sharply as mine action operators switched their focus from non-technical to technical survey and clearance tackling densely contaminated areas in difficult terrain but it also more than doubled the number of mines cleared. COVID-19 pandemic pressures on the national budget and lower donor support led to a cut in the Thailand Mine Action Centre (TMAC) budget and the number of personnel deployed in the field in 2022. TMAC proposed to the Cambodian Mine Action Centre that they should follow up the 2020 pilot project for survey and clearance in disputed areas of their common border, and after receiving a favourable response suggested a number of areas for the operation.

## RECOMMENDATIONS FOR ACTION

- Thailand should engage vigorously with Cambodia to reach agreement on resuming survey and clearance of hazardous areas in un-demarcated areas of their common border and creating a mechanism for sustained release of land to productive use.
- Thailand should conclude its review of revised national mine action standards and expedite their implementation by demining operators.
- Thailand should develop a policy on gender and a plan to implement it.

## ASSESSMENT OF NATIONAL PROGRAMME PERFORMANCE

Criterion	Score (2021)	Score (2020)	Performance Commentary
<b>UNDERSTANDING OF CONTAMINATION</b> (20% of overall score)	8	8	High rates of cancellation of suspected contamination through non-technical survey in the last three years have successfully focused attention on the core contamination, slashing estimates of Thailand's outstanding mine problem from 360m <sup>2</sup> at the end of 2018 to 40km <sup>2</sup> three years later. The main unknowns now are some 340 areas in un-demarcated parts of the border with Cambodia where access has yet to be agreed.
<b>NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT</b> (10% of overall score)	8	8	There is strong national ownership of Thailand's mine action programme which, since it started, has been largely funded from the budget of the armed forces. TMAC's military personnel conduct survey and clearance operations, supported by, and in good collaboration with, NGO clearance organisations. Regular meetings are convened between TMAC, relevant ministries, and all Humanitarian Mine Action Units (HMAUs) and clearance operators to discuss progress, challenges, and planning.
<b>GENDER AND DIVERSITY</b> (10% of overall score)	5	5	Women make up around 40% of TMAC's workforce, but it has no policy on gender and there were no women in the HMAU demining teams although there were female technical survey personnel working for civilian operators. Thailand's baseline survey, completed at the end of 2020 with the exception of some areas on the border with Cambodia, was based on inclusive community interviews in all areas where the survey was conducted. In areas where minority groups reside, they were also consulted.
<b>INFORMATION MANAGEMENT AND REPORTING</b> (10% of overall score)	8	8	TMAC used the Arc Geographic Information System (GIS) to manage data which allows demining units to submit information online, enabling TMAC to verify data and make corrections. Norwegian People's Aid (NPA) and the Thai Civilian Deminer Association (TDA) deem data in Thailand to be accurate and reliable, with data in the national information management system accessible to clearance organisations. Thailand submits timely, comprehensive, and accurate Article 7 reports and has regularly updated APMB states parties on progress.
<b>PLANNING AND TASKING</b> (10% of overall score)	8	8	Thailand has a five-year strategic mine action plan through to the end of October 2023 that contains annual targets and details prioritisation for the release of mined areas. In March 2022, it submitted a request for an extension to its October 2023 Article 5 deadline setting out revised land release targets. These appear challenging for TMAC's current capacity and its ability to achieve them will depend on reaching agreement with Cambodia on access to disputed areas of their common border.
<b>LAND RELEASE SYSTEM</b> (20% of overall score)	8	8	TMAC is applying an efficient land release methodology. After cancelling a significant amount of the inflated SHA in its database through non-technical survey it is focusing on technical survey to identify actual contamination and on clearance. TMAC has worked since 2020 on revising its NMAS to bring them in line with IMAS, introduce standards for the use of mine detection dogs (MDD)/animal detection systems (ADS) and mechanical assets, and support more efficient operations, but as of August 2022 had still not finalised the updated standards.
<b>LAND RELEASE OUTPUTS AND ARTICLE 5 COMPLIANCE</b> (20% of overall score)	8	8	Thailand's land release in 2021 fell well short of the previous year which was expected as it progressed from Phase 1 of its five-year strategic plan focused on non-technical survey to Phase 2 focused on technical survey and clearance. But it also fell well short of the annual target, partly as a result of the constraints of COVID-19 restrictions on operations. This underscores the challenges facing TMAC tackling dense contamination in difficult terrain. Recognising it would be unable to complete clearance within its Article 5 deadline of October 2023, Thailand requested a 38-month extension in March 2022, but it will need Cambodia's cooperation for access to un-demarcated areas of the border if it is to meet the new deadline.
<b>Average Score</b>	<b>7.7</b>	<b>7.7</b>	<b>Overall Programme Performance: GOOD</b>

## DEMINING CAPACITY

## MANAGEMENT CAPACITY

- National Committee for Humanitarian Mine Action (NMAC)
- Thailand Mine Action Centre (TMAC)

## NATIONAL OPERATORS

- Humanitarian Mine Action Units (HMAU 1–4) and HMAU TMAC
- Thai Civilian Deminer Association (TDA)

## INTERNATIONAL OPERATORS

- Norwegian People's Aid (NPA)

