

The Human and Financial Costs of the Explosive Remnants of War in Afghanistan

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Introduction

Afghanistan ranks as one of the most landmine- and unexploded ordnance-impacted countries in the world, even after thirty years of clearance operations supported extensively by the United Nations and a number of major donors, including the United States.³

Long after armed conflicts are over, explosive remnants of war continue to cause harm to unsuspecting civilians and cost governments millions of dollars to clear and neutralize. Landmines can remain a threat that affects the population living around them for decades to come. When calculating the costs of waging war, the post-conflict clearance of leftover weapons scattered about the battlefields generally is not included. These costs can last for generations; Belgium, for instance, continues to remove large quantities of explosive shells from its World War I battlefield sites one hundred years after the end of that conflict.⁴

In the case of a country like Afghanistan, where armed conflict has continued for decades, adding additional explosive ordnance to the landscape on an ongoing basis, the clearance task becomes doubly challenging. The need to remove ordnance is crucial when attempting to provide a secure environment for war-weary civilians and returning refugees and to rebuild infrastructure and create opportunities for economic development – all essential ingredients for establishing and maintaining a stable and effective nation state.

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³ *Landmine Monitor Report 2018* lists Afghanistan as one of eleven countries with “massive” mine contamination (more than 100 km squared) at the end of 2018 (p. 3). Retrieved from http://the-monitor.org/media/2918780/Landmine-Monitor-2018_final.pdf

⁴ Alderman, I. (2017). “Recovering the Past: A Photographic Documentary Exploring Post-Conflict Reconciliation.” *Journal of Conventional Weapons Destruction*, 21(3), 35-6.

Reliable comprehensive casualty data related to landmines and explosive remnants of war such as unexploded ordnance is limited for Afghanistan, particularly prior to 2001. Casualty data since 2001, when the US first sent troops into Afghanistan, launching its Global War on Terror, is more reliable and precise as data collection methods have improved, and includes details on how many casualties were due to landmines, other explosive remnants of war and more recently, victim-activated improvised explosive devices that can be classified as abandoned improvised mines. From 2001 through 2018, the Afghanistan government reported 20,135 total civilian casualties (14,693 injured and 5,442 killed) from these three categories of explosive devices.⁵ This total does not include civilian deaths and injuries due to other weapons, such as suicide or command detonated improvised explosive devices, or due to active conflict such as ground engagements and aerial operations.

These post-9/11 civilian casualties and the money spent trying to eradicate the threat of explosive devices left behind after active conflict is over are the subjects of this paper. More specifically, the paper examines the costs, both human and financial, associated with the presence of landmines, explosive remnants of war, and abandoned improvised mines and their removal in Afghanistan after 2001. The main focus is on costs that can be most directly quantified – civilian casualties due to landmines, explosive remnants of war, and abandoned improvised mines accidents, and the amount of US government funding spent to support Afghanistan’s clearance program. Many other costs, including lost economic opportunities due to contaminated land and the continuing medical care and rehabilitation required by injured civilians and military personnel due to these explosive devices, are harder to identify and tally and are not included in the scope of this study.⁶

Background and Extent of Afghanistan’s Landmine and ERW Contamination

The problem of landmines in Afghanistan spans decades, beginning with the Soviet invasion of 1979 and its decade-long occupation of the country, during which the Soviet military deployed millions of landmines across Afghanistan and along its borders. The vast majority of landmine contamination in Afghanistan emanates from the 1980s when the Soviets planted landmines as part of a defensive strategy against the opposing Afghan rebels – to channel movements, protect socioeconomic assets, defend military positions and cause general terror and confusion among the enemy. The *Mujahedeen*, the Afghan

⁵ Data provided by the Directorate of Mine Action Coordination to CISR researchers via email in May 2018 and updated in July 2019 (data provided as a dataset that the authors analyzed for purposes of this research paper).

⁶ Some cost-benefit analyses exist that provide information on economic costs, and a few are included in this paper. Economic costs also are included as part of the country’s prioritization and planning for mine clearance and can be found in the national plans referenced in this paper. The best source on the challenges of providing for medical care and rehabilitation services for Afghan civilians injured by explosive ordnance as discussed in this paper is the Landmine and Cluster Munitions Monitor, retrieved from <http://www.the-monitor.org/en-gb/reports/2018/afghanistan/victim-assistance.aspx>.

opposition forces, also used landmines provided by the US and other allies as they countered the Soviet-backed Afghan government.⁷

When the Soviet forces began to depart in 1988-89, international clearance organizations entered to begin the clean-up of minefields. This helped start the international movement to ban landmines that spread around the globe and led to the Anti-Personnel Mine Ban Convention (APMBC) in 1999.⁸ However, for Afghanistan, the early progress in clearance was disrupted (but not halted) as new contamination, including both landmines and unexploded ordnance, occurred during the 1992-96 civil war and the period of Taliban control from 1996-2001. Estimates from the early 1990s are that there were an average of 14 to 16 casualties per day due to landmines, or annual totals of up to 5,800 per year.⁹ Civilian casualties due to landmines reached record levels of as many as 600 per month in 1993. This rate dropped to an estimated 88 per month in 2000.¹⁰

In addition to numerous types of anti-personnel and anti-vehicle (also known as anti-tank) landmines that remain after battles, clearance operators also contend with a broad range of conventional weapons of war that are primed and fused to be used on the battlefield that for some reason fail to explode as intended but often explode if touched or moved at a later time (unexploded ordnance, or UXO). These can include grenades, projectiles and mortars of various sizes, cluster munitions, and large air-delivered bombs. Also often left in the wake of armed conflict are abandoned explosive ordnance (AXO) that are not as sensitive as UXO but can explode when handled improperly or scavenged for other uses including in improvised explosive devices (IEDs).

Together, UXO and AXO are considered explosive remnants of war (ERW) under the current international arms control regime for conventional weapons, while landmines and cluster munitions, a sub-category of particularly lethal UXO, fall under specialized arms control agreements—the APMBC and the Convention on Cluster Munitions.¹¹ These distinctions are important in that states parties to the various conventions are subject to specific reporting requirements and obligations. As far as operators working to clear land contaminated with explosive hazards are concerned, however, they all must be removed and destroyed safely.

When the US launched its military actions against the Taliban-controlled Afghan government in late 2001, following the September 11 attacks, a new and more extensive

⁷ Chawla, S. (2000). "Diffusion of landmines in Afghanistan." *Strategic Analysis*, 24(3), 495-507.

⁸ The full name of the APMBC is the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction.

