

30 Years of Impact

An Evaluation of the Mine Action Programme of Afghanistan



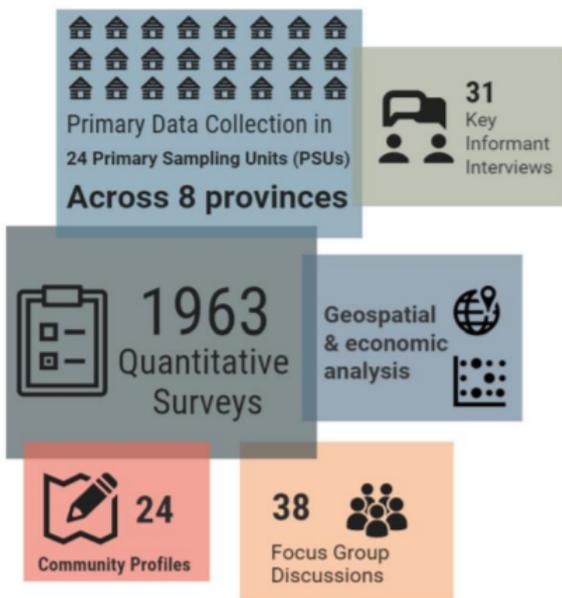
EXECUTIVE SUMMARY

METHODOLOGY & OBJECTIVES

Due to successive waves of instability and conflict from the 1980s onwards, Afghanistan was heavily contaminated by explosive ordnance (EO). Established to improve this situation, the Mine Action Programme of Afghanistan (MAPA) commenced activities in 1988. MAPA is a platform and umbrella structure for mine action, linking coordinating bodies, donors, and implementing partners. As of August 2021, MAPA had cleared over 81% of land known to be contaminated by legacy landmines and explosive remnants of war in the country, allowing for the release of thousands of square kilometres of land for productive use.

In 2021, MAPA finds itself at a critical juncture. It is not on track to meet the targets committed to as part of the Anti-Personnel Mine Ban Convention obligations. Funding for the mine action sector in Afghanistan has been decreasing steadily since 2011, dropping from \$113 million to \$32 million by 2020. The emergence of new threats, such as improvised explosive devices (IEDs), requires constant capacity building in a sector that is always at risk of brain drain. Finally, the takeover of the Taliban in the summer of 2021 threatens funding streams, as many donors are reluctant to engage with the new regime, whether directly or indirectly - even as it simultaneously opens a window of opportunity in terms of access to previously inaccessible areas, and more secure operating conditions.

In this context of challenges and transition, future actions should be data-driven and evidence-based to ensure that the funds allocated to mine action in Afghanistan make a difference. This evaluation was commissioned by the United Nations Mine Action Service (UNMAS) to take stock of three decades of mine action in Afghanistan. It maintains a focus on impact resulting from MAPA while also including criteria of relevance, efficiency, effectiveness, and sustainability. Its primary intended audience are the MAPA stakeholders themselves, ranging from UNMAS to implementing partners (IPs) and donors. It is hoped that it will also benefit and inform a wider community of actors involved in similar endeavours in other contexts.



To gather the evidence needed, a mixed-methods methodology was employed, combining different sources of quantitative and qualitative data to gain an extensive understanding of mine action results over time. Data collection took place in 24 communities across eight provinces, representing the different regions of Afghanistan. All had been sites of mine clearance in previous years, across different types of land and by different IPs. Close to 2,000 individual survey respondents were selected randomly from the communities, with an eye to guaranteeing the equal inclusion of female respondents.

Beyond the reported impact of mine action at the individual level, the evaluators also opted to assess impact at the community level via observation and interviews with community leaders. Geospatial analysis techniques were employed to better understand changes resulting from mine action at the national level, using night lights as a proxy for economic

development, and studying changes in land usage after mine action. Impact is further demonstrated via case studies, showcasing growing townships, agricultural lands, cultural heritage sites, transportation hubs, and other high-profile examples.