## OTHER ACTORS

- Golden West Humanitarian Foundation (Golden West)

## UNDERSTANDING OF AP MINE CONTAMINATION

Thailand assessed it had anti-personnel mine contamination totalling 40km<sup>2</sup> at the end of 2021,<sup>1</sup> continuing the rapid reduction in affected areas of recent years. The end-2021 estimate was one third less than the estimate of 63km<sup>2</sup> a year earlier and compares with 218km<sup>2</sup> two years earlier. Confirmed and suspected hazardous areas (CHAs and SHAs) affected 18

districts in seven provinces, but one district, Buri Ram, had less than half a square kilometre of mined area (see Table 1). By the time Thailand submitted its request for an extension of its Article 5 deadline in March 2022, total remaining contamination had dipped further to just under 37km<sup>2</sup>.<sup>2</sup>

**Table 1: Anti-personnel mined area by province (at end 2021)<sup>3</sup>**

Region	Province	CHAs	Area (m <sup>2</sup> )	SHAs	Area (m <sup>2</sup> )	Total CHAs/SHAs	Total area (m <sup>2</sup> )
North	Phitsanulok	0	0	1	4,201,455	1	4,201,455
North-east	Ubon Ratchathani	48	6,357,856	1	331,104	49	6,688,960
	Si Sa Ket	51	4,090,448	4	2,297,434	55	6,387,882
	Surin	26	2,971,855	5	2,456,417	31	5,428,272
	Buri Ram	1	98,154	4	250,810	5	348,964
	Sa Kaeo	0	0	10	5,878,244	10	5,878,244
East	Trat	34	8,265,265	7	2,827,378	41	11,092,643
<b>Totals</b>		<b>160</b>	<b>21,783,578</b>	<b>32</b>	<b>18,242,842</b>	<b>192</b>	<b>40,026,420</b>

As further evidence of Thailand's progress, continuing survey has identified only small amounts of previously unrecorded hazardous areas. In 2020, Thailand added 1.8km<sup>2</sup> across seven provinces to the database. In 2021, the area added was less than 0.2km<sup>2</sup> found across three provinces (see Table 2).<sup>4</sup>

**Table 2: Previously unrecorded CHAs identified in 2021<sup>5</sup>**

Region	Province	Area (m <sup>2</sup> )
North East	Sa Kaeo	12,578
	Buri Ram	9,791
East	Trat	165,204
<b>Total</b>		<b>187,573</b>

The rapid fall has been achieved mainly by cancelling large areas of the previously inflated estimate of contamination under the five-year, 2018–23 Humanitarian Mine Action

Plan. Phase 1 of the plan covering 2018–20 concentrated on cancelling SHAs through non-technical survey – in 2019 and 2020 TMAC cancelled a combined total of 256km<sup>2</sup>. That leaves Thailand having to focus increasingly on technical survey and clearance in Phase 2 and in the three-year, two-month extension sought to its Article 5 deadline.

Of the 36.97km<sup>2</sup> contamination reported as of 1 March 2022, 19.67km<sup>2</sup> is CHA, 2.99km<sup>2</sup> is SHA, and 14.3km<sup>2</sup> is classified as "areas to be demarcated" on the Thai-Cambodian border. As a result, more than one third of Thailand's outstanding contamination (almost 39%) lies in areas where clearance can only occur with Cambodia's consent.<sup>6</sup> Thailand reports 30 areas requiring demarcation spread across six provinces: Buri Ram, Sa Kaeo, Si Sa Ket, Surin, Trat, and Ubon Ratchathani.<sup>7</sup>

Thailand is also affected by explosive remnants of war (ERW), the result of conflicts on its borders with Cambodia, the Lao People's Democratic Republic (Lao PDR), Malaysia, and Myanmar.

1 Article 7 Report (covering 2021), Form 4, Table 4-2.

2 Article 5 deadline extension request, 31 March 2022, p. 4.

3 Article 7 Report (covering 2021), Form 4, Table 4-2.

4 Article 7 Report (covering 2021), Form 4.

5 Ibid.

6 Article 5 deadline Extension Request, 31 March 2022, p. 8. The area to be demarcated was bigger on 1 March 2022 than at the end of 2021 when TMAC recorded it as 14.04km<sup>2</sup>. Email from Ft. Lt. Chotiboon Anukulvanich, Interpreter, (on behalf of the Director General), TMAC, 27 May 2022.

7 Article 7 Report (covering 2021), Form 4.

## NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT

Thailand created the National Committee for Humanitarian Mine Action (NMAC) in 2000, chaired by the prime minister and with responsibility for overseeing the national mine action programme. The NMAC was reconstituted in May 2017, again with the prime minister as chairman, but had not been convened since 2017.<sup>8</sup> The engagement of national leadership in the Committee was seen as important in facilitating policy direction and progress on issues affecting national security, notably regarding cooperation with neighbouring countries on clearing border areas.<sup>9</sup> NMAC is tasked with developing policy guidance and mobilising resources from all sectors to support mine action to be able to complete clearance in the allotted timeframe.<sup>10</sup> In reality, however, the Committee has no operational or strategic power and is purely procedural.<sup>11</sup>

TMAC was established in 1999 under the Royal Thai Armed Forces Headquarters to coordinate, monitor, and conduct mine/ERW survey and clearance, risk education, and victim assistance coordination throughout Thailand.<sup>12</sup> While the roles and responsibilities within the sector are clear and coherent, TMAC has had to contend with limited funding and, as a military organisation, with regular rotation of personnel at all levels.<sup>13</sup> A new Director of TMAC took office on 1 March 2021, the twelfth director since TMAC was established, although the new incumbent had previously served as Deputy Director of TMAC for two years, ensuring continuity of leadership and institutional expertise.

