



Introduction

In mid-2018, the world's attention was drawn to the mountainous region of northern Thailand where a boys' soccer team went missing deep inside a flooded cave complex. In addition to cave rescue experts from around the world traveling to Thailand to assist, US military personnel from Indo-Pacific Command deployed at the request of the Thai government to support rescue efforts. This case study details the operation from deployment, to execution, to redeployment of American service-members. There are numerous lessons learned contained herein which will assist those charged with planning and executing Foreign Disaster Relief (FDR) operations in the future, regardless of whether or not caving is involved.

Because this FDR operation lasted only two weeks, it is both helpful and possible to document highlights and lessons learned in chronological order without producing an overly-extensive final product. It is for this reason that the case study below is presented in a day-by-day format.

Finally, while this case study primarily highlights the US Department of Defense (DoD) response to the cave disaster, and it is easy to focus on the effort from an American perspective, it is important to note that this was not a US-led disaster relief operation. It was clearly Thai led with international partners in a supporting role. US Embassy Bangkok and US DoD personnel were critical to mission planning, international coordination, logistics, strategic communication, public affairs, advise and assist, and civil-military liaison at the cave site. It must be acknowledged, however, that it was the cave rescue divers from the UK and Australia who brought the technical cave diving expertise and equipment necessary to ultimately rescue the Wild Boars soccer team.

Situation and Background Information

2018. Northern Thailand.

23 June: 12 members of the Wild Boar soccer team (aged 11-16) go missing, along with their coach, in Chiang Rai Province after a flash flood. After the boys did not return home as usual, a search begins. Based on past adventures of the team, rescuers wind up at a cave complex in a mountain shaped like a reclining woman. Named after the mountain, the cave's full name is Tham Luang Khun Nam Nang Non - "the great cave and water source of the sleeping lady mountain". The event would eventually be known simply as the Tham Luang cave rescue.



Members of the Wild Boars soccer team

24 June: Rescuers find evidence of the team in the cave, but suspend the search due to rising water from monsoon season rains.

25 June: Royal Thai Navy (RTN) SEAL divers begin a search of the cave. Meanwhile, local residents begin to bring small pumps to start pumping water out of the flooded cave, followed by larger industrial machines which would arrive in the days and weeks to come.

26 June: The Royal Thai Government asks the US Government for assistance, by way of the embassy in Bangkok. That same day, US Embassy Bangkok Deputy Chief of Mission (DCM) Mr. Peter Haymond contacts the Senior Defense Official (SDO) COL Wayne Turnbull for initial, informal DoD-DoS coordination. Following that, COL Turnbull coordinates with the Pacific Augmentation Team (PAT) in country to facilitate communications with Special Operations Command (SOCPAC) in Hawaii for a possible response effort. The SDO also contacts the INDOPACOM J3 Joint Operations Center (JOC) and INDOPACOM Deputy Director J3 for official notification procedures. Other notifications from US Embassy Bangkok go out to the DoS Bureau of East Asian and Pacific Affairs (EAP) and Office of the Secretary of Defense (OSD) to request Overseas Humanitarian, Disaster Assistance and Civic Aid (OHDACA) funding.



Wild Boars soccer team bikes found inside the cave

As the search continues, roughly 1,000 Thai army and navy personnel, along with volunteers, join the effort while international interest and involvement expands. At this time, then-US Ambassador to

Thailand, Glyn Davies, declares a disaster. The Department of State issues an Executive Secretary (EXECSEC) Memo to the Department of Defense asking for assistance.

DoD responds to DoS, approving assistance. INDOPACOM directs Special Operations Command Pacific (SOCPAC) to assist. SOCPAC issues a TASKORD to USAF 353rd Special Operations Group (SOG) in Okinawa, Japan, to prepare to respond.

27 June: 353rd SOG designates the Mission Commander as Major Charles Hodges, Non-Commissioned Officer in Charge (NCOIC) is MSG is Derek Anderson. The rescue package includes communications, a Public Affairs Officer (PAO), and logistics support. 353 SOG submits Aircraft and Personnel Automated Clearance System (APACS) request air clearance of 1 MC-130. Defense Attaché Office (DAO) Bangkok coordinates with Thai MOD and DAO Hanoi and Vientiane to get dip clearance into Thailand and overflight of Vietnam and Laos. Aircraft departs Kadena Air Base for Thailand.



US Ambassador to Thailand, Glyn Davies.



US Mission Commander, Air Force Major Charles Hodges, and NCOIC MSG Derek Anderson

Lessons learned on the disaster response process:

- USAID OFDA representatives at INDOPACOM noted that the deployment process for DoD may have been streamlined if DoD utilized military-to-military support authorities (as per the USINDOPACOM FHA CONOP) rather than the DoS-DoD EXECSEC process. (Reference: case study author's discussions with OFDA representatives, January 2019)
- USAID OFDA did not respond to this disaster, and no Mission Tasking Matrix (MITAM) orders were issued.

Lessons learned on initial notification:

- Initial notifications and communications flow between the Royal Thai Government (RTG), Embassy, DoD, INDOPACOM and SOCPAC were timely and comprehensive. Within 12 hours, a rescue response force was identified and they conducted initial planning and coordination to establish Reception, Staging, and Onward Integration (RSO&I) requirements.
- However, this initial coordination was linear within DoD channels. Conducting a wider Embassy coordination meeting would have helped to synchronize the US Country Team (USCT) effort more widely throughout the embassy at large.
- Recommendation: Incorporate an initial modified Emergency Action Committee to synchronize the USCT supporting staff and also identify an appropriate "whole of embassy" support package.