⁹ Mine Clearance Planning Agency (MCPA), United Nations. (1999). *Socio-economic impact study of mine action operations Afghanistan: Mine action programme in Afghanistan*, 11.

¹⁰ Human Rights Watch. (2001). *Landmine Use in Afghanistan: Human Rights Watch Background*.

¹¹ A third international arms control treaty that also applies to landmines (Protocol II) and ERW (Protocol V) is the Convention on Certain Conventional Weapons (full name: "Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effect").

period of contamination commenced. This period was dominated not by landmines, but by extensive ERW contamination and eventually widespread use of IEDs by insurgent groups including the Taliban.¹² These IEDs have injured and killed many US service members as well as increasing numbers of Afghan civilians and security forces. They must be neutralized and removed as part of ongoing military operations, and then when active conflict ends, they fall under the scope of humanitarian landmine and UXO clearance operations charged with making areas safe for a resumption of post-conflict stabilization and reconstruction efforts.

Although the full extent of landmine and ERW contamination has proved hard to verify, improved survey methodology and years of data collection mean recent estimates are the most accurate yet. Recent estimates by the government of Afghanistan put the amount of contaminated land at 1,782 square kilometers, of which 636.9 sq. km. are “legacy” contamination (pre-2001) and 1,145.1 sq. km. are post-2001 contamination, divided primarily between ERW and IEDs. Of growing concern to the organizations responsible for clearing the country of these various types of explosive ordnance are the victim-activated IEDs that are “abandoned,” that is, no longer involved in active conflict. Since 2018 the Afghanistan government’s Directorate of Mine Action Coordination has referred to them as abandoned improvised mines (AIM) (see Table 1).¹³

Table 1. Scope of the Problem¹⁴

This table shows remaining contaminated territory (in square kilometers), consisting of former minefields, battlefields, and firing ranges in Afghanistan (as of December 2018).

Type	AP	AT	ERW	AIM	Total
Legacy contamination (prior to 2001)	182.6	367.6	86.7	0.0	636.9
Post 2001	0.0	0.0	71.8	442.5	514.3
Firing Range	0.0	0.0	630.8	0.0	630.8
Total	182.6	367.6	789.3	442.5	1,782.0

¹² The U.S. military reportedly used a landmine in only one instance, in 2002, with only one munition, as reported by the U.S. government in a 2014 statement about landmine policy. See: Human Rights Watch. (2014). *United States Landmine Policy: Questions and Answers*. Retrieved from <https://www.hrw.org/news/2014/10/03/united-states-landmine-policy-questions-and-answers>; See also: Alexander, D. (2014, September 23). “U.S. says will abide by Mine Ban Treaty except on Korean Peninsula.” Reuters. Retrieved from <https://www.reuters.com/article/us-usa-defense-landmines-idUSKCN0HI1U920140923>; For more information on changes in U.S. landmine use and development, see: Ismay, J. (2013, November 13). “The U.S. Army is Trying to Develop New Land Mines - Ones that Don’t Harm Civilians.” *The New York Times Magazine*. Retrieved from <https://www.nytimes.com/2018/11/13/magazine/army-landmines.html>.

¹³ Mine Action Programme of Afghanistan (MAPA). (2018). “Policy on Clearance of Abandoned Improvised Mines (AIM) in Afghanistan.” Directorate of Mine Action Coordination.

¹⁴ Data from: Directorate of Mine Action Coordination. (2018). *MAPA Fast Facts*. Retrieved from <http://dmac.gov.af/wp-content/uploads/2019/01/Fast-Facts-3rd-Qtr-1397-Oct-to-Dec-2018.pdf>; AP=antipersonnel landmines; AT=antitank landmines; ERW=explosive remnants of war; AIM=abandoned improvised mines, largely pressure plate IEDs that are victim-activated and no longer part of active conflict.

This sizeable contaminated territory—roughly ten times the area of Washington, DC but spread across a country almost as large as Texas—includes land used for agricultural purposes, fields for livestock to graze, roads critical to inter-community trade and travel to local schools, medical institutions, and tourist sites, as well as land surrounding combatant strongholds and military bases. Also included in this total land area is another category of contamination requiring attention: firing ranges used by US and other NATO/International Security Assistance Force troops for training that require extensive clean-up before they can be safely used for other purposes.

The Afghanistan government's Directorate of Mine Action Coordination reports that the US Army Corps of Engineers is funding the survey and clearance of 82 former firing ranges, with the US Department of State issuing grant funding to provide the Quality Assurance and Quality Control on the work.¹⁵ The Mine Action Program of Afghanistan, in its annual report from 2017, describes the nature of the lingering contamination on these training ranges that imperils the local population after the bases were closed and left unsecured, resulting in 191 civilian casualties from ERW accidents between 2009 and March 2017.¹⁶

All of these types of contamination not only create lethal hazards for civilians and military personnel, but the lingering presence of ERW contamination also inhibits the country's overall economic development as well as the ability of local communities to engage in livelihood activities to sustain themselves. Whether the contamination emanates from minefields, scattered UXO and IEDs or from adjacent firing ranges, the negative impact on economic activities is real and substantial.

Some researchers have attempted to determine the extent of the economic impact of the landmine and ERW contamination in Afghanistan, which could then be used to conduct a cost-benefit analysis for landmine/ERW clearance.¹⁷ Such analyses are typically limited in scope and quickly outdated as circumstances on the ground change. However, they provide detailed economic assessments that are important components of strategic planning and instrumental in efforts to identify relationships between national landmine/ERW programs and national economic development planning.

Landmine- and ERW-impacted countries include economic factors and community development considerations into their prioritization process for clearance planning. Such

¹⁵ From the Directorate of Mine Action Coordination page "Projects: Firing Range." Retrieved from <http://dmac.gov.af/projects/firing-range/>.

¹⁶ Directorate of Mine Action Coordination. (2017). *Annual Report 1395, Mine Action Programme of Afghanistan*, 21-22. Retrieved from <http://dmac.gov.af/wp-content/uploads/2017/03/MAPA-Annual-Report-1395-2.pdf>.

¹⁷ For example, see: Paterson, T., Pound, B. and Qudous Ziaee, A. (2013). "Landmines and Livelihoods in Afghanistan: Evaluating the Benefits of Mine Action." *Journal of Peacebuilding & Development*, 8(2), 73-90. DOI: 10.1080/15423166.2013.814969; Harris, G. (2002). "The Economics of Landmine Clearance in Afghanistan." *Disasters*, 26(1), 49-54; and Mine Clearance Planning Agency. (1999). *Socio-Economic Impact Study of Mine Action Operations Afghanistan*. United Nations: Mine Action Programme for Afghanistan (MAPA).

prioritization analyses are complicated and require balancing competing priorities. They also are country-specific, although they all include some combination of local and national priorities.