TMAC has also requested the Royal Thai Armed Forces Headquarters to allow personnel working within TMAC to remain in post for at least two years rather than be rotated out annually. To strengthen the capacity and experience of the Humanitarian Mine Action Units (HMAUs), it requested either to have the required training and qualifications before they assume the role or that personnel remain in post for at least two years. TMAC aims to have a 60:40 ratio of old personnel to new for the purposes of continuity and to retain knowledge.<sup>14</sup> Training courses delivered by US Marine Corps Forces Pacific (MARFORPAC) under the US Department of Defense Humanitarian Mine Action Program have evolved to meet TMAC's operational requirements and currently include EOD Levels 1 to 3, technical survey, and mentorship to operational personnel from Golden West.<sup>15</sup>

TMAC has faced some challenges with the command structure of the HMAUs. With the exception of one of the HMAUs, HTMAC, personnel come from the Division-Level Force of the Royal Thai Army and the Royal Thai Navy, which means they must report both to TMAC and to their respective divisional command.<sup>16</sup> TMAC has worked to inform the HMAUs, high-ranking generals, and the Chief of Defence Forces on the importance of mine action.<sup>17</sup>

The cost of TMAC (including personnel, equipment, operational costs, meetings, workshops, and trainings), is covered by the Thai government, through the Royal Thai Armed Forces Headquarters. Survey and clearance costs of the HMAUs are also nationally funded.<sup>18</sup> TMAC's budget in 2021 amounted to THB262.6 million (approximately US\$7.73 million) but as a result of the impact of the COVID-19 pandemic on national finances, TMAC's budget for 2022 was subject to a 10% cut.<sup>19</sup> This included approximately US\$5.4 million for personnel and US\$2.1 million for operations. Thailand also spent \$83,760 on equipment for operations, including drones for survey, handheld radios and high-performance mountain bikes.<sup>20</sup> Thailand has indicated that it would welcome international assistance for equipment, as well as additional survey teams.<sup>21</sup>

TMAC is reported to be very supportive of Norwegian People's Aid (NPA), the only international demining operator engaged in survey in the country. Staff from HMAU-2 and HMAU-3 are seconded to NPA, and the regional military command in HMAU-3 provided support to NPA to ensure quick and efficient introduction of mine detection dogs (MDDs) and their handlers from Cambodia to Thailand, as well as providing free and secure training areas for the MDDs and access to explosives/landmines for training purposes. TMAC also provides NPA with space at its office free of charge.<sup>22</sup>

That said, strict regulations on who can handle explosives in Thailand mean that civilian entities are not permitted to conduct explosive ordnance disposal (EOD) during clearance.<sup>23</sup> However, non-governmental organisation (NGO) operators work with the full support from HMAUs and are permitted to partially uncover buried landmines, which HMAU support staff then excavate and destroy. Military EOD staff are embedded in technical survey teams and, for spot tasks, to conduct any required EOD.<sup>24</sup>

8 Email from Flt. Lt. Chotiboon Anukulvanich, TMAC, 18 August 2021.

9 Interview with Lt.-Gen. Prasopchai Kongburan, Director General, TMAC, in Geneva, 8 June 2017.

10 Five-Year Humanitarian Mine Action Plan, 1 November 2018–31 October 2023, p. 49.

11 Interview with Shushira Chonhenchob, NPA, Bangkok, 9 April 2019.

12 2017 Article 5 deadline Extension Request, p. 1.

13 Interview with Col. Terdsak Trirattanagool, Assistant Director General, TMAC, Bangkok, 15 May 2017.

14 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 15 August 2019.

15 Emails from John Ketsch, Thailand Country Director/Technical Advisor, Golden West, 1 June 2020 and 15 September 2022.

16 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 15 August 2019.

17 Interviews with Shushira Chonhenchob, NPA; and with Lt.-Gen. Sittipol Nimnuan, TMAC, in Bangkok, 9 April 2019.

18 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 February 2020.