Profile of US rescue effort team:

- US Aircraft Generated:
 - o 2x MH-130J (from the 17th Special Operations Squadron)
 - o 1x NSAV aircraft (SOCPAC asset)
 - o 1 x C-12 aircraft (US Embassy Bangkok DAO asset)
- Personnel Deployed: 42 total including 353rd SOG, US Embassy, and SOCPAC.
- Cargo Deployed from 353rd SOG:
 - o 2x STS Internal Stability Unit (ISU) containers
 - o 1x medical / communications package
- Locations of personnel and equipment:
 - o Chiang Rai
 - o Utapao
 - o US Embassy Bangkok



353rd SOG After Action Report (AAR) notes on airlift, port handling, and inland transportation:

- The 17th Special Operations Squadron (SOS) assisted in pax and cargo movement for both deployment and re-deployment. It was a direct, non-stop flight from Kadena AB to Chiang Rai, Thailand (approx. 7 hours).
- MilAir was key to mission success and enabling transportation of the three Internal Stability Unit (ISU) containers with mission essential gear. After dropping off rescue personnel and equipment in northern Thailand, the aircrew then repositioned aircraft to Utapao because of better airfield facilities and security.
- Kadena Air Base: An hour and a half from notification, the cargo was built and transported from the units and processed at the 18th Logistics Readiness Squadron (LRS) cargo deployment function (CDF) yard. The joint inspection (JI) was completed by the 733rd AMC. The 733rd loaded in three increments onto one MC-130J commando using a forklift and K-loader during deployment. The whole process took 10 hours from notification.
- Chiang Rai Airport: Upon landing at Chiang Rai airport the 353d SOG was met by Chiang Rai customs and immigration personnel. A pre-coordinated contractor prepositioned vehicles at the flight line for both personnel and cargo prior to 353 SOG's arrival. The RSOI transportation support for pax and cargo was contracted and setup by JUSMAGTHAI and SOCPAC personnel located at the U.S. Embassy in Bangkok.
- Two 320th Special Tactics Squadron (STS) ISU containers were offloaded onto the flatbed truck and immediately transported to the temple located 45 minutes from the hotel and 10 minutes from to the cave sit.
- Utapao Air Base: One MC-130J Commando was received and refueled at Utapao Airfield. The aircraft remained in Utapao for the duration of the rescue mission. No cargo download support was required.

Operations at the Cave Site

28 June:

Cave flooding increases. At 0200 local Thailand time, the 353rd SOG team arrives at the site – approximately 28 hours after receiving the RTG's request for assistance – and conducts an initial assessment of the situation. They establish a Mission Support Site (MSS) at Wat Ban Chong, a local Buddhist Temple in Mae Sai vacated by local monks in support of the rescue operation. Located 10 minutes from the cave entrance, the MSS provides a good offset from media, which has not yet been cordoned.



353rd SOG arrival at the cave site

Lessons learned on timeliness of US response

- The speed and efficiency of the U.S. response resonated with Thai allies and multinational observers. Though the response was timely, however, INDOPACOM and SOCPAC did not provide the Concept of the Operation (CONOP) or the Task Organization (TASKORG) to US Embassy DoD representatives until just before departing Okinawa.
- Recommendation: Ensure a dialogue is established with INDOPACOM, any relevant components, and deploying units to ensure USCT is aware of CONOP and TASKORG and can provide any needed inputs.

Locals and military personnel begin searching for alternate “chimney” systems into the cave complex, and also consider drilling into the cave. Aerial assessment conducted of the mountain range/external cave system utilizing Thai helicopters with the combined Thai/US Rescue team. No alternative access sites were identified at this point.

The US Mission Commander requests a social media analytic team and/or a Military Information Support (MISO) team in order to help shape the massive amount of news that is surrounding this effort. The US team lodges at Le Meridien hotel in Chiang Rai. It is a 1-hour drive to and from the site. The decision to stay one hour away from the cave was made mostly because of confusion as to which hotels in the area were or were not approved by the US Embassy for security reasons. There were in fact other hotels, closer to the cave, that were suitable according to embassy standards. On a positive note, the hotel management allowed for US and Thai dive teams to use the pool after hours for dive equipment checks and rehearsals.

Royal Thai Navy (RTN) establishes an Operations Center near the mouth of the cave. This missing element of command and control finally being addressed was crucial to planning and coordination. Food, sanitation, waste disposal at the cave taken care of by volunteers.



Thai military divers preparing for another attempt further into the cave

The British Cave Rescue Council (BCRC), a United Kingdom-based private group of highly experienced divers/cavers with previous knowledge of the cave, assesses the conditions are improbable or impossible to operate in due to high water flow. Members of the 353d SOG Team met with the Thai Military, BCRC, and various other NGOs/commercial organizations who have been aiding in the search efforts in an effort to establish an organized and integrated approach.

U.S. and Thai conduct dismounted search operations. Mission was to (A) find and assess possible “chimney” locations, and (B) to assess areas for drilling. Search efforts were extremely slow due to the dense jungle vegetation and steep mountainous terrain, which in turn hindered communications. The teams identified several subterranean shafts, none of which were eventually found to provide access into the cave, but which did prove useful for drilling to lower the water level within the cave system. Lines of communication were opened with local Caterpillar and Chevron branches inside Thailand to see if their specialized equipment would aid in search and rescue operations.

More personnel (local and international) entered the mix, challenges of accountability, command and control, and reporting increased as well. The US military team made it a point to emphasize to the host nation the importance of a set battle rhythm and routine synchronization for effective C2

353rd SOG lessons learned on public affairs

- The message that the operation was Thai-led and multinational were broadly carried, ensuring the U.S. role was not incorrectly cast as outsized.
- Talking points were expanded to allow for greater details of the operation to be revealed while emphasizing that as a longtime close friend and partner to the Kingdom of Thailand, the United States had been proud to support this operation.
- Media interest continued long after the rescue, and several international outlets have sent the Thai government proposals for documentary and films. The post-mission engagements served to bring positive closure to the U.S. role in the operation.
- The difficult job of managing the “US” message versus the “host nation’s” message when they are not necessarily the same. In this case, the serious risks involved versus an unrealistically positive message.
- This operation was first seen as simply a cave rescue mission with minimal Information Operations considerations. That shortcoming was soon identified as the global media coverage expanded rapidly.
- The 353d SOG Team PAO (Captain Tate) on scene developed tremendous popularity in both traditional Thai media and social media. Her compassionate delivery style, likely coupled with being



353rd SOG PAO representative Capt. Jessica Tate

a young female military officer assigned to an elite special operations unit, fueled her popularity. At the end of the operation, the Embassy brought her to Bangkok for a series of traditional and social media engagements. This was part of a communications strategy to move on from a messaging cycle that had been dominated by the rescue operation. The focus of the Air Force PAO's speaking and media appearances was the role of women in the U.S. military, women's empowerment, and U.S. educational opportunities. The results were impressive. Media covered her appearances extensively and focused on those themes.