The ultimate aim of Afghanistan's prioritization scheme is to remove the threat of explosive hazards while minimizing civilian impact and reducing the rate of accidents. Afghanistan works towards this through its National Mine Action Strategic Plan. The current five-year plan (2016-2020) focuses on facilitating development through mobilizing resources to plan and clear contaminated sites in coordination with other sectors such as government ministries, national and international NGOs, and private stakeholders.¹⁸ Aligning Afghanistan's priorities across stakeholders is key to ensuring that they all understand which areas are problematic. Cooperation, specifically among Afghanistan government ministries, involves implementing safe development programs that are in keeping with various national priorities. The National Mine Action Strategic Plan seeks to integrate landmine/ERW clearance with development plans for education, health, agriculture, social protection, security, infrastructure, and natural resources. Areas with the highest priority for clearance are those with high levels of contamination and/or casualties that align with identified development goals, at both the national and the community level. Afghanistan's overarching goal that looks past the five-year plan is to achieve mine-free status by 2023, as required under the Antipersonnel Mine Ban Convention.¹⁹ However, in its strategic plan, the Directorate of Mine Action Coordination acknowledges the possible need to request another extension to reach its landmine clearance obligations. In the meantime, the goal is to make the population as safe as possible through continued progress in clearance and to promote development.

Measuring Costs: Casualties and Clearance

This paper analyzes two distinct sets of costs in relation to landmines, ERW and abandoned improvised mines in Afghanistan. First, it focuses on the cost of contamination in terms of human injury and death. Regardless of the economic cost of the contamination, it is the direct impact on the physical safety and security of people that is the most glaring justification for removing the threat imposed by the presence of these lingering hazards. Moreover, landmine and ERW contamination has deep psychological impacts; for Afghans,

¹⁸ Specifically, some stakeholders are The Directorate of Mine Action Coordination (DMAC), which works under the Afghanistan National Disaster Management Authority, the United Nations Mine Action Service, and clearance organizations such as Afghan Technical Consultants, The HALO Trust, and the Mine Detection Center, among others. Relevant ministries are: Ministry of Labor, Social Affairs, Martyrs and Disabled; Ministry of Women's Affairs; and Ministry of Foreign Affairs.

¹⁹ Oriakhil, M.A. (2017). "Afghanistan National Mine Action Strategic Plan (2016-2021)." *Journal of Conventional Weapons Destruction*, 20(2), 33-36; *Annual report 1395*, 2017.

the fear of being harmed by these weapons is magnified by knowing or seeing someone injured or killed.

Keeping in mind the limits to available casualty data particularly prior to 2001, the total number of landmine casualties reported by the Directorate of Mine Action Coordination for the period 1979-2018 is 7,172, of whom 5,865 were injured and 1,307 were killed.²⁰ Adding those injured and killed by explosive remnants of war and abandoned improvised mines, the total number of people injured in this same period was 24,403 and those killed was 7,980, for 32,383 total casualties.²¹ Of this total, 20,135 civilian casualties (14,693 injured/5,442 killed) —well over half (62%)—were recorded from 2001-2018, after US troops invaded in late 2001, soon joined by the NATO/International Security Assistance Force as part of the Global War on Terror. Civilian casualties due to abandoned improvised mines were quite limited before 2010, with rates of casualties due to that category of explosive device significantly increasing starting in 2014.²² As this paper's focus is on the human cost of explosive remnants of war after 9/11, the pre/post 2001 dividing line is important to keep in mind.

Table 2. Casualties from Landmines, Explosive Remnants of War and Abandoned Improvised Mines, 1979-2018²³

Casualties (Injuries and Deaths)	Landmines	ERW	AIM	Total
1979-2000	3,293	8,955	0	12,248
2001-2009	3,096	6,460	97	9,653
2010-2018	783	4,820	4,879	10,482
Total	7,172	20,235	4,976	32,383

The second way in which this paper analyzes costs is to examine the cost of clearance, specifically the funding the US government has provided for humanitarian landmine, ERW and AIM clearance in Afghanistan over the last 25 years, again with a division between the pre-2001 and post-2001 periods. While the US government has not been the only source of funding for clearance in Afghanistan, it has supplied the vast majority of funds used for this purpose. US funding has totaled over \$495 million since 1993 (through 2018), with nearly \$472 million provided since Fiscal Year 2002 (that includes the post-9/11 US military activities).²⁴ While the US government has remained the

²⁰ Data provided by DMAC to CISR researchers via email, July 2019.

²¹ Casualty data provided by DMAC via email, July 2019. See Table 2.

²² The increase in civilian casualties due to IEDs corresponds to the troop “surge” in 2009 and gradual transition to Afghan National Security Forces control of operations thereafter. Casualties due to ERW also climb significantly after 2013.

²³ Government of Afghanistan, Directorate of Mine Action Coordination (DMAC). Data provided by DMAC to CISR researchers via email in May 2018 and updated in July 2019, report authors conducted data analysis; ERW=explosive remnants of war; AIM=abandoned improvised mines, largely pressure plate IEDs that are victim-activated and no longer part of active conflict.

²⁴ U.S. Department of State, Bureau of Political-Military Affairs. (2019). *To Walk the Earth in Safety* (18th ed.). Retrieved from https://www.state.gov/wp-content/uploads/2019/04/tweis_2019.pdf.

principal donor during the post-2001 years, its funding levels have fluctuated, with a recent downward trend from a peak level in FY 2010-2012.

Landmine and ERW Casualties in Afghanistan

The scope of the problem of landmine and ERW civilian injuries and deaths in Afghanistan is extensive, though as noted above, difficult to quantify, particularly in the early years of the mine clearance efforts when underreporting of casualties was widespread due to victims dying before reaching health care centers. Furthermore, with no central data collection system in place, estimates were based on the numbers of casualties reported on a monthly basis at certain known hospitals. As late as 2000, Human Rights Watch used similar methods to estimate casualty rates based on an average of 88 recorded casualties per month in Afghanistan, down from 130 per month in 1999.²⁵ The report notes that the actual casualty rate could be as much as fifty to a hundred percent higher due to underreporting, and its qualitative description of the extent of the landmine threat indicates the potential for unreported casualties among refugees and internally displaced people moving into remote and unfamiliar areas.