Unique methodological challenges should be considered when reflecting on the impact of mine action in Afghanistan throughout the decades. Perhaps the most important is that demining is rarely a discreet 'one-off' event which leads to direct changes in its immediate aftermath. Rather, mine action tends to occur in waves, sometimes over decades. It

is thus difficult to pinpoint the 'peak' of mine action dividends across several dimensions. Furthermore, proximity to relevant demining sites is often not easily assessed - communities may well be impacted by minefields not in their immediate vicinity. These challenges were mitigated by triangulating data, posing recall questions to individuals, but also employing advanced spatial analysis to assess the impact of demining on the access to areas further afield.

KEY FINDINGS: 10 MESSAGES

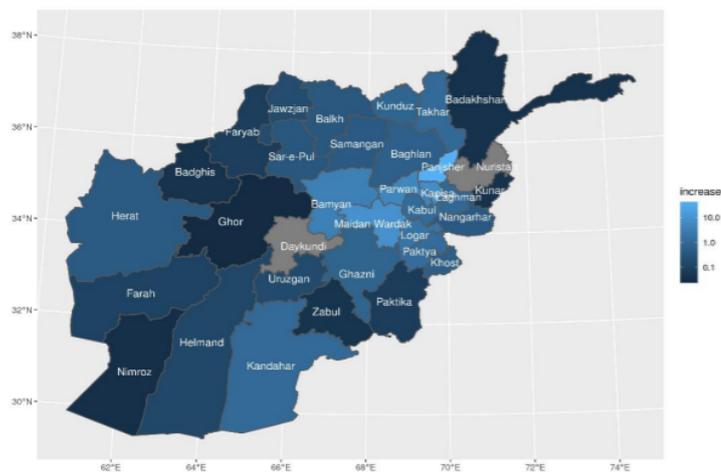
1. MINE ACTION IN AFGHANISTAN HAS SAVED COUNTLESS LIVES

Mine action activities have been delivered in two forms. First and foremost, MAPA carries out landmine clearance activities whereby landmines are identified and cleared from contaminated sites. In addition, mine action implementing partners conduct explosive ordnance risk education (EORE) activities to inform local communities of the presence of explosive ordnance in the surrounding area, increase people's awareness of the types of landmines, and change attitudes and behaviours in the event that they encounter explosive ordnance. MAPA delivered on this fundamental mission of saving lives and limbs: 97% of respondents to this study noted that their physical security had improved as a result of mine action.

2. MINE ACTION VASTLY IMPROVED MOBILITY AND ACCESS TO RESOURCES AND MARKETS

Landmines and explosive remnants of war (ERW) do not just result in death and injury, but also in vast stretches of land becoming inaccessible. 86% of respondents in urban locations and 57% of respondents in rural ones noted that landmines were contaminating pathways, roads, and transportation routes. Thanks to mine action, it is now possible to visit relatives or attend culturally important weddings and funerals in surrounding villages. Children who were not allowed to go to school out of fear of mines prior to clearance are now able to pursue their education again. Accessing healthcare and transporting sick people to health facilities is now easier and safer. Pathways to streams, springs, and other natural water sources were previously obstructed by landmines in certain communities; the clearance of these pathways enabled residents to access and use these natural resources.

Increase in aggregate market access thanks to demining



Market access was estimated as a function of transportation costs between all settlements, proxied by night-time lights and weighted by population. Analysis shows that, thanks to the clearance of transportation pathways, aggregate access to markets more than doubled in 2013 (compared to a hypothetical scenario in which no demining had taken place). Considerable regional differences result in a more nuanced picture at the sub-national level: by 2013, compared to the no-demining scenario, market access in Panjshir province had increased more than tenfold. In Paktika, this increase stood at 10%.