US Embassy Bangkok lessons learned on public affairs

- Although US Embassy Public Affairs Section (PAS) was extremely proactive in supporting the 353d SOG team, making initial contact even before they had departed Okinawa, PAS personnel did not physically arrive on site until 3 July. Earlier PAS presence would have helped the 353rd Public Affairs Officer (PAO) manage the media aspect.
- Recommendation: As one of the largest U.S. diplomatic missions, the country team can and should plan for a larger initial response to real world crises to ensure the best support to and integration of deploying U.S. forces.

353rd SOG lessons learned on command relationships

- "...In no particular order, the following entities all reached out to the Mission Commander directly, either through email, a phone call, or face-to-face interaction in order to shape the outcome on the ground: PACOM Area Team (PAT), Joint US Military Advisory Group (JUSMAG), Senior Defense Official, US Consulate General's office in Chiang Rai, SOCPAC, US Embassy PAS, OSD/PA, 24 SOW/PA. As stated, their inputs were appreciated and contributed to mission success, but it was not always clear that the principle of unity of command was adhered to with so many competing inputs."
- There was an extremely high demand from US leadership (INDOPACOM, SOCPAC, OSD, DOS,) on reporting. The need to develop a contingency reporting distro list that differs from routine reporting was identified.



- RECOMMENDATION: Clearly define the command relationships at the tactical and operational levels for the mission prior to deployment and ensure that it is communicated to all DoD and DoS entities in the host country. Ensure that if the command relationship changes based off a change in location or mission set that it is communicated to all involved. Similarly, defining the reporting requirements for all phases of the operation prior to deployment would better set expectations for all involved.



Snapshot of Thai and international participants involved in the cave rescue (Photo credit: thestandard.com.hk)

29 June:

OSD authorizes \$550,000 for INDOPACOM in OHDACA funding.

The UK dive teams' assessment is that due to the flow of the water, continued search operations are not warranted, and the focus should shift to recovery. They stated they would not be conducting any more diving operations and would be departing the following day. The SOCPAC Recovery team begins to prepare for a prolonged recovery operation and redeployment of unnecessary personnel.

The Regional manager of Chevron puts rescue forces in contact with a local commercial irrigation company specializing in moving millions of gallons of water per day. The biggest limitation would be the size of the equipment. Another Thai team begins drilling holes around the cave mouth in order to punch through the bedrock layer in hopes of creating an outlet that would lower the water table within the vicinity of the cave. Civilian Thai teams continue to work their man-portable sonar equipment in search of the cave system from above ground. Despite all these efforts, and little to no additional rain, water levels continue to rise.

Thai Prime Minister Prayut visits the site. Deputy PM Prawit personally thanks U.S. Embassy for support.

Public Affairs established a hybrid Joint Information Bureau (JIB), similar to JIBs used during large military exercises.

The Australian government offers assistance to the Thai government in the form of specialist personnel and equipment.

Four local rescuers become lost in the cave for 24 hours with rising waters, without proper clothing and equipment. All 4 were rescued with no issues and minimal media attention. At the same time, a volunteer was surprised when he came into contact with an improperly placed electrical wire running down the cave mouth. In light of these incidents and the intense pace of the operation, US teams take a “tactical pause” to conduct a risk assessment and re-evaluate their role in support.



Coordination meeting inside the cave

30 June:

Rains ease enough for divers to make their way further into the cave, but still fail to find the children. SDO COL Turnbull contacts the “Five Eye” (FVEY) partner Attaché Offices in Bangkok to coordinate support efforts and set up a framework to share information. Also at this time, an Australian C-17A with personnel and equipment arrives in Chiang Rai.

US Embassy DAO C-12 aircraft is offered for support of personnel/equipment transportation.

A Chinese rescue team arrives and registers with the coordinators, but apparently does not have any visible diving or ropes equipment.

The UK dive team notifies the RTG that they plan to return to the UK since they now deem this a recovery operation. It is requested they stay as a show of solidarity with the Thai people. They agree to stay for an undetermined amount of time, but they did not plan on continuing dive operations unless the water flow in the cave subsided. UK dive team is approached by a representative from the RTG and asked if they thought a rescue was still an option. All four members unanimously replied “no”.

Because of the weekend, thousands of Thais and foreigners are on site. Two more cordon rings are established to minimize spectators. Rescuers are forced to register with coordinators, and personnel on site are identified by either uniforms, badges, or scarves (official volunteers). This helps minimize the amount of people that did not need to be there. The crisis site is now much more controlled. Multiple inner and outer cordons are put into place sectioning off the rescue workers from the media completely. A few “evacuation” exercises are conducted to rehearse evacuating the victims when/if found. Discussion between the US team and the Thai leadership of what would drive the decision to transition

from rescue to recovery operations occurs with no definitive answer, but a timeline of approximately 2 weeks is talked about often.

Gravel trucks are brought in to help with the ankle-deep mud, and plastic and metal planking helps as well. No rain for several days has allowed water levels to drop and visibility to increase. Significantly, the flow of water in the cave past the third chamber has decreased enough that Thai SEAL divers begin preparing for rescue operations further into the cave complex.

1 July:

Due to the decreased flow of water in the cave, the UK divers renew their efforts on pushing past the third chamber in an effort to place guide lines to the “T” intersection.

Thais request 353rd SOG assistance in staging SCUBA cylinders in the third chamber. Under the current structure they have only been able to stage roughly a dozen tanks. It is estimated that they require upwards of 200 tanks staged at chamber three in order support operations. Sling loading of tanks begins. Air for dive operations will only become more critical the further rescuers must go into the cave system.

Australian Federal Police (AFP) arrive on site and conduct diving operations in order to assess the conditions inside the cave.