Beginning in the late 1990s, the Mine Action Coordination Center for Afghanistan, first operating under United Nations management and then transitioning to Afghanistan national control as the Directorate of Mine Action Coordination, gradually became more consistent with data collection. In the post-2001 period, casualty data becomes more reliable and more clearly differentiates among landmines, ERW and, more recently, abandoned improvised mines as the cause of the injury or death.

The great majority of the victims have been Afghan civilians who sustained injury long after the conflict concluded for which the landmines and other explosive ordnance were intended. Beginning in the 1990s, the hospitals affiliated with the International Committee for the Red Cross (ICRC) became the principal source of casualty data in Afghanistan, providing both numbers of those injured and information on the characteristics of landmine and ERW casualties; much of that data was incorporated into the Directorate of Mine Action Coordination comprehensive database used today.²⁶ It is from this ICRC data that we began to get a picture of the differential impact of landmines and ERW on men, women, boys and girls, with men and boys most extensively injured and killed but with no demographic group untouched.

With a more robust data collection system in place, the Directorate of Mine Action Coordination now has a casualty database that identifies important trends in who is being injured and killed by landmines, as well as by ERW and more recently, by victim-activated IEDs, since 2018 referred to as abandoned improvised mines (AIM). In recent years,

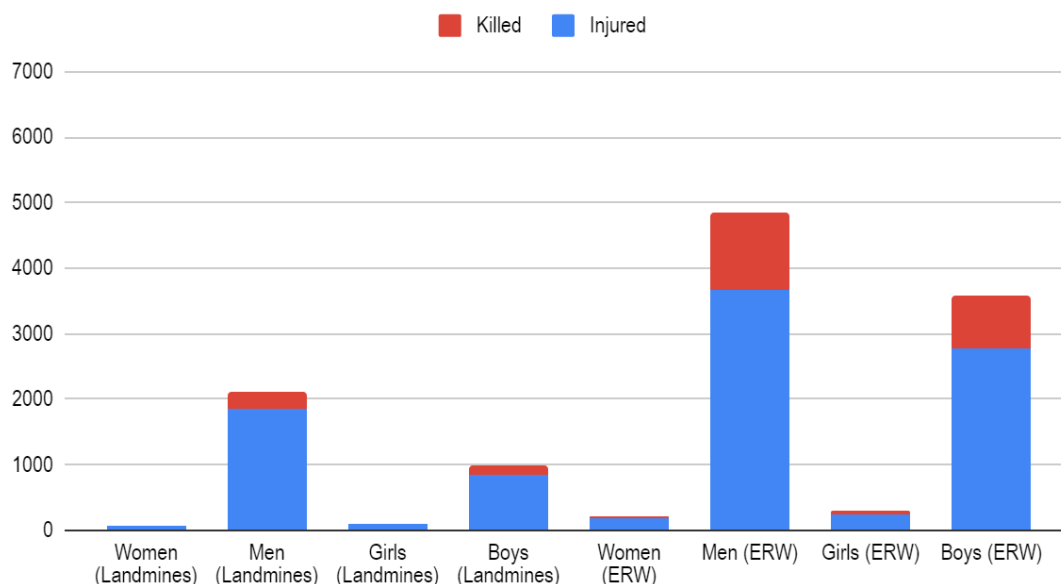
²⁵ *Landmine Use in Afghanistan*, 2001. Also see *Socio-economic impact*, 1999, pp. 17-18 for another example of extrapolating limited casualty data to estimate comprehensive casualty figures.

²⁶ See the Landmine Monitor Reports from 2001-2007 that all rely on the ICRC for casualty data, with the 2008 report citing the national mine action center database rather than the ICRC for the first time. Retrieved from <http://www.the-monitor.org/en-gb/home.aspx>.

organizations carrying out risk education now can plan their outreach more effectively. Not only do they know boys and men are most often injured or killed, but they know boys are most vulnerable to accidents involving ERW and men are the demographic group most often the victims of pressure plate IEDs (i.e., AIM). Furthermore, the data in many cases indicate the activity the victims were engaged in when the accident occurred, such as traveling for adult women and men and playing/recreation for boys and girls under 18 years of age. This kind of information can further help the designers of risk education programs to implement effective interventions to promote safety in impacted communities.²⁷

From this database, as analyzed by the authors, two graphs below show the trends in civilian casualties, both before 2001 and after 2001, when the US and NATO/International Security Assistance Force troops commenced military operations in Afghanistan. Figure 1 for the years 1979-2000 shows a total of 12,248 casualties (9,710 injured/2,538 killed) distributed across gender and age groups for landmines and ERW. Figure 2 for 2001-2018 includes the addition of recorded casualties attributed to abandoned improvised mines, with an increased total of 20,135 (14,693 injured/5,442 killed) now distributed across three categories of explosive ordnance.

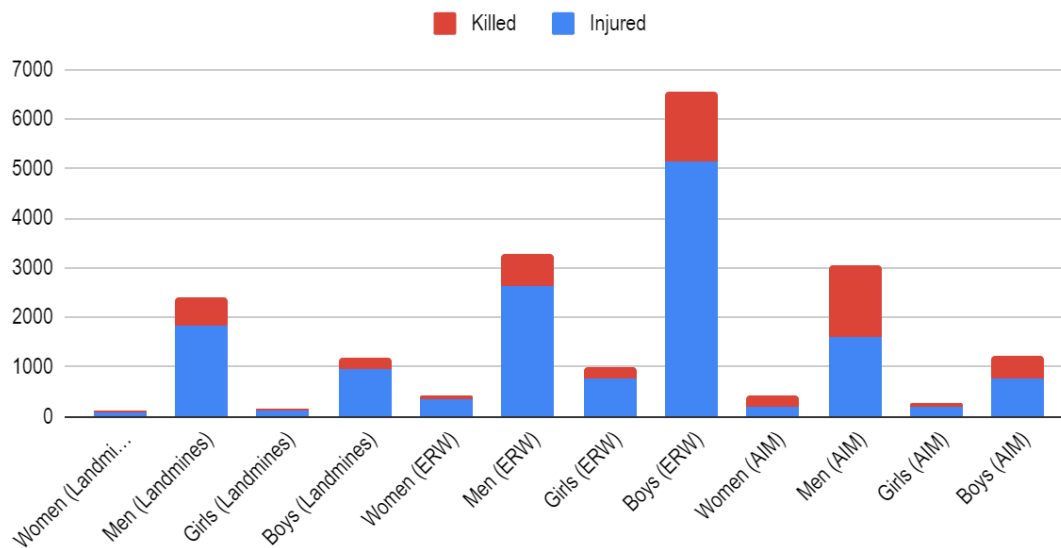
Figure 1. Casualties from Landmines and Explosive Remnants of War, 1979-2000²⁸



²⁷ Danish Demining Group. (2018). *A Comprehensive Assessment of the Current State of Risk Education in Afghanistan: Findings of Baseline, KAP Survey and Casualty Analysis*. Retrieved from http://dmac.gov.af/wp-content/uploads/2017/03/DDG-Afghanistan-RE-KAP-Survey-report_Mar-2018.pdf.

