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Thailand and Compliance with the APMBC: Mission Impossible ... Or a Feasible Task?

This article addresses the mine-action challenges Thailand faces in maintaining compliance with the Anti-personnel Mine Ban Convention. Given the uncertainty of mine locations and the Thailand Mine Action Centre's limited capacity, the delegation of Thailand's mine-action resources can be an issue, as hazardous areas can be difficult to determine. The emergence of a new national land-release mine-action standard, however, means that Thailand's ability to efficiently identify hazardous areas will allow limited resources to be appropriately assigned to areas needing clearance.

by Håvard Bach [APOPO]

The Khmer Rouge claimed yet another victim in July 2011, this time in Thailand's Trat province near the Cambodian border. This recent incident stemmed from the legacy of fierce fighting played out between Khmer Rouge and Vietnamese forces on both sides of the Thai-Cambodian border in the 1980s. The war is finished, but casualties continue.

Fighting between the Khmer Rouge and the Vietnamese typically occurred on and around rocky hilltops and densely vegetated ridges, leaving grim conditions for survey and clearance. Most of Thailand's mine-suspected areas are heavily overgrown with large sections scarcely populated and rarely visited because of the risk of potential landmines and explosive remnants of war. During the war, front lines regularly

shifted, thus leaving a blurred picture of where mines may be located. While evidence of mines in many areas exists, other currently suspected areas have no real evidence of mines other than a general suspicion stemming from past warfare.

A Landmine Impact Survey was undertaken in Thailand from 2000 to 2001. More than 2,000 square kilometers (772 square miles) were enrolled in the TMAC database and misinterpreted as a real representation of the mine problem.¹ Subsequent efforts to resurvey these areas have resulted in the cancellation of almost 1,500 sq. km. (579 sq. mi.) of land. Today 540 sq. km. (208 sq. mi.) of land remains suspect.¹ Despite the good effort, Thailand cannot meet its APMBC deadlines without a radical change of direction and a structured approach to resolving the problem.

APOPO, a Belgian nongovernmental organization, partnered with a local Thai organization, Peace Road Organisation (later referred to in this article as APOPO-PRO), and developed a survey and land-release methodology for Thailand, which is being implemented in full cooperation with the Thailand Mine Action Centre, Thailand's military, Thai Civilian Deminer Association and Norwegian People's Aid. The process raises interesting questions related to how mine-affected states will comply with the *Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on Their Destruction* (also known as the Anti-personnel Mine Ban Convention or APMBC).

The newly endorsed system challenges a common perception of how to resolve a mine problem for convention compliance. By analyzing how European countries justify compliance with the APMBC, Thailand developed an approach that could enable full compliance within a reasonable timeframe, and breaches traditional belief that it would take more than 100 years to rid Thailand of landmines. Thailand's solution may be an example of how similar problems could be addressed in other countries.



A TM-62 M Anti-Vehicle Mine typical of anti-tank mines found in Thailand.
Photo courtesy of Colin King.

Thailand's Mine-action Capacity

The national mine-action capacity consists of four military Humanitarian Mine Action Units deployed along Thailand's borders. Additional capacities include the Technical Survey teams of the partnerships between NPA and the Thai Civilian Deminer Association and APOPO and Peace Road Organisation; both of these partnerships became operational in June 2011. A few other local organizations² exist, but they lie dormant due to a lack of funds. Each HMAU clears approximately 0.6 sq. km. (0.23 sq. mi.) of land on average per year. Less than 2.5 sq. km. (0.97 sq. mi.) is cleared annually, and a major part of the clearance capacity is occupied with percentage sampling of land that was cancelled through a desk assessment of old survey information. The policy was to sample 25 percent of cancelled land. Assuming that 200 sq. km.

(77 sq. mi.) of land is still cancellable, a 25 percent sampling requirement would require clearance of 50 sq. km. (19 sq. mi.) and occupy all of Thailand's clearance capacity for the next 20 years without clearing any of the confirmed-hazardous areas. TMAC is aware of the situation and is making every effort to restructure its own mine-action approach.

TMAC coordinates all HMAUs. Given the comparatively small size of the national capacity, Thailand's mine-action capacity must be used to clear proven, as opposed to perceived, minefields. Focusing on proven minefields was not past practice, and the HMAUs consequently find very few mines, but this does not imply that Thailand has few mines. On the contrary, APOPO-PRO found more than 140 anti-personnel mines, as well as one anti-tank mine and 168 ERW, during the first seven weeks of Non-technical and Technical Survey. Thailand (and many other countries) believes that areas that cannot be proven mine-free must be cleared or, as a minimum, released by considerable Technical Survey efforts. In Thailand this perception caused the use of scarce clearance resources in areas with little or no landmine evidence. Few mines were found and few minefields were cleared. Despite a fairly successful land cancellation process called the **Locating Minefield Procedure**, Thailand has never fully managed to dispose of the Landmine Impact Survey legacy. Clearance resources were used indiscriminately to clear suspected-hazardous areas as well as sample cancelled land. The real lifespans of the minefields are prolonged and as a result, accidents can occur.