The boys and their coach found alive inside the cave

2 July:

Minimal rainfall, combined with continual pumping efforts contributes to water levels in the cave dropping approximately a foot from the previous day and increases visibility. Water flow decreases as well. The UK dive team is able to make it as far as 300m past the “T” intersection and begin laying guide lines and pushing further to the south.

U.S., Thai, Australian, and Chinese teams collaborated on an ambitious plan to pre-stage SCUBA tanks in the third chamber in preparation for follow-on rescue efforts further in the cave. This effort is highly successful and 120+ tanks, food and water bundles, and medical/survival equipment are pre-staged in chamber three. More tanks are set to arrive on site at night and the teams plan to repeat the effort with a fresh dive team the next day.

At roughly 2230L it is reported that the U.K. Dive team was successful in finding all 13 members of the Wild Boars soccer team. The media and personnel on site, and around the world, are ecstatic. All 13 members of the team are still alive. They were standing on a shelf above the waters some 2.5 miles inside the cave when found. The mission now becomes focused on rescuing the team from the cave.

Rescue options

1 Dive out

Teach the group how to use scuba gear and decide when they are fit enough to swim and dive through the flooded tunnels. Most experts say this would be the riskiest.

Risks

- Some do not know how to swim and need lessons
- One spot requires diving for as far as 400m
- Cave is dark, cramped and flooded with fast-flowing, muddy water
- Even with two diving escorts, some may slip away from the guide rope, panic and endanger themselves and the rescuers

2 Drain the water

Pump and drain enough water from the cave so that the group can make its way to safety. More than 130 million litres of water – enough to fill 52 Olympic-sized swimming pools – has been pumped from the cave this week.

Risk

- Monsoon rains forecast in coming days

3 Drill an escape shaft

Find an alternative way into the cave by locating a natural shaft near the group's location. It would need to be widened to allow the boys and the coach to be extricated from above.

Risks

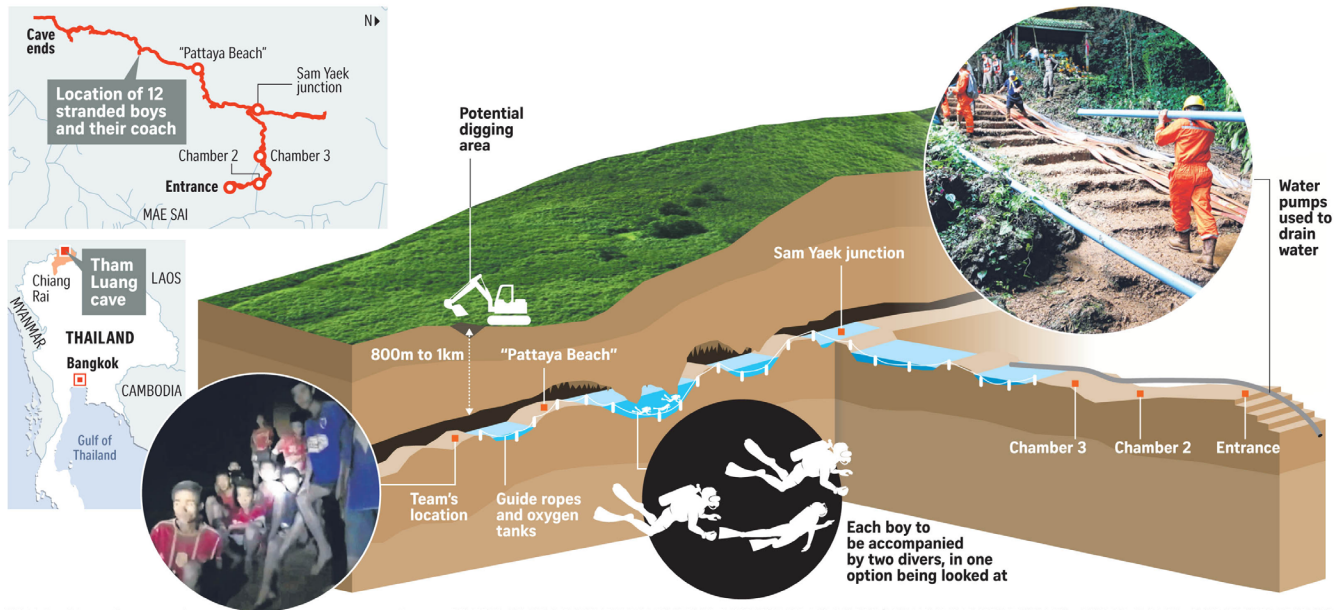
- Group is believed to be 800m to 1km below the surface
- Parts of the cave could collapse

4 Wait and see

The most straightforward option is to wait for water levels to dip enough for the boys to walk out. Officials say they have stored food, medicine and equipment to last up to four months at an underground base.

Risks

- It could take several months
- Air quality and oxygen level may deteriorate
- Cave may become completely flooded
- Psychological trauma of being trapped



Rescue options available to evacuate the team from the cave (Photo credit: newscollection.net)

3 July:

Minimal rain and heavy pumping is slowly making progress against the continual flow of water. The water level drops another foot.

Thai Navy SEALs send 6 divers to the children, two with medical expertise. Their direction is to have four members stay in place with the Wild Boars team for an undetermined amount of time. The other two SEALs will exit the cave the following day with a situation report and to confirm the conditions of the team and cave.