3. MINE ACTION IN AFGHANISTAN HAS BEEN A PREREQUISITE FOR DEVELOPMENT INITIATIVES

Communities with protracted presence of explosive ordnance are considered dangerous for development initiatives, especially for programmes such as road construction. Conversely, landmine/ERW clearance created the space for international agencies and the authorities to become more involved in local development, contributing to an

increased sense of security in decontaminated areas. This included country-wide initiatives such as the Citizens Charter National Priority Programming (CCNPP). Along with government programmes, international and national NGOs were able to distribute agricultural supplies and cash to some of the communities cleared of mines. In the locations visited for this study, the majority of interviewees agreed that a number of development activities had benefited their community which would not have been possible prior to landmine clearance. These include large projects such as pipelines, electricity and telecommunication infrastructure, but also, frequently, bridges, flumes, and irrigation structures.

Electricity towers recently constructed on demined land in Paktia, 2021



4. MINE ACTION HAS GREATLY BENEFITTED THE AFGHAN ECONOMY

While the impetus for humanitarian mine action has been primarily to save lives and limbs, this evaluation also finds wide-reaching positive economic impacts in every sampled community. Lands cleared of explosive ordnance meant that many communities had more lands for crop cultivation. Nine out of ten survey respondents in rural areas noted that their household income from agricultural products had increased after demining. The land also increased in value. Pastoralists also benefitted, as lands released from contamination were frequently used for the herding of sheep, goats, and cattle - over half of the survey respondents noted that their income derived from livestock increased as a direct result of mine action in the area. Landmine/ERW clearance allowed community members to gather resources such as wood, stones, herbs, and dung, leading to increased self-sufficiency and decreasing the high costs often associated with heating and construction.

Newly demined pastureland in Paktia



5. MINE ACTION HAS PROVIDED DIRECT MONETARY BENEFIT TO THOUSANDS OF AFGHANS

MAPA directly employs over 5,000 Afghans, providing a regular salary indirectly benefitting tens of thousands of dependents. Through the community-based demining approach, many more have been employed over the years. Local recruitment in a contaminated area stimulates the local economy and helps to build trust with the local population, thereby improving the security of mine action organisations and its access to local knowledge about contamination. Mine action operations have also been leveraged to provide employment to particular groups such as women or former combatants, supporting the reintegration process. Beyond providing a salary to deminers and EO risk educators, MAPA collaborated with the Ministry of Martyrs and Disabled Affairs to extend direct financial benefits to maimed victims of explosive ordnance. Numerous respondents explained that they knew of victims who had received assistance in the form of a disability benefit. This is usually the only support received by EO victims, and a lifeline to them and their dependents.

6. MINE ACTION BENEFITTED PEOPLE'S MENTAL HEALTH AND COMMUNITY RELATIONS

Psychosocial relief from the decreased threat of harm was widely discussed by the people consulted for this study. 95% of respondents interviewed for this study reported that their level of anxiety had decreased as a result of explosive ordnance clearance. Women in particular report a reduction in anxiety, connected to no longer having to worry intensely about children, male relatives, or themselves undertaking activities near contaminated lands. While some anecdotal evidence points to the risk of causing stress to children through EO risk education activities, overall, the beneficial mental health impacts are indisputable. At the community level, the presence of explosive ordnance had been eroding the social fabric and sparked tensions. Mine clearance attenuated tensions between different groups, including settled farming communities and *kuchi* nomadic pastoralists. As there was more land, the competition and pressure for livestock grazing grounds decreased in many surveyed communities. Some 80% of respondents to the survey noted that mine action had increased the level of peace and coexistence in their community.

7. MINE ACTION IN AFGHANISTAN WAS THE CAUSE OF SOME NEGATIVE EXTERNALITIES

In some villages, the benefits of mine action are distributed based on existing power dynamics within the community. Those who can lay claim to the cleared areas naturally stand to benefit from them more than others. While disputes regarding cleared lands were only mentioned by 7% of respondents, those tend to be clustered in certain communities, suggesting that land disputes are highly localised. Areas near urban centres are at higher risk of dispute and land-grabbing due to increased land value. Another frequent complaint voiced by research participants was the degradation of soil and destruction of community infrastructure over the course of clearance operations. Roads, bridges, and irrigation systems were sometimes mentioned as having been destroyed by deminers. Generally, community members that were consulted agreed that the benefits of mine clearance far outweighed the infrastructure destroyed. They noted, nonetheless, that the promised reconstruction tended to take a long time, or sometimes did not manifest at all.