APOPO's Survey Efforts

TMAC asked APOPO to conduct a Non-technical Survey of all mine-suspected areas along the Cambodian border starting in 2011 with the provinces of Chantaburi and Trat, and con-

tinuing with the remaining provinces in 2012. Preparations began in January 2011 and the survey was fully implemented in June 2011.

Before implementation APOPO and TMAC jointly developed the conceptual national framework for land release. National standards on survey and land release were developed, followed by a considerable outreach package. The latter included conducting two land-release workshops with key participants from TMAC, the four HMAUs, NPA and The Development Initiative. National survey and land release standards were reviewed and endorsed during the last workshop.

The New National Standard

The new national mine-action standard for land release was made to comply with International Mine Action Standards. It emphasizes the need for tight evidence-based Non-technical Survey of all mine-suspected areas in Thailand. The outcome of the survey will form a baseline for what Thailand needs to clear or release by additional survey to comply with the APMBC. The standard's overarching aim is to provide a useful framework for professional conduct of Non-technical and Technical Survey, and justification for safe and effective land cancellation and release. The Thai national standard explains the principles of land release and the conduct of Non-technical Survey and Technical Survey. It also provides standardized reporting formats for:

- Non-technical Survey
- Land-release completion (Non-technical Survey, Technical Survey and clearance)
- Land reclassification

Informative documents in the standard include an example of the APOPO-PRO Non-technical Survey scorecard and the accompanying Technical Survey ground-coverage card.

The Non-technical Survey scorecard is a Microsoft Excel spreadsheet where all possible sources and types of information are listed and given a generic value or score. The final score is the accumulated value for all individual scores, and is used to determine a degree of confidence in whether an area is mined or mine-free. The confidence level will form the basis for how much follow-on Technical Survey is required to declare an area mine-free after Non-technical Survey.

The ground-coverage card is similar to the Non-technical Survey scorecard. By assessing the quality of the assets at collecting information during Technical Survey, developing a generic ground-coverage card is possible. If manual mine clearance is the best method and has the highest probability of finding a mine, a flail is slightly less suitable and has a lower probability of indicating whether or not mines



APOPO-PRO Non-technical Survey field discussions in Trat province. Small inaccuracies in data recording will have a major impact on the result. Quality training and regular monitoring of survey teams are key survey components.
Photo courtesy of the author.

are present. The same result can be achieved with the flail as manual demining in Technical Survey by increasing the size of the area to be searched. The ground-coverage card will inform deminers how much more land needs clearance. All available assests will be assessed and given a generic value in the ground-coverage card.

Land Classification

TMAC, by cancelling 75 percent of SHAs from the LIS, has previously defined the remaining suspected areas as minefields, labeling them dangerous areas and treating them as confirmed- and defined-hazardous areas. However, a lack of mine evidence in one area does not imply evidence of mines in the remaining areas. In other words, just because some SHAs are cancelled does not mean that the remaining suspected areas are contaminated and must be released by Technical Survey and/or clearance.

Article 5 of the APMBC obliges States Parties to "make every effort to identify all areas under their jurisdiction or control in which anti-personnel mines are known or suspected to be emplaced."¹ A Non-technical Survey should be considered a minimum of such effort, and it will thus act as a baseline for what must be addressed through Technical Survey and clearance (and sometimes more Non-technical Survey) "to destroy or ensure the destruction of all anti-personnel mines

Recent examples of mines discovered in Europe

- Four AP mines were found in Herdla, Norway in March 2003 according to the Norwegian press.
- In August 2009, Patrick Ligtenberg, a Dutch treasure hunter, found a landmine with his metal detector.
- On 3 May 2010 a landmine was found and destroyed at a Bulgarian beach.
- Sixty AP mines were found in Hattfjelldal, Norway in September 2010.
- On 5 October 2010, newspapers in Holland reported that 700 AP mines were found in Zeeland Cadzand.
- Three more mines were found in another part of Holland on 24 May 2011.
- In June 2011 the Norwegian Army issued a public warning to the civilian population in Kirkenes about making fires in a popular recreation area just outside Kirkenes town because of the ERW risk from World War II.
- On 7 July 2011 a landmine was found in Varsenare, Belgium.
- On 1 August 2011 five landmines were found in Quend, France.
- On 30 August 2011 a man found an SMi-35 AP mine in his garden in Breda, Holland.