²⁸ Data provided by Government of Afghanistan, Directorate of Mine Action Coordination (DMAC) to CISR researchers via email in July 2019, report authors conducted data analysis; ERW=explosive remnants of war; AIM=abandoned improvised mines, largely pressure plate IEDs that are victim-activated and no longer part of active conflict.

Figure 2. Casualties from Landmines, Explosive Remnants of War, and Abandoned Improvised Mines, 2001-2018²⁹

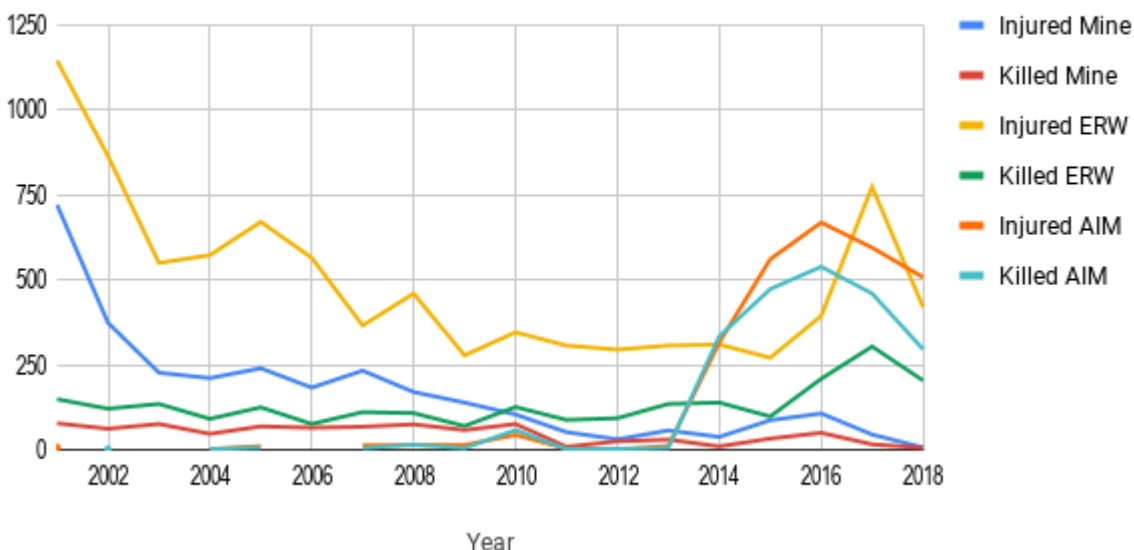


The data in these figures include the casualty cases for which the Directorate of Mine Action Coordination obtained verifiable information, and so the numbers represent an undercount of total injuries and deaths due to the difficulty of collecting data on those killed who never make it to a medical facility or are not reported to authorities who can gather the needed details. As the undercount is most pronounced in the 1979-2000 figures, this likely contributes to the lower number of total casualties during the early period compared to the post-2001 period.

Another explanation for the higher figures after 2001 is the increasing number of casualties due to abandoned improvised mines beginning in 2010 and with a substantial increase after 2013. In fact, as the number of landmine casualties has decreased over those years, the number of casualties due to abandoned improvised mines, largely consisting of pressure plate IEDs that are victim-activated akin to landmines, has increased steeply. Since 2015, injuries and deaths due to ERW also increased significantly, as did total casualties.

²⁹ Data provided by Government of Afghanistan, Directorate of Mine Action Coordination (DMAC) to CISR researchers via email in July 2019, report authors conducted data analysis; ERW=explosive remnants of war; AIM=abandoned improvised mines, largely pressure plate IEDs that are victim-activated and no longer part of active conflict.

Figure 3. Yearly Casualties from Landmines, Explosive Remnants of War, and Abandoned Improvised Mines, 2001-2018³⁰



The Directorate of Mine Action Coordination authorities and groups that monitor IED use and civilian casualties anticipate continuing high numbers of injuries and deaths due to abandoned improvised mines in the near future. This relates to the nature of the current internal conflict, with Afghan National Security Forces (army and police) conducting operations against armed opposition groups throughout large parts of the country, including both rural and urban areas, in the face of continued extensive military action by the Taliban and their use of improvised explosive devices of a range of types, including victim-activated.³¹ Reports from 2018 substantiate those projections.³² In 2019, attacks by Islamic State-affiliated armed groups also are on the rise in the country, including the extensive use of IEDs.³³

³⁰ Data provided by Government of Afghanistan, Directorate of Mine Action Coordination (DMAC) to CISR researchers via email in May 2018, with updated data provided in July 2019, report authors conducted data analysis; ERW=explosive remnants of war; AIM=abandoned improvised mines, largely pressure plate IEDs that are victim-activated and no longer part of active conflict. Few reported civilian casualties before 2010 due to AIM.

³¹ Concern for continued high levels of civilian casualties is reflected in: Mine Action Programme of Afghanistan (MAPA). (2018). "Policy on Clearance of Abandoned Improvised Mines (AIM) in Afghanistan." Directorate of Mine Action Coordination, as well as other DMAC, UNAMA and Action on Armed Violence reports. See footnotes 32, 34, 35.

³² See: Directorate of Mine Action Coordination. *MAPA Fast Facts Quarterly Reports 2018*. Retrieved from <http://dmac.gov.af/publications/fast-facts/#1524294052498-e38c67e5-09f9>.

³³ Parker, C. (2019, August 19). "The Islamic State is far from defeated. Here's what you need to know about its affiliate in Afghanistan." *The Washington Post*. Retrieved from <https://www.washingtonpost.com/world/2019/08/19/islamic-state-is-far-defeated-heres-what-you-need-know-about-its-affiliate-afghanistan/>.