19 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

20 Article 7 Report (covering 2021), Form 4.

21 Article 7 Report (covering 2020), Form 8.

22 Emails from Aksel Steen-Nilsen, NPA, 30 March 2020 and 31 March 2021.

23 Ibid.

24 Email from Aksel Steen-Nilsen, NPA, 6 August 2021.

While Thailand has not yet created a formal in-country platform, such as a National Mine Action Platform (NMAP), regular monthly meetings between TMAC, relevant ministries, and all HMAUs and clearance operators are convened to discuss progress and challenges.<sup>25</sup> TMAC conducts quality assurance (QA) every three months to see what challenges are faced by operators. Mid-year planning workshops are also organised, and an end-of-year seminar took place in September 2020, to evaluate and review humanitarian mine action in Thailand for the 2020 fiscal year and plan for the next fiscal year. As in previous years, deminer orientation took place in October, at the start of the new fiscal year, during which new TMAC personnel were brought up to date and HMAUs were given the opportunity to make suggestions or raise concerns.<sup>26</sup>

## ENVIRONMENTAL POLICIES AND ACTION

Thailand does not have a national mine action standard on the environment but the issue is on the sector's agenda. The annual NPA-TMAC-HMAU meeting in December 2021 included sessions dedicated to environmental issues and had a workshop on the subject of working on Environmental Assessment and Management (EMA) and environment training. Environment is not taken into consideration in planning and tasking unless tasks are in protected areas, in which case there are specific rules to be followed in terms of what can be cut or not.

NPA introduced an environmental policy and management system in its Thailand operation in 2022.<sup>27</sup> Thai Civilian Deminer Association (TDA) includes environmental protection in its operating practices, minimising damage to trees, plants and wild life.<sup>28</sup>

## GENDER AND DIVERSITY

TMAC does not have a policy or guidelines on gender and diversity. While TMAC attempts to diversify gender where applicable, challenges are posed by virtue of it being a military organisation. In 2021, approximately 40% of staff at TMAC headquarters were women,<sup>29</sup> unchanged from the previous two years. This is, however, an increase on the 27.5% of female staff reported in 2018.<sup>30</sup> Women held 30% of TMAC's managerial/supervisory level positions in 2020.<sup>31</sup> In 2021, three of the nine TMAC staff in managerial positions were women, including a Rear Admiral serving as an advisor.<sup>32</sup> However, there continued to be no women working within the HMAUs, as personnel are allocated from local forces/garrison which are considered combat force. Currently, the combat force of the Thai military does not have female combatants in such units.<sup>33</sup>

Thailand's ongoing baseline survey of mine contamination is based on inclusive community interviews in all areas where the survey is conducted, during which women, girls, boys and men are consulted. In areas where they reside, minority groups are also consulted.<sup>34</sup> All these stakeholders are also present and consulted at the end of the survey, when the results are presented.<sup>35</sup>

NPA has an organisational gender and diversity policy and all NPA survey teams are gender balanced. NPA encourages TMAC and the HMAUs to become more gender balanced. When NPA conducts non-technical survey or community liaison activities, all local people are invited to participate, including women and children, and where they reside, members of minority groups. Of NPA's 22 employees in Thailand, nine (41%) are women, including five (56%) women of nine in managerial and supervisory positions; and five women (29%) of the seventeen in operations positions.<sup>36</sup>

During non-technical survey, TDA speaks to both men and women and employs both male and female local informants as part of its teams. There is equal access to employment for qualified women and men in TDA survey and clearance teams, including for managerial level/supervisory positions. As at March 2021, women held two (40%) of the five managerial level/supervisory positions at TDA, but there was only one woman (5%) in TDA's 19 operational positions.<sup>37</sup> TDA said that the low proportion of women in its field staff was due to field personnel often having to camp for several nights in remote areas.<sup>38</sup>

25 Emails from Flt. Lt. Chotiboon Anukulvanich, TMAC, 1 July 2021; and Aksel Steen-Nilsen, NPA, 31 March 2021.

26 Emails from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 February 2020 and 1 July 2021.

27 Email from Aksel Steen-Nilsen, NPA, 25 April 2022.

28 Email from Amornchai Sirisai, Director, TDA, 19 April 2022.

29 Emails from Flt. Lt. Chotiboon Anukulvanich, TMAC, 1 July 2021 and 27 May 2022.

30 Email from Shushira Chonhenchob, NPA (on behalf of the TMAC Director General), 8 April 2019.

31 Email from Flt. Lt. Chotiboon Anukulvanich, TMAC, 1 July 2021.

32 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

33 Email from Flt. Lt. Chotiboon Anukulvanich, TMAC, 18 August 2021.

34 Emails from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 February 2020; and Aksel Steen-Nilsen, NPA, 30 March 2020.

35 Email from Aksel Steen-Nilsen, NPA, 30 March 2020.

36 Emails from Aksel Steen-Nilsen, NPA, 31 March and 4 July 2021.

37 Email from Amornchai Sirisai, TDA, 9 March 2021.

38 Ibid.

## INFORMATION MANAGEMENT AND REPORTING

TMAC established a data centre to process land release, risk education, and quality management data. It manages the central database using Excel and Arc Geographic Information System (GIS) mapping.<sup>39</sup> ArcGIS Online is being used as part of a support package provided by the Department of Survey of the Royal Thai Armed Forces. ArcGIS assists TMAC and the HMAUs in data collection and dissemination, and mapping of SHAs and CHAs; and supports TMAC senior management in decision-making and operational planning.<sup>40</sup> The online system started in 2018 and became fully operational in 2019. HMAUs submit information to TMAC via the online system every 15 days, which allows for the verification of progress in the field and rectification of any issues.<sup>41</sup>