Map of Thailand.
Courtesy of CIA Factbook.

this happening in Thailand. TMAC has consequently agreed to reclassify all currently suspected areas as SHAs. These areas are not a measurement of the scope of the problem but rather areas where a Non-technical Survey is needed. Thailand considers Non-technical Survey as the first step in complying with the APMBC—“to make every effort to identify all areas known or suspected as mined.”⁷³

Time for Reflection

The principles of drawing CHAs and cancelling land through a Non-technical Survey are fairly well understood. However, flaws in the system puzzle operators, politicians and mine-action authorities. Operationally, these flaws magnify the mine problem, committing scarce resources to clear areas that are eventually proven mine free and leaving CHAs uncleared for decades. If a CHA can only be designated as such through evidence of mines being laid, what does this mean for areas that cannot be reached during the survey or areas with little or no information available about mines? These are typically large, scarcely inhabited or uninhabited areas that form part of a wider combat zone but with no evidence of mines related to any specific location. Some mines may be in these areas, but identifying their location is impossible. Should these areas be cleared, or does the APMBC deem it acceptable to leave mines in the ground for future clearance, enacting government restrictions for future land use? Should the area then maintain a classification as SHA or perhaps be cancelled? Leaving an area as a SHA implies more survey is required, which is not possible in the foreseeable future. Cancelling land requires a fair certainty that no mines exist; most specialists would hesitate to cancel such land. When survey detail is lacking, these areas are more often enrolled in databases as CHAs (other terminology may be used, but the meaning is the same).

While statements like **impact-free** and **mine-safe** contradict the APMBC and could be seen as a shortcut to compliance, governments and operators in particular are looking for more efficient ways to release land and clear real minefields. They understand that by committing resources wrongly, the lifespan of the real, mined areas is prolonged significantly. Risk to local populations is proportional to the length of time these mined areas remain active. Local people will start to use mined areas if they are not cleared. More accidents will thus occur than if real mined areas (CHAs) are cleared more swiftly.

Proactive Versus Reactive Response

Compliance with the APMBC requires a reasonable effort to identify the scope of the problem and subsequently remove all mined areas identified during this process. As this

not later than ten years after joining the treaty.⁷³ Failing to put into effect this Non-technical Survey distorted the scope of the mine problem in many countries and prevented an appropriate mine-action response to the problem. In Thailand, it has resulted in a lack of focus on the real problem. Few mines were cleared, and the lifespan of real mined areas was extended.

Relabeling all Suspect Land as SHA

IMAS calls for a detailed evidence-based Non-technical Survey as the minimum effort to create CHAs; only now is

Confirmed-hazardous areas should not be created due to indefinite fear of mines stemming from past warfare or from a lack of proof that areas are actually mine-free. Such fear is rather a pointer for investigation of real evidence. CHAs should also not be created due to a lack of access to distant areas or a lack of information/informants in uninhabited areas. Only real mine evidence coupled with a war-tactical assessment justifies the creation of a CHA.

is required for APMBC compliance, we call this a proactive response. The convention further commits signatories to respond swiftly and remove mines if they are found later. We may call this a reactive-response requirement. It requires a stand-by capacity that can swiftly remove mines not identified during the process of proactive clearance.

To explain this further, we may look to Europe. Many European countries had problems with mines after World War II. The proactive response could be defined as **survey land and clear all known mined areas**. In Norway, this resulted in some 750,000 landmines cleared in four years. Other European countries had similar responses, and millions of mines were found and destroyed. Despite most of the mine problem being resolved by 1949, a proactive survey and clearance response was maintained well into the 1960s in a few areas. Beyond 1949, most countries moved from a proactive to a reactive response and actively stopped looking for mines in favor of reactive stand-by (military) capacities. This process is ongoing today. Mines are still found from time to time in Belgium, France, Germany, Holland, Norway, Spain and the United Kingdom.

European countries nevertheless consider that they have made every effort to identify mined areas through survey and remove all known mines through clearance. A small residual risk of mines remains, but revitalizing a proactive response is considered unreasonable. One way Europe deals with this small but constant residual risk is by restricting land use. Re-

strictions may materialize as special clearance requirements on new construction sites or as restrictions on general land use. Using fire is prohibited or restricted in some areas. Common agreement exists on the soundness of this policy, which results in very few accidents over time. However, this approach must not be confused with the situation in the Falkland Islands, for example, or the beaches in Skallingen in Denmark. Mines in these areas are known to be in specific locations and should thus be cleared during the proactive-response phase.