It is important to note that the casualty figures presented in Figure 3, based on the Directorate of Mine Action Coordination database, only include those due to victim-activated weapons—landmines, ERW and AIM. The United Nations examines civilian casualties another way, reporting that from January-December 2018, a total of 10,993 civilians were killed (3,804) and injured (7,189) in Afghanistan due to armed conflict, with 4 percent of civilian casualties caused by ERW and landmines and 16 percent caused by Non-Suicide IEDs, which includes improvised mines. These percentages reflect only a small portion of the thousands of civilians killed by Suicide and Complex Attacks (26 percent), Ground Engagements (31 percent), Targeted Killings (8 percent) and Aerial Operations (9 percent).³⁴ Also not included in the Directorate of Mine Action Coordination civilian casualty figures are security forces personnel, both Afghan and foreign, injured and killed by landmines, ERW and IEDs.³⁵

The increased use of victim-activated IEDs in the Afghan conflict presents new challenges to humanitarian clearance operations focused on landmines, ERW and improvised mines that are not part of active conflict areas. Several humanitarian mine clearance non-governmental organizations, both Afghanistan-based ones like Afghan Technical Consultants and the Mine Detection Center and international ones like The HALO Trust, have three decades of experience working in the country. However, the increased prevalence of abandoned improvised mines that require clearing has led to a need to develop new policy and procedures appropriate to the changed context.

Distinguishing the scope of activity of humanitarian mine action organizations from military counter-IED forces is a challenge facing not only Afghanistan but other countries as well, including Angola, Colombia, Iraq, Sri Lanka, Syria, and Thailand. Efforts to develop standards and policy to guide the evolving context of humanitarian mine action (HMA) operations in light of the increased prevalence of IEDs is the focus of extensive discussion within the HMA community as a whole.³⁶

In September of 2018, the Directorate of Mine Action Coordination, with support from the United Nations Mine Action Service, released a policy on the clearance of abandoned improvised mines in Afghanistan. The policy is meant to ensure that abandoned improvised mines are cleared “safely, effectively, and efficiently,” and that all AIM clearance

³⁴ United Nations Assistance Mission in Afghanistan. (2019). *Afghanistan: Protection of Civilians in Armed Conflict, Annual Report 2018*. See Executive Summary, pp. 1-2. Retrieved from https://unama.unmissions.org/sites/default/files/unama_annual_protection_of_civilians_report_2018_-_23_feb_2019_-_english.pdf

³⁵ Action on Armed Violence, *Explosive Violence Monitor 2018*, provides details on the nature and scope of IED use and casualties around the world, including information specific to Afghanistan. It presents data on both civilian and “armed actor deaths and injuries” and reports on casualties resulting from all types of IEDs, not just the victim-activated ones that the Directorate of Mine Action Coordination includes in its database. Retrieved from <https://aoav.org.uk/wp-content/uploads/2019/05/Explosive-Violence-Monitor-2018-v5.pdf>

³⁶ Rhodes, G. “Improvised Explosive Devices and the International Mine Action Standards.” *The Journal of Conventional Weapons Destruction*, 21(3), 4-8; Keeley, R. (2017). “Quality Management and Standards for Humanitarian Improvised Explosive Device (HEID) Response Activities.” *The Journal of Conventional Weapons Destruction*, 21(3), 9-13.

activity is conducted for humanitarian purposes.³⁷ With the rise in civilian casualties related to AIM and the greater prevalence in the current armed conflict of improvised explosive devices, both abandoned IM (i.e., victim operated IEDs that are no longer involved in active conflict) and those that are still considered active devices and are of varying design, the mine action program in Afghanistan is faced with determining which devices are in its scope of responsibility to clear as humanitarian organizations that must maintain their neutrality in order to continue to perform their work in the country.

The Financial Cost of Mine Action Programs in Afghanistan

The distinction between humanitarian mine action and military-related activities related to counter-IED destruction is not only important to clarifying the scope of responsibility and activity of humanitarian organizations versus security sector ones. It also delimits the funding used for the different purposes. This paper does not address the funding provided by the United States government and its allies for military activities in Afghanistan, including counter-IED activities. The focus here is on the amount of money the US government has spent on supporting humanitarian mine action programs working in Afghanistan to locate and clear landmines, explosive remnants of war and abandoned improvised mines.

The US has been the single largest contributor to Afghanistan's humanitarian mine action programs, spending \$171 million between 2012 and 2017. The Netherlands, Norway, Japan, the United Kingdom, the European Union, and, especially, Germany have also provided funding for this purpose, at nearly \$27 million in this same period.³⁸ The funding mechanisms include bi-lateral agreements and multi-lateral contributions through the United Nations.

The amount of US funding in 2012-2017 is about 36 percent of the total the US awarded from FY2002 through FY2017 (nearly \$452 million).³⁹ This period of time (2002-2017) reflects the US government's increased focus on stabilizing and strengthening the Afghanistan national government to counter threats from Taliban forces, regional warlords, and more recently Islamic State-affiliated operatives. However, in contrast to the \$452 million spent on HMA activities, the US government spent well over \$1 trillion on its military operations in Afghanistan during the years 2001-2017.⁴⁰

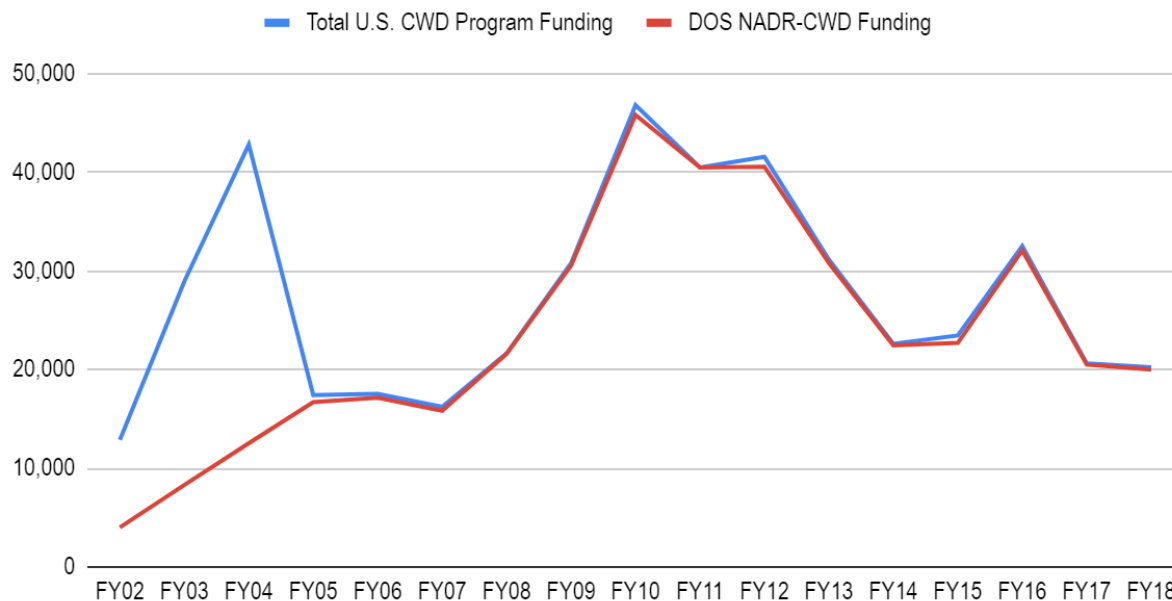
³⁷ Mine Action Programme of Afghanistan (MAPA). (2018). "Policy on Clearance of Abandoned Improvised Mines (AIM) in Afghanistan." Directorate of Mine Action Coordination.