NPA and TDA deem data in Thailand to be accurate and reliable, with data in the national information management system accessible to clearance organisations.<sup>42</sup> Thailand submits timely and accurate Article 7 transparency reports. Thailand was requested by the Sixteenth Meeting of States Parties to the APMBC to provide an updated work plan to the Committee on Article 5 Implementation by 30 April 2019,<sup>43</sup> which it duly submitted. The Five-Year Plan provides details on remaining challenges, outstanding mine contamination, the prioritisation system, and land release outputs.<sup>44</sup>

## PLANNING AND TASKING

Thailand's Five-Year Plan for 2018–23, published in April 2019, is divided into two phases. During the first phase, in 2019–20, the focus was on non-technical survey of outstanding SHAs, with the expected cancellation of more than 269km<sup>2</sup>. During this stage, TMAC planned to release non-contaminated areas in the north-eastern region and parts of the eastern region, and gain a more precise information on the mined areas, including those along its border with Cambodia.<sup>45</sup> The 2021–23 Phase 2 focuses on technical survey and clearance of CHAs, based on the results of the national non-technical survey.<sup>46</sup>

Thailand completed the first phase at the end of 2020, with the exception of survey of border areas where demarcation has yet to be agreed with Cambodia. In this phase, four provinces were declared mine-free: Chanthaburi, Chiang Mai, Chumphon, and Mae Hong Son.<sup>47</sup> During the second phase, TMAC expects to release a total of more than 90km<sup>2</sup> of land through technical survey and clearance. Thailand prepared the plan on the assumption that it would be able to resolve border demarcation issues with Cambodia allowing the HMAUs to access these areas.<sup>48</sup> TMAC and the Cambodian Mine Action Centre (CMAC) conducted a pilot project on the

border in March–April 2020. Thailand reported that in August 2021 it submitted a proposal for a new project to which CMA had responded favourably, and that it had then proposed areas for operations,<sup>49</sup> but as at August 2022 the two sides had not agreed on further projects.

Thailand cited delays in accessing the un-demarcated areas as a primary factor in its inability to complete clearance within its 31 October 2023 Article 5 deadline and in its decision to seek a third extension. The extension request submitted in March 2022 sets revised and highly ambitious annual land release targets. It proposed to complete release of all CHAs and SHAs except the areas for demarcation within the second extension request deadline. In 2022, it proposed to release 17.39km<sup>2</sup> through technical survey and clearance, and in the period 1 January–31 October 2023 to release a further 8.6km<sup>2</sup>. It hoped to tackle the remaining 14.31km<sup>2</sup> of areas for demarcation in the course of the requested 38-month extension setting annual targets. These included almost 5.33km<sup>2</sup> of the most accessible areas in the first year, just under 5.15km<sup>2</sup> in the second, and more than 3.56km<sup>2</sup> of the more “complicated” areas in the remaining 14 months.<sup>50</sup>

39 Emails from Shushira Chonhenchob, NPA (on behalf of Lt.-Gen. Sittipol Nimnuan, TMAC), 8 April 2019; and Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 February 2020.

40 Email from Shushira Chonhenchob, NPA (on behalf of Lt.-Gen. Sittipol Nimnuan, TMAC), 8 April 2019.

41 Ibid; and email from Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 February 2020.

42 Emails from Aksel Steen-Nilsen, NPA, 30 March 2020 and 31 March 2021; and Amornchai Sirisai, TDA, 21 March 2019.

43 Decisions on the request submitted by Thailand for an extension of the deadline for completing the destruction of anti-personnel mines in accordance with Article 5 of the APMBC, 16MSP, para. iii.

44 Five-Year Humanitarian Mine Action Plan, 1 November 2018–31 October 2023, p. 5.

45 Email from Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 February 2020; and Article 7 Report (covering 2018), Section 4.

46 Five-Year Plan, p. 13; and Statement of Thailand, Fourth APMBC Review Conference, Oslo, 27 November 2019 and APMBC 18th Meeting of States Parties, virtual meeting, 16–20 November 2020.

47 Statement of Thailand, APMBC 18th Meeting of States Parties, virtual meeting, 16–20 November 2020; and Article 7 Report (covering 2020), Form 4.

48 Five-Year Plan, p. 13.

49 2022 Article 5 deadline Extension Request, p. 9.

50 Ibid.; p. 43.

# LAND RELEASE SYSTEM

## STANDARDS AND LAND RELEASE EFFICIENCY

TMAC drafted its first national mine action standards (NMAS) with NPA's support in 2010, formally adopting the 32 chapters in June 2012, the year Thailand initiated a land release process.<sup>51</sup> Since then, the NMAS underwent modest revisions in 2015 and 2018 in support of Thailand's shift towards using the full toolbox of land release methodologies rather than solely relying on technical survey and full clearance.<sup>52</sup> TMAC revised the NMAS on worksite planning in 2018 but the main change was the release of a new NMAS on the "Cancellation of SHAs by Evidence Based Survey", which has made it easier to cancel previously inflated, largely uncontaminated SHAs.<sup>53</sup> TMAC personnel have also been undergoing training on non-technical survey to improve speed and efficiency.<sup>54</sup>

In 2020, TMAC, with the assistance of Golden West, began to revise both the NMAS and standing operating procedures (SOPs), in accordance with the latest international mine action standards (IMAS), to help ensure efficient operations and reflect changes to the operational environment,

technologies, and best practices. TMAC regularly consulted stakeholders and operators during the process<sup>55</sup> but its Director General's objective was to have NMAS that provided concise guidance particularly applicable to the national operating environment and which it expected to run to about 12 chapters. One key change is the addition of a chapter on residual risk. Many other amendments involved clarifying national requirements and removing operational practice details which are to be moved instead into national SOPs.