Assessing Europe’s experience is useful when attempting to ensure other nations’ compliance with the APMBC. Such an assessment shows that convention compliance is a two-stage process of proactive and reactive response; it should form the basis for understanding how countries may address their own problems more effectively while complying with the convention. Mines remain in Europe, but the proactive effort to remove them has finished and the reactive effort continues. Finding the remaining mines through survey is unreasonable and impossible because they could be anywhere within larger, typically uninhabited areas. Clearing these areas would require enormous resources, and we would all agree that Europe’s reactive response is not only appropriate, but it also complies with the convention.

APOPO-PRO’s Non-technical Survey in Thailand

Expert group. An expert group consisting of experienced staff from TMAC, HMAU and APOPO-PRO was

TMAC’s **Area With Restrictions** report explains **area with restrictions** as: “when all reasonable effort has been made to conduct a Non-technical Survey in an area (typically a SHA) but a lack of access to the area or shortage of information/informants has prevented conclusive cancellation of land or the creation of CHAs. AWRs are typically scarcely inhabited or uninhabited areas (forest, mountain areas, long-term flooded areas/dams etc.) where there is no concrete evidence of mines related to any specific part of the wider area. The residual risk of mines is deemed small, which justifies a shift from a proactive mine-action effort to a reactive mine-action response if mines should occur later.”⁷⁴

When survey organizations fill in the national **Area With Restrictions** form they are obliged make the statement: “We have made all reasonable efforts to survey the area through the conduct of evidence-based Non-technical Survey. The survey was inconclusive because of either a lack of access or shortage of information/informants. We found no evidence of mines in specific parts of the area. Since the survey was inconclusive, we request the area to be reclassified as Area With Restrictions. Type and level of restriction should be determined by TMAC in collaboration with local authorities.”

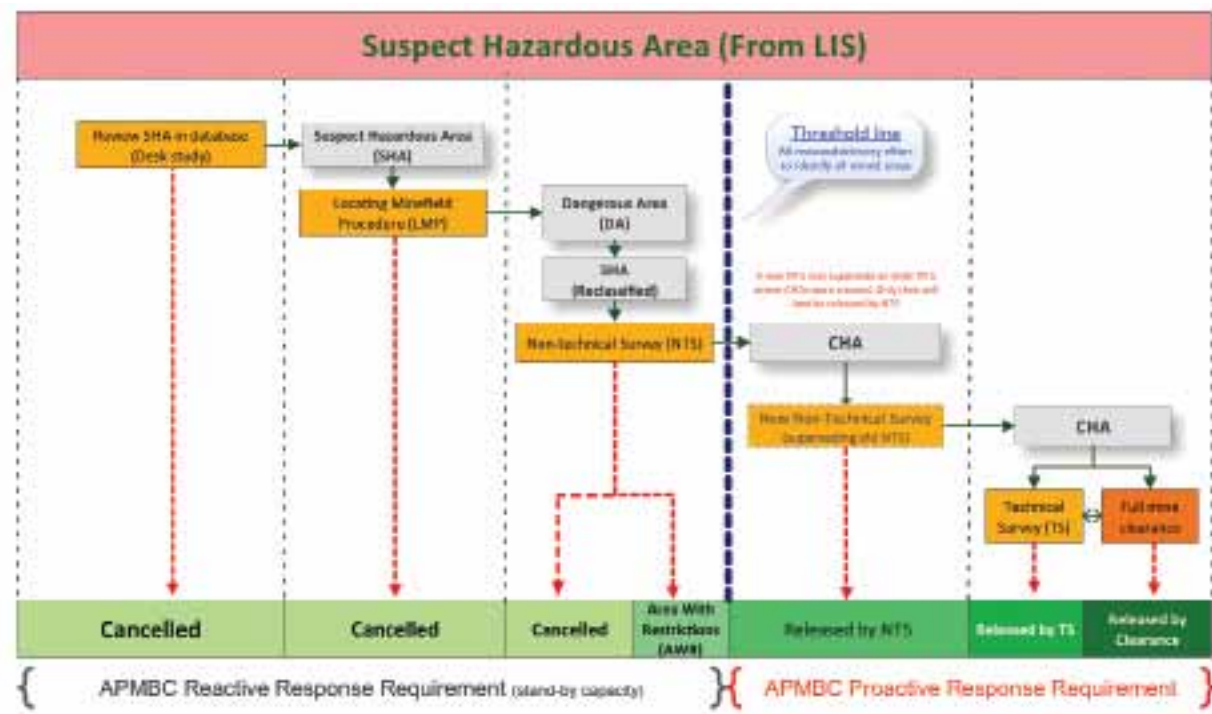


Figure 1. Diagram illustrating the process of resolving Thailand's mine problem. The blue line indicates the current status. Graphic courtesy of the author/CISR.

initially established to score the value of individual evidence. A scorecard incorporating every useful piece of potential Non-technical Survey information was developed with a scoring value for each piece of information.