8. MINE ACTION IS RELEVANT AT THE GLOBAL, NATIONAL, AND COMMUNITY LEVEL

Mine action can be situated at the heart of the triple nexus: it is humanitarian in its life-saving work, is a precursor to longer term development, and has positive implications for peace and security. It is linked to the 2030 Agenda for Sustainable Development, and other international treaties and frameworks. Its relevance to the national agenda, no matter who is in charge, is showcased by its alignment with the Afghanistan National Priority Programmes. The Taliban takeover does not change this. Indeed, the Taliban supported mine action during their previous reign, and have been allowing access to demining teams since their takeover. The relevance of MAPA activities to the Afghan citizens affected by explosive ordnance is obvious given the universal public support of EO clearance operations.

9. EFFICIENCY OF MINE ACTION IN AFGHANISTAN HAS INCREASED STEADILY OVER 30 YEARS

MAPA resources were used more efficiently over time, through a down-sizing of the organisation, an increased productivity linked to technological progress, and a more precise knowledge of the state of the problem on the

ground. Cost per square metre cleared under MAPA decreased from \$3 in the 1990s to below \$1 in the 2020s. Improved capacity and equipment enhanced the programme's efficiency. At the same time, institutional changes also lowered costs incurred: between 2008 and 2014, DMAC's predecessor UNMACCA reduced its workforce by more than half. The efficiency of MAPA was further driven by projectisation and managed competition, as a competitive process was set up in 2016 for clearance contracts.

10. MINE ACTION HAS HAD SUSTAINABLE IMPACT, BUT THE SUSTAINABILITY OF OPERATIONS IS NOT GUARANTEED

It is indisputable that MAPA has made a sustainable difference to thousands of communities across Afghanistan over the past decades. The elimination of an explosive hazard represents a sustainably neutralised danger benefitting everyone in the community. Since 1989, humanitarian mine action partners in Afghanistan have destroyed more than 18.8 million items of explosive remnants of war, some 750,000 anti-personnel mines, and some 31,000 anti-vehicle mines. Every one of these represents a sustainable contribution to the well-being of Afghans. Benefits derived from the clearance will continue or even increase as productive land use accelerates. MAPA also represents a model study on localization. After the transition of responsibilities from UNMAS to the Directorate of Mine Action Coordination (DMAC), it became fully Afghan-run and has built sustainable expertise of international renown. However, from a financial perspective, the sustainability of MAPA is not guaranteed - without financial support from the international community, the programme will not be able to continue operations.

Sustainable impact: Kabul University grounds demined



WHAT IS NEXT FOR MINE ACTION IN AFGHANISTAN?

MINE ACTION IN AFGHANISTAN IS AN UNEQUIVOCAL SUCCESS STORY WHICH CAN AND MUST CONTINUE UNDER THE TALIBAN

Donors can see the results of their support: EO clearance in Afghanistan has saved countless lives and improved mental well-being and community cohesion. It has given Afghans the ability to move around in safety. It allows children to go to school and play outside without fear. It has opened pathways to markets, made areas available to build shelter, graze animals, and grow crops. It has paved the way for massive-scale development projects. Not many donor-funded endeavours in the Afghan context can tell a similarly unequivocal success story.