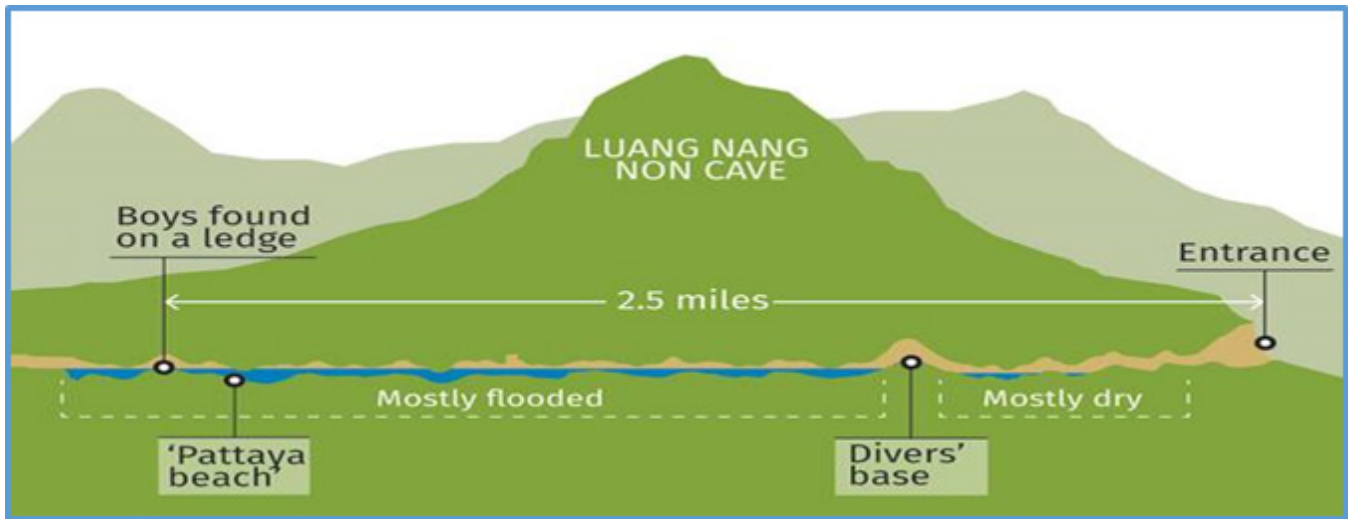
The SEAL main effort is now to get a telephone line all the way back to chamber 9 and the children. It seems at this point that Thai leadership is content leaving the stranded soccer team in the cave until waters recede in the coming months.

Five additional INDOPACOM personnel (Civil Military Support Element (CMSE) and Regional Information Support Team (RIST) from SOCPAC Headquarters) arrive at site. Some of INDOPACOM's 500 Meals Ready-to-Eat (MREs) are delivered to the team in the cave and provide a major source of sustenance.

A second 353rd SOG MC-130 arrives in Chiang Rai with additional gear, then continues to Utapao where it switches out with the original MC-130.

4 July:

Water levels drop again for the fourth consecutive day. Traveling from chamber one to chamber three (forward staging base for the Thai Navy SEALs) is now possible without dive gear, although ill-advised. The final leg to chamber three is a short, underwater expanse roughly 10 meters long, but with many entangling lines along the way



Layout of the cave system (Photo credit: independent.ie)

As water levels continue to drop, the logistics of a dive rescue mission become increasingly feasible. Tank requirements significantly decrease and the need for the kids to be competent divers is seemingly reduced.

Two Thai divers return from the children's location confirming they were able to arrive with minimal incident. A full debrief is conducted with the RTN SEAL divers.

It is reported that three of the children claim to have heard animal noises (roosters and dogs), but this was not heard by any of the RTN SEALs. It is speculated that due to the conditions, those noises were imagined. The soccer team has been digging into the side of their cavern in hopes of finding an alternate chamber or exit and reportedly made roughly five meters of progress. Their health is reported as good at this time.

The variance of dive proficiency between different countries and organizations is considerable. For example, one country takes 6 hours and 5 tanks while the Brits require 2 hours and 1 tank. This is perhaps due to inexperience in cave diving.

The U.K. dive team and a team of divers from the 353rd SOG rescue team travel to chamber three with equipment for the children (100 x field dressed MREs, a camera, and an atmospheric monitor). The U.K. divers then continue on with gear to reassess the route and provide an accurate assessment of what a dive rescue operation will require. Upon their return they state that the kids are still in high spirits and

good health considering their conditions. The most alarming thing to come back is an oxygen reading of 15.5% inside their chamber. The assessment that they could survive inside the cavern until the passageways are walkable is no longer a realistic option. The oxygen will continue to degrade until they suffocate, most likely within a few weeks. Food is another problem. The divers are able to deliver 100 meals to chamber 9, but in order to sustain them through the wet season, they would need closer to 1,800 meals which is unsustainable considering the monsoon rains were closing in and once they hit, no one will be able to reach the far chamber.

Thai King Vajiralongkorn issues a rare, hand-signed statement thanking rescuers. Deputy PM Prawit rules out the option of supplying and monitoring the team while waiting out the rainy season, citing the King's instructions that the boys be extracted as soon as possible.

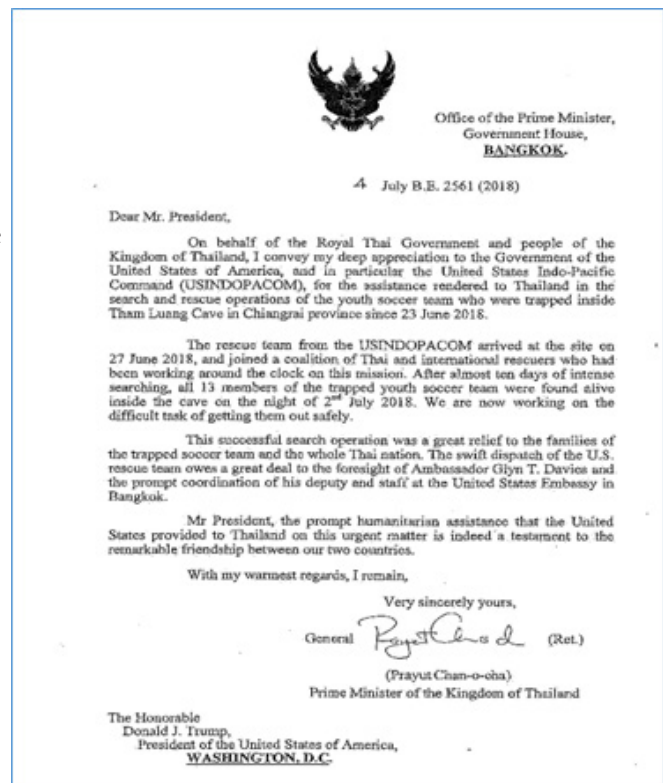
5 July:

Minimal rain and heavy pumping continue to drop water levels. The RTN SEALs are working to bring in an oxygen line on the belief that it would be able to pump in oxygen but they overlook the dangerous levels of carbon dioxide that would be building up inside the cavern simultaneously. During this operation, Saman Kunan, a 38 year-old, retired RTN SEAL that had volunteered to assist in the line-laying efforts, passes away when his tank runs out of air. The gravity of the situation finally starts to set in and the previously high levels of optimism are now slowly fading.