Affinity between the Non-technical Survey and the Technical Survey. The Non-technical Survey will define the minimum requirements for follow-on Technical Survey before land can be released. When sectors are scored differently within the same CHA, this may justify a graded Technical Survey response. Most previous surveys failed to quantify affinity between the Non-technical Survey and Technical Survey for a tailored and more efficient Technical Survey response.

Drawing polygons. The survey teams were trained to draw tight CHA polygons based on an assessment of evidence coupled with a war-tactical assessment.

Sector division of CHAs. Following drawing of tight polygons, there may be scope to subdivide the CHA into smaller sectors. This is based on various degrees of evidence in different parts of the CHA (regarding the presence or absence of mines). Each sector will state whether mines are present or not. The amount and quality of evidence from the survey will generate a degree of confidence in these statements.

Mines versus unexploded ordnance. Evidence of explosions or unexploded ordnance is not the same as mine evi-

dence. The survey concept distinguishes consciously between mine and UXO evidence. The latter is not covered by the APMBC and will be reported separately.

Technical Survey. A Technical Survey component was established for selective deployment into areas where a tactical assessment provides multiple options or reasons for placing mines during the war. The component does not aim to conduct full Technical Survey, where the aim is to define the exact boundaries of mined areas or to release land. APOPO-PRO's Technical Survey capacity reinforces the Non-technical Survey, where needed, to justify tighter CHA polygons. The Non-technical Survey component (two manual-demining teams) is thus considered part of the Non-technical Survey and will help determine CHA and/or cancel land.

Land classification. Following the Non-technical Survey, land will be classified as a CHA, cancelled area or area with restrictions. This last classification will only occur in cases where all reasonable effort is made to conduct evidence-based Non-technical Survey, but the survey failed to conclude because of a lack of evidence or access to land. A precondition for drawing an area with restrictions is that there is no evidence of mines in specific parts of a larger area. If real mine evidence exists, a CHA will be created around it. TMAC will define type and level of restriction

on a case-by-case basis in consultation with local authorities. An area with restrictions will not be created based on an assessed low impact.

Follow-on Technical Survey. A follow-on Technical Survey concept was developed in collaboration with TMAC. APOPO-PRO's role is not to conduct full Technical Survey at this stage; instead the HMAUs were partially trained to do it. APOPO-PRO will likely start conducting follow-on Technical Survey and clearance in 2012. The Technical Survey concept follows the logical framework of the Non-technical Survey and complements the decision-making process to release land by measuring degrees of confidence in areas being mine-free.

It is too early to predict the final outcome of the survey. Preliminary results from one month of fieldwork, however, indicate that between 10 and 20 percent of suspect land (now reclassified as SHA) will be classified as CHA from the survey. The situation could be different in other places along the border, and the final outcome may or may not be an improvement. The remaining land will be reclassified as either cancelled areas or area with restrictions. TMAC and APOPO-PRO developed appropriate forms for separate reporting of CHA, cancelled areas and area with restrictions.

If we assume that the APOPO-PRO survey will result in 10 percent of suspect land being classified as CHA, Thailand will need to address 54 sq. km. (20.8 sq. mi.) of suspected-hazardous land proactively to reach its ultimate goal as a mine-free state. Thailand will further need to maintain an effective reactive-response capacity for APMBC compliance. If we further assume that Technical Survey and/or clearance assets will be needed on 60 percent of this ground, assets will be used to cover ap-

proximately 30 sq. km. (11.6 sq. mi.) of land. With eight years left of the convention extension, Thailand's national and international capacity needs to be big enough to cover 4 sq. km. (1.5 sq. mi.) of land per year. This is almost twice the size of the current clearance capacity—a challenging but indeed tangible task.

Conclusion

With proper identification, marking and use of clear terminology, the incident in the Khmer Rouge in July could have been avoided. In hindsight, Thailand's new land-release approach could drastically shorten the lifespan of the remaining minefields and boost the number of cleared mines. Mines will claim fewer victims, and full APMBC compliance is not beyond the realm of possibility.

See endnotes page 83



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