After the Taliban takeover of Afghanistan in August 2021, MAPA continued its important work, with implementing partners conducting the range of mine action activities including explosive ordnance clearance and EORE. Some challenges appear set to ease if the conflict abates: the absence of shifting frontlines of fighting means that security, access, and expanding explosive ordnance use are no longer as problematic. The Taliban takeover thus opens a window of opportunity in terms of access. Donors should not consider the Taliban surge a reason to decrease support to MAPA; on the contrary, they should consider that MAPA, as a respected and decades-old structure with

humanitarian goals, is likely to be able to continue operating in the current context, and indeed could leverage the opportunity to realize the vision of a mine-free Afghanistan.

A SPECIAL FOCUS SHOULD LIE ON THE REMOVAL OF ABANDONED IMPROVISED MINES, WHICH WILL REQUIRE INVESTMENT IN CAPACITY BUILDING

Anti-personnel mines of improvised nature (APM/IN) or Victim Operated Improvised Explosive Devices have caused over half of all EO civilian casualties in Afghanistan over the past half-decade. Humanitarian clearance of such devices is still in its early stages in Afghanistan, after their recent rise in prominence and the issues around the politics of clearance, access, and operations or capacity. It is recommended that there be continued engagement and action on APM/IN. This will need to include investment in capacity building for MAPA stakeholders at different levels, as the programme evolves from focusing on factory-made mines towards clearing improvised devices.

MINE ACTION IN AFGHANISTAN MUST REVISIT PRIORITY-SETTING CRITERIA

In Afghanistan, determining the priority of hazardous areas for clearance is based on specified impact indicators, with a scoring system assessing blockages, type of device, the size of the contaminated areas, distance from settlements, etc. The goal of the current system is to determine where the greatest positive change can be effected for the largest number of people, with the potential number of civilian casualties considered the primary planning indicator. While MAPA had ambitions to adjust site selection to maximize not only the humanitarian but also the development impact of its intervention, it will likely be necessary to keep a purely humanitarian focus for the time being in light of the Taliban rejection of development interventions.

MINE ACTION SHOULD CONTINUE TO MITIGATE NEGATIVE EXTERNALITIES

This evaluation found that communities understand that infrastructure may, in rare cases, get damaged over the course of demining operations, and still consider that the benefits greatly outweigh the costs. Tension ensues mainly where reconstruction is expected but not delivered in a timely manner. It is recommended that plans to rebuild be made before mine clearance commences, in full transparency and in collaboration with partners who will be in charge of the process. MAPA organisations should ensure that community liaison addresses issues on land disputes, inadvertent or inherent damages relating to mine action, and remaining explosive ordnance. Enhanced community liaison can include explanations, clear timelines, complaint resolution mechanisms, and referral pathways to address unintended consequences of MAPA activities.

MINE ACTION IN AFGHANISTAN SHOULD INCREASE ITS FOCUS ON MENTAL HEALTH

Beyond people's physical lives and limbs, MAPA should further focus on people's mental health and psychosocial wellbeing. People experience deep mental trauma from explosive ordnance, overlaid with mental health concerns from conflict. Explosive ordnance clearance is an important first step in addressing these concerns. MAPA partners should ensure that post-clearance community liaison includes activities around mental health, ensuring for instance that the information on areas cleared reaches women (who often receive only partial information second-hand). All monitoring should include a mental health component. And finally, EO risk education protocols should be adjusted to ensure that the sessions do not inadvertently cause unnecessary stress to children in particular.

MINE ACTION IN AFGHANISTAN SHOULD CONTINUE TO SHOWCASE ITS SUCCESS TO THE BENEFIT OF THE WIDER COMMUNITY OF PRACTICE

MAPA has an extensive list of achievements over more than 30 years of mine action in Afghanistan. The gains made across various spheres – humanitarian, economic, and social – were immediately beneficial to people and are also set to persist beyond political changes in the country. MAPA and associated mine action stakeholders should continue to advocate their positions, supported by evidence, for people affected by explosive ordnance in Afghanistan and beyond. It is well-placed to engage in this work alone, and to strategically partner with other organisations that work on these pressing issues – where it is safe to do so, and where it will not compromise MAPA's humanitarian mine action work.