³⁸ From the Financial Tracking Service "Afghanistan 2012-2017 Data". Retrieved from <https://fts.unocha.org/countries/1/flows/2017>.

³⁹ U.S. Department of State, Bureau of Political-Military Affairs. (2018). *To Walk the Earth in Safety* (17th ed.). Retrieved from <https://www.state.gov/t/pm/rls/rpt/walkearth/2018/287788.htm>.

⁴⁰ This figure relates just to the amount provided through Overseas Contingency Operations funds plus increases to the Department of Defense's base budget for Afghanistan operations and added costs to the Veterans Administration related to Afghanistan veterans. See McCarty, N. (2017, August 24). "The Financial Cost of U.S. Involvement In Afghanistan." *Forbes*. Retrieved from <https://www.forbes.com/sites/niallmccarthy/2017/08/24/the-financial-cost-of-u-s-involvement-in->

Figure 4. US Conventional Weapons Destruction Program Funding History for Afghanistan (measured in thousands of US dollars)⁴¹



As Figure 4 shows (with updated figures that include FY2018 anticipated spending), the principal source of US government humanitarian mine action funding, as well as other conventional weapons destruction programming, is the Department of State's Nonproliferation, Anti-Terrorism, Demining and Related Programs (NADR). This budget line, requiring annual authorization by Congress, funds specific programs managed by the Department of State's Office of Weapons Removal and Abatement in the Bureau of Political-Military Affairs (PM/WRA). By FY2005, NADR funding administered by the Office of Weapons Removal and Abatement became the principal source of US government funds supporting the Mine Action Programme for Afghanistan (MAPA). The office awards funds to various implementing partners (consisting of commercial contractors and non-

afghanistan-infographic/#4cb6630f1ee3. McCarty's figures track closely with the costs presented by the Cost of War research. For more details on these estimated costs of the U.S. war in Afghanistan, see: Crawford, N.C. (2017). "United States Budgetary Costs of Post-9/11 Wars through FY2018." Retrieved from <https://watson.brown.edu/costsofwar/papers/2017/USBudgetaryCostsFY2018>.

⁴¹ *Ibid*; US Department of State. (2011). *To Walk the Earth in Safety* (10th ed.). Retrieved from <https://commons.lib.jmu.edu/cgi/viewcontent.cgi?article=1038&context=cisr-globalcwg>; Projected totals are based on initial planned allocations for FY2018 of \$20 mil, similar to the amount in FY2017, FY2015 and FY2014 but down from \$32 mil in FY16 and half the amount in FY2010-2012; DOS NADR-CWD Funding: Department of State - Nonproliferation, Anti-Terrorism, Demining and Related Programs, Total US CWD Program Funding: All US Government funding provided to conventional weapons destruction programs, including from DOS under NADR, but also including other Department of State funding lines, as well as funding from the Department of Defense, US Agency for International Development, and Centers for Disease Control and Prevention.

governmental organizations) to conduct clearance of landmines, ERW and abandoned improvised mines and to implement other related projects.⁴²

In addition to providing funding to clear landmines, ERW, and victim-activated IEDs as they fall under the area of responsibility of humanitarian mine action programs, the Office of Weapons Removal and Abatement also is charged with a broader array of conventional weapons destruction responsibilities. These include helping “foreign governments destroy excess stockpiles of conventional arms [and] better secure the stockpiles they retain,” with conventional arms encompassing a long list of weapons from small arms and light weapons to man-portable air defense systems (MANPADs), as well as landmines, grenades, mortars, artillery shells, cluster munitions, and bombs.⁴³

Although the Office of Weapons Removal and Abatement in the Department of State plays an important leadership role in the US Conventional Weapons Destruction Program, it is an inter-agency program with the Department of Defense as well as other Department of State offices and USAID contributing in important ways depending on the country. For example, the Department of Defense provides funding through specialized assistance to national mine action programs and foreign military units working to support humanitarian mine action and other conventional weapons destruction programs. These programs are significant in certain instances in terms of providing access to equipment and machinery and technical training. In the case of Afghanistan, some DOD funding has continued in support of the country’s national mine action program, while USAID funding for Afghanistan has shifted to other programs and priorities since the early 2000s.⁴⁴

In 2013, Afghanistan applied for an extension request for the Antipersonnel Mine Ban Convention to extend the deadline to achieve mine-free status to 2023.⁴⁵ The request was approved with a budget of \$647.5 million USD. Since that time, MAPA has faced funding shortfalls accompanied by a concern about meeting clearance targets. For 2018, the projected funding goal for Afghanistan was \$99 million; however, only \$51 million was secured.⁴⁶ This follows a pattern of an overall decrease in funding for clearance programs in Afghanistan, with it falling short of its annual funding target each year since the start of its extension request plan. It should be noted that the lapse in meeting funding requirements coincides with the decline in funding, since 2013, provided by the US, as

⁴² *To Walk the Earth in Safety*, 2019.

⁴³ Bureau of Political-Military Affairs, Office of Weapons Removal and Abatement (PM/WRA). “About US.” Retrieved from <https://www.state.gov/about-us-office-of-weapons-removal-and-abatement/>

⁴⁴ *To Walk the Earth in Safety*, 2019; USAID. (2019). “Afghanistan: Our Work.” Retrieved from <https://www.usaid.gov/afghanistan/our-work>.

⁴⁵ Pietralik, J. (2013). “Afghanistan’s Landmine-removal Extension Request.” *The Journal of ERW and Mine Action*, 17(1), 46-9.

⁴⁶ Islamic Republic of Afghanistan. (2018, November 26-30). *Afghanistan’s Statement of Clearance (Article Five of APMBC): 17th Meeting of States Parties to Anti-personnel Mine Ban Convention* [Transcript]. Retrieved from <https://reliefweb.int/sites/reliefweb.int/files/resources/Afghanistan%20Statement%20on%20mine%20clearance.pdf>.

illustrated in Figure 4. Its decrease in funding since 2013 is significant and has not been offset by increases from other donors or Afghanistan's own national resources.