6 July:

JIB halts its interviews to respectfully allow RTG to handle media regarding former SEAL Saman's death. A deliberate and strategic media pause remained in effect through the conclusion of the rescue of the last Wild Boar to allow RTG to announce official results.

US forces have an audience with the Thai Minister of the Interior and local governor. The Thai leaders want to know what the SOCPAC team's assessment and proposed solution is. The SOCPAC team proposes a CONOP that incorporates the best parts of several plans discussed by the international contingent at the cave site over the past several days, including the Thai military's plan. This US "hybrid" plan, briefed to the Minister of the Interior and governor, is prefaced with all background information suggesting that this is the best option given current time and physical limitations. The US team explains that there is not a "no-risk" option, and that the proposed CONOP carried extremely high risk to both the rescuers and the children/coach.



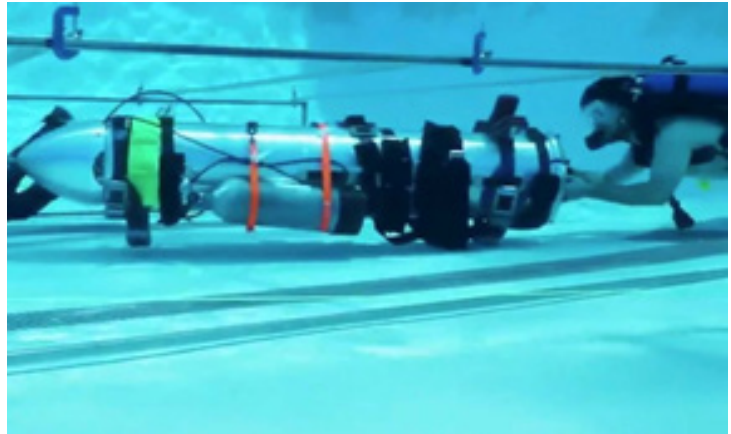
Thai Prime Minister Prayut letter to President Trump

The U.K. dive team increases by 3: 2x divers and 1x coordinator from UK Cave Rescue Council. The two new divers conduct a resupply dive to the children's location and take an atmospheric monitor and a pulse/ox finger cuff. Upon their return, they confirm lower oxygen readings and that the children are healthy enough to begin a rescue operation. The U.K. divers also bring a note from the RTN SEALs with the children that states the SEALs lacked enough air for a return dive out of the cave.

7 July:

Thai Prime Minister Prayut is briefed by his staff and approves the combined US/RTN SEAL/UK Cave Rescue Council CONOP for a SCUBA extraction of the Wild Boar soccer team.

Phase I operations are completed (removal of as many hazards and entanglements as possible from the cave, and staging or tanks occurs). The entirety of the day is spent on mission planning, equipment checks, and rehearsals. A group of Thai children are taken to a pool and the UK divers test the full-face masks on inexperienced children with great success. They also rehearse maneuvering kids inside the pool with all of their equipment on.



Elon Musk provides a kid-size submarine which was ultimately not used

An Australian diver and pediatric anesthesiologist go to the 9th chamber to assess the children's health and receive consent for the upcoming operation. The diver/anesthesiologist advocates the use of a sedative to calm/incapacitate the children to avoid panicking during the underwater movements and reduce risk to themselves as well as the rescue divers. The UK Cave Rescue Council agrees.

FVEY attaches are added to USCT situation reports (SITREPs).

Elon Musk proposes using a "tiny, kid-sized submarine" made from one of his orbital rockets. Construction of the sub is completed in eight hours.

Lessons learned on private sector and interagency coordination:

- The Embassy in Bangkok and U.S. Consulate in Chiang Mai received numerous offers of support from the interagency and U.S. companies. However, due to the distance and required transportation involved, comparatively little U.S. private sector support actually arrived at the cave site.
- Recommendation from the US Embassy: Assign an appropriate embassy office (ECON, Commercial Counselor, etc) to act as initial clearinghouse to screen offers of support, relaying those that seem viable to USCT military representatives on scene and the Civil-Military Support Element (CMSE). Additionally, have these agencies reach out to the American Chamber of Commerce in Thailand to ensure we are fully canvassing any potential local sources of support.

Lessons learned on cross-cultural communication:

- For several days prior to beginning the actual rescue phase of the operation, the 353d SOG team attempted to convey to the Thai elements the sense of urgency that a decision had to be made to begin trying to get the boys out from the cave. The problem essentially boiled down to differences in the Thai versus U.S. decision-making process and unfamiliarity with how to navigate the very hierarchical and opaque Thai command structure.
- Josh Morris: It was extremely fortunate that Mr. Josh Morris, a U.S. expatriate business owner with the right combination of cultural and linguistic fluency, personal connections, and a take charge attitude happened to be involved in the rescue effort, and was able to expedite the eventual decision to begin extracting the boys.
 - “My expertise and my strength in Thailand is I have been there 19 years — I know the culture very well; I speak, read and write the language,” Morris later said. “I’m also a caver, so I can talk about those things, and I do management training, executive coaching and team building and things. So that’s kind of my strength is working with people and getting people to work together.”
 - Morris first came to Thailand in 1999 to teach English as a student from Princeton University. A journey that started as a year or two abroad never ended after he married Khaetthaleeya Morris, a Thai native, and grew a successful rock-climbing company and community called Chiang Mai Rock Climbing Adventures. So he stayed.
- Recommendation from the US Embassy’s AAR: Include a Foreign Area Officer (FAO) element in the initial USCT response. In this case, Josh Morris was luckily able to function as a “connected outsider” capable of working within the Thai system but as a foreigner essentially allowed to bypass some normal rules of hierarchy.
- These cross-cultural skills are exactly what a trained FAO would have brought to the table, but in an official USG basis. Fortunately, for all concerned in this case, Mr. Morris was on the scene and had already helped to work past this issue when active duty FAO personnel arrived.