The revised NMAS and SOPs underwent field testing in 2021. The SOP revisions were adopted with the intention to review and revise them biannually. NMAS revisions have taken longer than expected. The draft was expected to be finalised by November 2022 and followed by a review by TMAC executive staff, HMAU commanders, and other stakeholders. This latter process was expected to last about three months.<sup>56</sup>

## OPERATORS AND OPERATIONAL TOOLS

All clearance in Thailand is conducted by the military due to national regulations on who can handle explosives and operate demining equipment. There are five HMAUs, supervised by TMAC with personnel from the Royal Thai Army and Royal Thai Navy, which carry out survey and clearance operations. In addition, there is one national operator, TDA, and an international operator, NPA, which carries out survey in support of the HMAUs.<sup>57</sup>

TMAC's operational capacity increased significantly in 2021. The number of non-technical survey teams rose from seven in 2020 to eleven, technical survey teams rose from nine to fourteen, and the number of manual clearance teams rose from five (with 36 deminers) to 10 (with a total of 61). Pandemic pressures on Thailand's budget resulted in a 10% budget cut for TMAC in 2022 and it reported it was reducing the number of personnel deployed in the field by a similar proportion.<sup>58</sup>

**Table 3: TMAC Operational Capacity 2021<sup>59</sup>**

Operator	NTS		TS		Clearance		Dogs/handlers
	Teams	Personnel	Teams	Personnel	Teams	Personnel	
HMAU 1	1	6	4	16	1	4	1/2
HMAU 2	2	10	2	12	4	17	1/2
HMAU 3	3	21	3	27	2	28	1/2
HMAU 4	2	10	2	10	2	8	1/2
HTMAC	3	3	3	18	1	4	1/6
<b>Totals</b>	<b>11</b>	<b>50</b>	<b>14</b>	<b>83</b>	<b>10</b>	<b>61</b>	<b>5/14</b>

51 Thai National Mine Action Standards, 1 April 2015.

52 Email from Shushira Chonhenchob, NPA (on behalf of Lt.-Gen. Sittipol Nimnuan, TMAC), 8 April 2019.

53 Emails from Aksel Steen-Nilsen, NPA, 28 March 2019; and Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 15 August 2019.

54 Statement of Thailand, 17MSP, Geneva, 29 November 2018.

55 Article 7 Report (covering 2020), Form 4; and emails from Aksel Steen-Nilsen, NPA, 31 March 2021; and Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 1 July 2021.

56 Emails from John Kelsch, Golden West, 17 August and 15 September 2022.

57 Five-Year Mine Action Plan, p. 11; and email from Ft. Lt. Chotiboon Anukulvanich (on behalf of Lt.-Gen. Sittipol Nimnuan), TMAC, 27 February 2020.

58 Emails from Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 1 July 2021 and 27 May 2022.

59 Email from Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

Since the start of 2021, Thailand has been implementing Phase 2 of the five-year work plan, shifting TMAC's operational focus towards technical survey and clearance, although some non-technical survey will still be conducted. TMAC reported that it had initially planned to restructure its HMAU teams for Phase 2 but instead decided to train all existing personnel for non-technical and technical survey and EOD.<sup>60</sup> Training on these activities in 2021, as in previous years, was conducted jointly by US MARFORPAC and the TMAC in-house demining course, with support from Golden West, which also provided technical support for the training and mentoring for TMAC's EOD Level 3 technicians.<sup>61</sup>

NPA has supported TMAC operations since 2011, conducting land release through non-technical and technical survey.

NPA operated in 2021 with three non-technical survey teams (totalling six personnel) and three technical survey team (nine personnel), working jointly with personnel attached from HMAUs 2 and 3. NPA was assigned by TMAC to conduct technical survey in Surin province in 2022, planning to work with two MDDs which had already participated in a pilot project in 2021 and to deploy mechanical assets.<sup>62</sup>

TDA, which has supported TMAC operations since 2014, had two teams and 20 staff available in 2021 who were trained to conduct non-technical survey, technical survey, and clearance of EOD spot tasks, as part of its "SIMA" (survey to identify mined areas) approach. However, TDA only had funding for operations in the first two months of 2021.<sup>63</sup>

## DEMINER SAFETY

TMAC reported that four personnel sustained injuries in 2021, including one from HMAU 2 and three from HMAU 3 but gave no further details. TMAC said accidents are subjected to two investigations: by the HMAU concerned and by TMAC headquarters.<sup>64</sup>