Overall US Conventional Weapons Destruction Program funding remained relatively steady during these years, increasing somewhat beginning in FY2015 and increasing more in FY2017.⁴⁷ Much of the increase in 2017 was due to greater demands for funding for Syria and for Iraq in response to the Islamic State occupation of and subsequent withdrawal from areas in the north of the country. However, the FY2017 increase did not continue into FY2018, as total CWD program funding returned to pre-2017 levels (of approximately \$200 million), with Afghanistan once again slated for an estimated \$20 million, less than half what it received in FY2010, FY2011, and FY2012.⁴⁸

Prospects for the Future

Despite the funding challenges, the Afghanistan national mine action program continues to make progress towards its goal of creating a mine-free country by 2023.⁴⁹ Based on its current rate of progress and funding levels, the likelihood of it needing to request another extension has increased. However, the need depends on many factors besides funding shortfalls, including its security context and governmental stability, as well as the extent of new contamination.

The goal of achieving "mine-free" status under the APMBC only relates to the clearance of landmines, while leaving the country's people potentially still at peril for death and injury due to lingering contamination by assorted ERW and AIM. Even as the country has its sights set on completing its clearance of known landmine contamination, Afghanistan, as with all landmine-affected countries, must begin the process for planning to deal with residual contamination by currently unidentified explosive hazards (landmines, ERW and AIM). As the story of residual contamination in Europe tells us, this danger could be around for a very long time.

Will the US be there to assist Afghanistan in addressing this challenge in the long run? The US Conventional Weapons Destruction Program has demonstrated a commitment, notwithstanding some fluctuations in level of support, to the mine action program in Afghanistan over many changes in the country's security and governmental context, indicating an understanding of the importance of clearing the threat landmines, ERW and AIM pose to the security and economic self-sufficiency of the local population and the effectiveness and viability of the national government. However, changing US administrations and national priorities can erode that support over time. And it is apparent that other external funders are not prepared to step in to fill potential shortcomings in

⁴⁷ *To Walk the Earth in Safety*, 2019.

⁴⁸ *Ibid.*

⁴⁹ Islamic Republic of Afghanistan, State Ministry for Disaster Management and Humanitarian Affairs, Directorate of Mine Action Coordination. *National Mine Action Strategic Plan: 2395-1399 (2016-2020)*. Retrieved from <http://www.macca.org.af/macca/wp-content/uploads/2014/02/National-Mine-Action-Strategic-Plan-1395-99-2016-20.pdf>

funding. Some might argue that a long-term goal would be for Afghanistan to achieve self-sufficiency in running the national program. However, this is a tall order for a country with limited resources and many demands upon those resources. Moreover, many would say that Afghanistan should not have to bear the full burden of paying for the clean-up of the explosive remnants of war left behind by other countries' military forces, a position supported by Protocol V of the Convention on Certain Conventional Weapons, an international agreement to which both the Afghanistan and US governments have acceded.⁵⁰

The Mine Action Programme of Afghanistan is one of the most mature and experienced programs in the world with a large number of well trained staff members. They have demonstrated an increasing capacity to manage their program effectively. They also are setting up mechanisms to manage future threats due to residual contamination by explosive hazards currently unidentified but assumed to lurk somewhere across their country's territory which has seen nearly four decades of unbroken armed conflict.

The question remains: What are the obligations of the US government to continue to provide assistance to clear Afghanistan of these "remnants of war" emanating from armed conflict in which the US military was a major participant?

If involvement in the wars in Vietnam, Cambodia and Laos is any indication, the US may recognize an obligation to clear contamination for which it is responsible, even if that assistance is delayed by many years. In recent years, the US government has significantly increased its support for ERW clearance in Laos, with policy stating the importance of the US taking responsibility for "US-origin" ordnance. In 2016, the US pledged to fund Laos with \$90 million over three years, a substantial increase over prior years' funding.⁵¹

In the case of Afghanistan, the US government should make a multi-year commitment similar to what it made to Laos. This commitment should restore funding levels to the higher annual average of \$42 million, as in the years 2010-2012, an amount that would better meet the projected requirements of the Afghanistan program to achieve its planning targets. The US should commit to providing these annual funds to Afghanistan's national mine action program until 2023, and then beyond that based on the country's next strategic plan and extension request timeline.

A multi-year commitment to Afghanistan would be in line with US policy in Southeast Asia and would go far toward facilitating the long-range strategic planning effectiveness of the mine action program in Afghanistan. A total of approximately \$168 million over four years, compared to the more than \$1 trillion in US military spending to

⁵⁰ The full title of this convention is: The Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Protocol V on Explosive Remnants of War.

⁵¹ Congress has fully appropriated the funds, demonstrating U.S. commitment. See: U.S. Department of State, Bureau of Political-Military Affairs. (2018). *Special Report: U.S. Conventional Weapons Destruction in Laos*. Retrieved from <https://www.state.gov/special-report-u-s-conventional-weapons-destruction-in-laos/>

date, is a modest proposal for the US government and would allow the Afghanistan national mine action program to confidently plan its clearance programs with the goal of reaching completion of its treaty (APMBC) obligations. It would also strengthen Afghanistan's national capacity to conduct needed clearance of remaining explosive hazards such as ERW and AIM to help its population remain safe as the country continues to stabilize and move toward a more secure and prosperous future.

Conclusion

After more than three decades of operation, the Mine Action Programme of Afghanistan, with important financial and technical support from international donors and the United Nations, has succeeded in significantly reducing the threat of landmine contamination to the country's civilian population in the wake of the Soviet occupation of the 1980s. However, with continued armed conflict engulfing the country and the entry of US and NATO/International Security Assistance Force troops starting in late 2001, the threat of civilian casualties has increased due to explosive ordnance of both traditional commercial manufacture (such as artillery shells, hand grenades and air-delivered bombs – explosive remnants of war) and improvised design and operation (improvised explosive devices). While the US government, through its Conventional Weapons Destruction Program, has provided more funding to support the humanitarian mine action operations in Afghanistan than any foreign donor, a sustained and sufficient budget to complete the clearance task remains elusive and beyond the reach of the Afghanistan government. As the US government has demonstrated in Southeast Asia, a multi-year increased financial commitment to a country in which US military forces were heavily involved is humane, financially possible, politically tenable and diplomatically beneficial. Making a sustained, significant financial commitment to promoting the effective clearance of explosive hazards, a large portion of which are of US origin, would support the government and people of Afghanistan in building a more secure, peaceful and prosperous future.