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Acronyms and Abbreviations

AFN	Afghani (currency)
AIM	Abandoned Improvised Mines
ALCS	Afghanistan Living Conditions Survey
ANDMA	Afghanistan National Disaster Management Authority
AP	Anti-personnel (mine)
AV	Anti-vehicle (mine)
CDC	Community Development Council
DAIL	Directorate(s) of Agriculture, Irrigation, and Livestock
DMAC	Directorate of Mine Action Coordination
EO	Explosive Ordnance
EORE	Explosive Ordnance Risk Education
ERW	Explosive Remnants of War
FCS	Food Consumption Score
FGD	Focus Group Discussion
G&D	Gender and Diversity
IED	Improvised Explosive Device
IM	Improvised Mine
IMAS	International Mine Action Standards
IMSMA	Information Management System for Mine Action
IP	Implementing Partner
KII	Key Informant Interview
MA	Mine Action
MACCA	Mine Action Coordination Centre of Afghanistan (then DMAC)
MAIL	Ministry of Agriculture, Irrigation, and Livestock
MAPA	Mine Action Programme of Afghanistan
MEAL	Monitoring, Evaluation, Accountability, and Learning
NGO	Non-Governmental Organisation
NPP	National Priority Programme
NRM	Natural Resource Management
NRVA	National Risk and Vulnerability Assessment
NSIA	National Statistics and Information Authority
OECD DAC	Organisation for Economic Co-operation and Development - Development Assistance Committee
PWD	Persons with Disability
SSI	Semi-structured Interview
UNAMA	United Nations Assistance Mission in Afghanistan

UNMAS	United Nations Mine Action Service
UNOPS	United Nations Office for Project Services
UN-EMACCA	United Nations Emergency Mine Action Coordination Center for Afghanistan
UXO	Unexploded Ordnance
WASH	Water, Sanitation, and Hygiene

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EVALUATING THREE DECADES OF MINE ACTION IN AFGHANISTAN

Afghanistan is considered the birthplace of humanitarian mine action, with one of the largest and longest-running mine action programmes in the world.¹ The country has experienced successive contaminations throughout different conflicts, largely beginning with the Soviet-Afghanistan War (1979-1989), where Soviet-aligned forces protected bases with anti-personnel mines and mujahideen opposition fighters laid anti-vehicle mines targeting tanks. After the Soviet withdrawal, fighting and explosive ordnance (EO) contaminations continued during civil wars from 1989 to 2001.² Most recently, there has been further proliferation of hazards during conflict between the Afghan military, supported by international forces, and armed opposition groups. This ongoing conflict has seen a sharp rise in the prevalence of Improvised Mines (IMs)³, especially since 2014. IMs now kill and injure the majority of civilian EO victims.⁴ This is alongside recent explosive remnants of war (ERW) – such as unexploded grenades, missiles, and leftover bullets – that add to existing explosive ordnance from previous conflicts.

The Mine Action Programme of Afghanistan (MAPA) – which acts as a platform or umbrella structure for mine action, linking coordinating bodies, donors, and implementing partners – commenced activities in 1988-1989. Over more than thirty years, MAPA has cleared over 75% of landmines and explosive remnants of war⁵, released thousands of square kilometres of land, and prevented countless civilians from being injured or killed. Despite these pivotal successes, MAPA is at a critical juncture in 2021. Afghanistan remains one of the countries most affected by explosive ordnance,⁶ with over 3,750 hazardous areas still affecting approximately 1,500 communities across the country. The government of Afghanistan requested a clearance extension at the Anti-Personnel Mine Ban Convention meeting in 2012, with a plan to clear all-known contaminated areas by 2023. While working towards this timeline remains an important goal, it is not on track to be met. **Funding for the mine action sector in Afghanistan has steadily decreased, from US\$113 million in 2011 to US\$32 million in 2020.**