## LAND RELEASE OUTPUTS AND ARTICLE 5 COMPLIANCE

### LAND RELEASE OUTPUTS IN 2021

Thailand reported releasing a total of 23.11km<sup>2</sup> in 2021, close to 90% of it (20.41km<sup>2</sup>) cancelled through non-technical survey, along with 2.18km<sup>2</sup> released through technical survey and 0.53km<sup>2</sup> released through full clearance.<sup>65</sup> The total was well short of the 30.85km<sup>2</sup> Thailand had planned to release and the 127km<sup>2</sup> released in 2020, reflecting the evolution of Thailand's mine action programme into a new phase focused on technical survey and clearance and dealing with areas of dense contamination and difficult terrain. TMAC clearance operations destroyed 19,002 anti-personnel mines in 2021, more than double the number destroyed the previous year.<sup>66</sup>

### SURVEY IN 2021

Thailand tackled most of the suspected contamination most eligible for cancellation in the last two years which saw large areas released after non-technical survey (128km<sup>2</sup> in 2019 and 127km<sup>2</sup> in 2020). The lower level of cancellation in 2021, when operators cancelled 20.4km<sup>2</sup> (see Table 4), was expected going forward into Phase 2 of TMAC's five-year plan. Operations in 2021 were also affected by Covid-19 restrictions, including mandatory 14-day quarantine for anyone testing positive,<sup>67</sup> and by funding constraints which limited TDA operations to the first two months of the year.<sup>68</sup>

**Table 4: Cancellation through non-technical survey in 2021<sup>69</sup>**

Province	Area (m <sup>2</sup> )
Phitsanulok	8,498,368
Surin	2,968,516
Sa Kaeo	126,188
Trat	8,816,420
<b>Total</b>	<b>20,409,492</b>

60 Article 7 Report (covering 2021), Form 4.

61 Ibid.; and email from John Kelsch, Golden West, 6 July 2022.

62 Email from Aksel Steen-Nilsen, NPA, 25 April 2022.

63 Email from Amornchai Sirisai, TDA, 19 April 2022.

64 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

65 Article 7 Report (covering 2021), Form 4, Table 4-1.

66 Ibid.; email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

67 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

68 Email from Amornchai Sirisai, TDA, 19 April 2022.

69 Article 7 Report (covering 2021), Form 4, Table 4-1.



Areas still requiring resurvey are located in contested border areas where TMAC has not had access. In 2021, survey operations added 0.2km<sup>2</sup> of previously unrecorded hazards to the database compared with 1.8km<sup>2</sup> the previous year.<sup>70</sup> However, TDA believes a risk remains that mined areas might go unrecorded in instances where non-technical survey is conducted by personnel without knowledge of mine-laying patterns and where no technical survey is conducted.<sup>71</sup>

The narrower focus of Thailand's mine action programme also saw a sharp decline in the area reduced by technical survey. In 2021, this amounted to 2.18km<sup>2</sup> in five provinces (see Table 5),<sup>72</sup> down from 28.85km<sup>2</sup> in seven provinces in 2020, of which almost 25km<sup>2</sup> was reduced in a single province (Ubon Ratchathani), which did not feature in 2021 operations.<sup>73</sup>

NPA, which had previously focused on non-technical survey concentrated in 2021 on technical survey. It conducted

two non-technical survey tasks, cancelling 1.5km<sup>2</sup> in Trad province, but invested most effort into technical survey in Surin and Buri Ram provinces where it reduced a total of 83,721m<sup>2</sup> in 2021 which led to destruction of 614 anti-personnel mines and three items of unexploded ordnance (UXO).<sup>74</sup>

**Table 5: Reduction through technical survey in 2021<sup>75</sup>**

Province	Area (m <sup>2</sup> )
Phitsanulok	562,434
Buri Ram	689,573
Surin	50,656
Sa Kaeo	234,854
Trat	641,807
<b>Total</b>	<b>2,179,324</b>

## CLEARANCE IN 2021

TMAC's clearance operations released less area than in 2020 but 19,002 anti-personnel mines compared with 9,335 the previous year, reflecting density of contamination in areas remaining to be cleared on the Cambodian border. TMAC is also operating in more remote locations that require more time for access and in difficult conditions.<sup>76</sup>

**Table 6: Mine clearance in 2021<sup>77</sup>**

Province	Area cleared (m <sup>2</sup> )	AP mines destroyed*	ERW destroyed
Phitsanulok	170	9	4
Buri Ram	416,942	16,304	96
Surin	19,275	40	242
Sa Kaeo	12,578	642	5
Trat	76,882	2,007	534
<b>Totals</b>	<b>525,847</b>	<b>19,002</b>	<b>881</b>

\* Includes mines destroyed in EOD spot tasks

## ARTICLE 5 DEADLINE AND COMPLIANCE



70 Ibid., Form 4.

71 Email from Amornchai Sirisai, TDA, 9 March 2021.

72 Article 7 Report (covering 2021), Form 4.

73 Article 7 Report (covering 2020), Form 4 and Annex 1; and email from Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 1 July 2021.

74 Email from Aksel Steen-Nilsen, NPA, 25 April 2022.

75 Article 7 Report (covering 2021), Form 4, Table 4-1.

76 Email from Ft. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

77 Article 7 Report (covering 2021), Form 4, Table 4-1.

Under Article 5 of the APMBC (and in accordance with the second extension—for five years less one day—granted by States Parties in 2017), Thailand is required to destroy all anti-personnel mines in mined areas under its jurisdiction or control as soon as possible, but not later than 31 October 2023. Until the start of 2021, Thailand was still committed to completing clearance by this deadline.<sup>78</sup> By the end of that year, however, it acknowledged it would need to extend its Article 5 deadline again<sup>79</sup> and in March 2022, it submitted a request for an extension of three years and two months until 31 December 2026.