Two months after the rescue, Mr. Joshua Morris, American expat and rescue diver in Thailand, receives the Knight Commander of the Most Admirable Order of the Direkgunabhorn for his efforts during the Thai cave operation (Photo credit: gettyimages)

8 July:

1.12” of rain falls but water levels fluctuate only minimally. At the end of operations water is up .25” in chamber three and down 2” in chambers one and two. Pumping operations continue at 100%.

The SOCPAC team conducts pre-mission briefings with UK and European dive teams and AUS personnel. A combined operations brief is given with the Thai and all participating entities (Thai military, Thai civilians, US, AUS, UK, China, European Team, etc.). Shortly after final rehearsals, Phase II is cleared by Thai Leadership to commence.

All media is pushed off site and Phase II operations commence as planned, with surprisingly few deviations from the briefed CONOP. **The result is the rescue of four Thai youth.**

Once considered stable, they were transported via ambulance to a Helicopter Landing Zone (HLZ) near the Mission Support Site (MSS), then via Royal Thai Army and Royal Thai Police (RTA and RTP) medevac helicopters to a civilian hospital in Chiang Rai.

The Provincial Governor begins conducting daily press briefings.

Key leaders from all entities (RTN SEALs, RTA, RTA Medical Team, UK, AUS, China, European Team, Thai civilian ropes team), conduct an AAR “hot wash” in order to improve on the first day’s execution. The most consistent theme revolves around gaps in communication between entities due to either language barriers or actual physical barriers.



Medical personnel handling one of the first sedated boys exiting the cave

The first day’s resounding success does not alleviate concerns over the risks ahead, a point which is challenging to emphasize to Thai officials and civilians.

9 July:

Another day without rain. Water levels drop approximately one inch, but most chambers past chamber three are still flooded. Pumping operations continue at 100%.

The SOCPAC Rescue Team conducts pre-mission briefings with UK and European dive teams and AUS personnel. Then a combined operations brief is given with the Thai and all participating entities (Thai military, Thai civilians, US, AUS, UK, China, European Team, etc.). Activities are much better coordinated and organized than the previous day’s, and it is clear that many of the items identified in previous night’s hot wash are fixed.

Only one person is allowed to bring a camera into the cave (Thai designated combat camera).

The mission is executed again without any major issues and another four children are rescued and transported to the hospital where they are expected to make a full recovery.

Thai PM Prayut visits the site again and as a result there is not a hot-wash AAR following the second day. Instead, all issues are handled the following morning. The visit with the Prime



Thai PM Prayut talks with families at the cave site

Minister is brief and did not discuss the details of the operational mission. He expressed his thanks and that all rescuers are always welcome in Thailand. He also went on to visit the hospital caring for the rescued boys.

Rescuers clearly communicate to the Minister of the Interior that even though there was success the first two days, the risk level has not dropped and the mission remains extremely dangerous to all involved.

10 July:

Significant rain pours down but due to maximum pumping efforts, water levels only rise an inch or two and are very slowly rising.

The final four children and coach of the Wild Boars are rescued, along with the 4x RTN SEALs still in chamber nine.

The final minutes are tense as the pumps fail and water immediately begins to rise in chamber three, threatening to seal off the cave again. Luckily all members make it out safely right as chamber three is being sealed off by water.

Several pieces of gear are unrecoverable. The failure of the pumps make it clear how important they were to the operation as water rises two feet almost instantly once the pumps fail.

The US embassy media center distributes a release from the Ambassador congratulating Thailand. US officials conduct approximately 20 interviews with Thai and international media that evening.

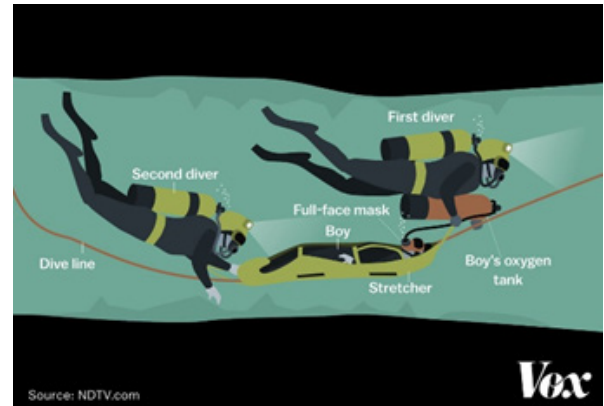
The US military team consolidates personnel and equipment over the next several days and prepares for redeployment.

Post Operations

14 July:

King Vajiralongkorn dispatches Grand Chamberlain Supichai Sundarapur as his personal envoy to conduct formal send-off ceremony at the Chiang Rai airport for the U.S. Team. Chiang Rai Governor Prajon Praisakul also conducted a separate ceremony. Ambassador Davies, Acting Consul General Scherer, and Thai MFA Ambassador Thosaporn Moolasartsathorn attend. The 353d SOG Team departs Thailand for Okinawa.

The funeral for former RTN SEAL Saman Gunan is held. The Thai King funded the funeral, sent a representative, and posthumously promoted the deceased from Petty Officer 1st Class to Lieutenant Commander, an unprecedented and significant promotion in seven



Graphic showing how the transport of the sedated boys was performed (Photo credit: ndtv.com)



US Embassy Naval Attaché and Assistant Air Attaché attend funeral of RTN SEAL Saman

military ranks. U.S. representatives receive approval to attend the funeral. They were the only foreigners in attendance and were seated near the front of the ceremony.

7 September:

Rescue divers receive the Knight Commander of the Most Admirable Order of the Direkgunabhorn from Thai Prime Minister Prayut Chan-o-cha during a ceremony at the government house in Bangkok. Thai King Maha Vajiralongkorn grants the royal decoration to honor the multi-national group of experts in the rescue of the 12 boys and their coach trapped in a flooded cave in northern Thailand.

31 January 2019:

Award of the Humanitarian Service Medal is approved for DoD personnel who were physically present in the vicinity of the Chiang Rai Region, Thailand and provided humanitarian assistance during the Tham Luang Nang Non Cave rescue operation from 26 June 2018 to 14 July 2018.