Thailand has made significant progress in the period of its second extension. The total area released by full clearance in the last three years is a modest 2.5km<sup>2</sup> (see Table 7), but by 2022, as a result of accelerating cancellation through non-technical survey, it had released more than 320km<sup>2</sup> of mined areas; declared four provinces (Chanthaburi, Chiang Mai, Chumphon, and Mae Hon Son) as clear; and destroyed more than 40,000 anti-personnel mines.<sup>80</sup> Progress in the coming years promises to be much slower as TMAC works on areas of dense contamination, tackles remote locations and often rugged terrain, and comes up against political barriers to accessing un-demarcated border areas. Achieving the goals of the third extension request may therefore prove challenging.

Land release results in 2021 underscore the challenge. Thailand had planned to release 31km<sup>2</sup> but in the event achieved 23km<sup>2</sup>, held back partly by the limitations imposed on operations by COVID-19 measures, but also the much denser levels of contamination to be tackled. Thailand planned to release almost 17.39km<sup>2</sup> in 2022 through technical survey and clearance, and almost 8.60km<sup>2</sup> in the first 10 months of 2023, accounting for all outstanding CHA and SHAs on undisputed territory by the end of October 2023.<sup>81</sup> Those targets looked ambitious even if TMAC had the same capacity at its disposal in 2022–23 as in 2021, but cuts in Thailand's budget meant TMAC expected to deploy fewer people in the field in 2022,<sup>82</sup> putting a question mark against its prospects of meeting those targets.

Thailand's request for a 38-month extension to its Article 5 deadline was designed to allow it complete survey and clearance of 14.31km<sup>2</sup> located in un-demarcated areas of its

border with Cambodia but the outlook for access to those areas is a key uncertainty. The Thailand-Cambodia General Border Committee (GBC) set up to resolve demarcation issues has previously agreed that "All de-mining operations along the border areas between Thailand and Cambodia shall be without prejudice to the rights of Thailand and Cambodia with regard to the land boundary under international law."<sup>83</sup> Progress, however, has been slow. The GBC was due to convene virtually in February 2022 but the meeting was postponed at the request of Cambodia, which preferred an in-person meeting.<sup>84</sup>

TMAC and CMAC first agreed to conduct a pilot project for border mine clearance in September 2018.<sup>85</sup> Since then, they have carried out one project in March–April 2020 that resulted in release of 95,000m<sup>2</sup> by Thailand and destruction of two items of UXO but no mines. Any possibility of an immediate follow-up was blocked by the COVID-19 pandemic. However, Thailand reported in its Article 5 deadline extension request that as of March 2022 Cambodia had requested it to stop work in 34 operational areas covering 14.31km<sup>2</sup> in six provinces.<sup>86</sup>

TMAC reported that it had contacted CMAC at the end of August 2021 to propose a new joint project and that CMAC responded at the end of September that it "strongly welcomes and supports" the initiative. Thailand said it had subsequently proposed border areas for cooperative action at an unspecified date and was awaiting a response.<sup>87</sup> Any prospect of Thailand completing clearance of what it identifies as its remaining mined areas now depends on reaching agreement with Cambodia on border access.

**Table 7: five-year summary of AP mine clearance**

Year	Area cleared (m <sup>2</sup> )
2021	525,847
2020	917,924
2019	95,278
2018	528,902
2017	427,983
<b>Total</b>	<b>2,495,934</b>

## PLANNING FOR MANAGEMENT OF RESIDUAL CONTAMINATION

TMAC's mandate covers only formal SHAs and CHAs. Any explosive ordnance (including landmines) found outside of SHAs and CHAs comes under the responsibility of the police. Once Thailand fulfils its Article 5 obligations, TMAC will act as the information and knowledge centre for mines and UXO. If previously unknown mine contamination (i.e. residual contamination) is discovered following completion, the local mine risk education network will inform the local authorities, community leaders, and relevant government agencies. If the area in question is under the jurisdiction of the military, combat engineers will address the contamination. If located in other areas, police EOD teams will take the lead in addressing the contamination.<sup>88</sup>

78 Statement of Thailand, 18th Meeting of States Parties, virtual meeting, 16–20 November 2020.

79 Statement of Thailand, 19th Meeting of States Parties, virtual meeting, 17 November 2021.

80 Statement of Thailand, Intersessional Meetings, Geneva, 20 June 2022.

81 2022 Article 5 deadline Extension Request, p. 8.

82 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, 27 May 2022.

83 Article 7 Report (covering 2021), Form 4, p. 10.

84 Ibid., Form 4, p. 13.

85 Article 7 Report (covering 2018), Section 8.

86 2022 Article 5 deadline Extension Request, pp. 8 and 36.

87 Article 7 Report (covering 2021), Form 4, p. 13.

88 Email from Flt. Lt. Chotiboon Anukulvanich (on behalf of the Director General), TMAC, on 27 February 2020.