Lessons learned on airlift:

- Re-deployment was scheduled from Chiang Rai direct to Kadena AB, but Vietnam would not approve the requested diplomatic clearances to allow overflight of their country. They stated “the emergency was over” and overflight was not a requirement. This necessitated another leg on the return flight back to Utapao in order to refuel and route around Vietnam to the south. This also added four-plus hours to the trip. This was the only known issue with air movement. The RTG waived the landing fees for the C-130 aircraft because of their role in assisting in the rescue.
- During the rescue spanning two weeks, the US had several aircraft available (2 x MC-130J, 1 x NSAV, 1 x C-12) which were not used much. It was not discovered until later that the Thai air force was severely strained by their own internal operations tempo and could have used US aircraft assistance. The recommendation is to establish liaison at more levels across agencies and nations to identify needs.

353rd SOG After Action Review (AAR) notes on miscellaneous issues:

- Missing specialized equipment and training for cave rescues. The US rescue team did not have specialized cave diving gear, communications equipment, medical equipment sized to treat children/pediatrics, etc. It was later discussed whether or not this type of operation was likely to happen enough in the future to warrant purchasing equipment and training on such a rescue.
- Customs and immigration. Despite the focus on rescue operations, normal customs and immigration procedures for personnel and equipment must be adhered to unless there are international/Status of Forces Agreement (SOFA)/ Visiting Forces Agreement (VFA) measures that preclude it.
- There were issues with commercial internet, cell phones, government-issued computers not connecting well to official email, etc., which are common during military deployments.
- Civil-Military Support Element (CMSE). While these teams are usually available, they were unfortunately not requested and did not deploy until 3 July. It is possible that a CMSE may have been able to help bridge the Civ-Mil gap.
- Force Protection. Although not an issue in this case, it may be an issue in the future and must be planned for.

- Funding. Operational Fund (OPFUND) and Military Interdepartmental Purchase Request (MIPR). The team was only prepared funding-wise to be on the ground 72-96 hours to conduct a rescue and redeploy home. It became evident shortly after arriving in Thailand that more funds were necessary. Prior planning on how to increase funding levels should be considered prior to deployment.
- Medical authorization to treat civilians during real-world missions. This approval in most cases requires both DOD and host nation authorization.



Conclusion

The Thailand cave rescue, like so many other disaster response operations undertaken by the US government, does not fit neatly into any pre-designed “box.” The processes and procedures were unique to this incident alone. Although a disaster was declared and the Departments of State and Defense followed formal procedures, the lead federal agency for disaster response, USAID OFDA, did not respond. This was purely a US military effort in northern Thailand, with occasional and various support from the US Embassy in Thailand.

Another interesting aspect of the Thai cave rescue is the internal USG decision and authority process that occurred in the initial hours of the response. While standard EXECSEC procedures were completed in the first 1-2 days of the operation, initial movement of forces happened prior to the EXECSEC process being finalized. This is both permissible and legal under DOD Directive 5100.46 authority governing Foreign Disaster Response, which states that nothing shall prevent a military commander with assigned forces at or near the immediate scene of a foreign disaster from taking prompt action to save human lives.

A key lesson learned in this case study is that no two responses are ever the same, and although the US government has set procedures for responding to disasters, planners, JTF staffs, rescue personnel, and interagency partners must remain flexible and expect variations to normal procedures.

It is essential for after action reviews to capture observations and lessons from each operation, however, it is even more vital for military responders to carefully note these lessons and put them into use as best practices going forward for future generations of responders. Some lessons may turn out to be entirely unique to a particular disaster response, while others may turn out to be a common recurring theme or challenge. It is crucial for militaries in the region to quickly capture and identify these potential shortcomings in an effort to improve military-military and also civil-military coordination in the future. This and other CFE case studies are structured to help inform future USPACOM and other foreign military response and civil-military coordination in the Indo-Asia-Pacific region, or at the very least, identify areas in need of improvement that can be bolstered by continued or increased information sharing, research, training, education and bilateral and multilateral engagements.

References used for this case study

- 353 SOG Thailand Cave Rescue 2018 AAR
- U.S. Country Team Thailand. Support to Operation Wild Boars Tham Luang Cave Rescue, Chiang Rai. Lessons Learned
- Thai Cave Rescue Observations – SOCPAC
- Author's discussion with USAID OFDA liaison representatives to INDOPACOM

Point of Contact (POC) and author for this document

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Entrance to the cave warning all to not enter during the monsoon season



Australian divers Dr. Richard Harris and Craig Challen



British divers Richard Stanton and John Volanthen



The late RTN SEAL (Ret) Saman Kunan. The one fatality of the Thai cave rescue



Wild Boars members recovering in the hospital



Wild Boars team visiting the US talk-show circuit after the rescue

Questions for Discussion

1. *Was it appropriate for the US military to respond to this specific disaster? Why?*
2. *What lessons/observations from the Thai Cave Rescue could be used for future military disaster response? What would you say are the most important lessons learned? Is there anything you would do differently? Why?*
3. *What are the critical gaps INDOPACOM forces helped fill during the rescue?*
4. *Did the DoS and DoD follow the correct process for responding to a declared disaster? Would you recommend doing anything differently?*
5. *How could Command & Control, CONOP development, and overall synchronization between the US Embassy, JUSMAGTHAI, the PAT, and 353rd SOG have been better coordinated inside of Thailand?*
6. *Should the US military train, man, and equip its forces to respond to unique disasters such as cave rescues?*
7. *How are prior bilateral and multilateral military engagements and exercises useful when faced with responding to a real-life natural disaster such as this?*
8. *The US Embassy and the DoD rescue team were not prepared for the overwhelming amount of international media coverage involved with this rescue, and the resulting demand on the 353rd SOG PAO to single-handedly manage information operations at the cave. What are the key lessons learned with regard to Public Affairs and Information Operations in this case?*
9. *What recommendations would you make to address potential cross-cultural communication issues prior to US forces deploying in support of a disaster in the Indo-Pacific region?*
10. *DoD Directive 5100.46 states that nothing shall prevent a military commander with assigned forces at or near the immediate scene of a foreign disaster from taking prompt action to save human lives. How would you define "at or near?"*



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