The takeover of the Taliban in the summer of 2021 may not be detrimental to the mine action community in Afghanistan. Firstly, historically armed groups in Afghanistan have often tolerated - if not supported - demining interventions. In 1988, Mullah Omar, the spiritual leader of the Taliban, instructed his troops to facilitate mine clearance activities among the population. More recently, in June 2021, the Taliban unequivocally condemned the attack on the NGO HALO Trust in Baghlan province, which resulted in the death of ten staff. Secondly, the absence of significant or prolonged fighting during the Taliban takeover in the summer 2021 limited the number of new EO put in the ground around cities, villages, or traffic routes. This suggests an enhanced operational deployment opportunity for mine clearance interventions. It is likely that some Taliban-controlled sanctuaries in the South and East - districts or communities previously unreachable for security reasons - may finally be cleared in the near future. The current situation can therefore be considered a window of opportunity.

In this context of impact, challenges, and transition, future actions should be data-driven and evidence-based to ensure that the funds allocated to mine action in Afghanistan make a difference. The driving impetus behind the research was to better understand and evaluate MAPA, one of the largest mine action country programmes in the world, with lessons for MAPA stakeholders as well as mine action, humanitarian, and development actors globally. The

¹ Mansfield, Ian (2015) "Humanitarian Mine Action in Afghanistan: A History," The Journal of ERW and Mine Action: Vol. 19: Iss. 3, Article 10.

² Explosive ordnance (EO) includes a range of hazardous items. This includes but is not limited to: different types of landmines (such as anti-personnel mines and anti-vehicle mines), unexploded ordnance (UXOs), and explosive remnants of war (ERW). All of these are covered by the International Mine Action Standards (IMAS).

³ Explosive ordnance that is improvised in nature is a complex topic rising in importance given their increasing usage and the increasing number of civilian casualties. The MAG Policy Brief on Humanitarian Response, Improvised Landmines, and IEDs discusses different terms and why they matter in humanitarian mine action. MAG advise to avoid the use of "IED" for devices that are improvised landmines, booby traps, or ERW, in order to support the humanitarian response to them.

⁴ See: Samuel Hall and the HALO Trust (2021). Lives and Livelihoods - Impact Assessment of Anti-Vehicle Mines (AVM) and Abandoned Improvised Mines (AIM) in Afghanistan.

⁵ DMAC (2020). MAPA Annual Report for 1398 (Apr 2019 - Mar 2020).

⁶ Landmine Monitor, 2020. Afghanistan.

evaluation focuses on impact, including different types of effects resulting from historic MAPA activities across the country on women and men at different levels. This report follows in the footsteps of a series of others published over the years on the effectiveness and impact of mine action in Afghanistan, including but not limited to several reports published by the Geneva International Centre for Humanitarian Demining (GICHD)⁷, the European Union's Programme for Afghanistan,⁸ and Samuel Hall⁹, among others.

The Mine Action Programme of Afghanistan (MAPA)

What is MAPA?

A programme in its own right, MAPA simultaneously comprises different mine action programmes and acts as a platform, umbrella, or portfolio that brings together the major mine action stakeholders of coordination bodies, the United Nations, donors, and implementing partners.¹⁰ The Directorate of Mine Action Coordination (DMAC) served as the lead coordinator until the summer of 2021. The DMAC was part of the Afghanistan National Disaster Management Authority (ANDMA) – a national government body. It provided oversight and coordination, implementing partner and task registration and certification, and quality control. The DMAC was supported in its coordination role by the United Nations Mine Action Service (UNMAS), with the transition to DMAC and national authority officially completed in 2018.

MAPA has various funding streams to reflect the different programmes that fall under the umbrella of mine action in the country. A number of donors fund it through the United Nations Voluntary Trust Fund (VTF)¹¹; other donors directly and bilaterally fund the programme and UNMAS and/or implementing partners. Alongside increasing contributions from the Afghanistan government budget (prior to the Taliban takeover), major donors include various country and regional governments and aid-funding mechanisms.¹²

Over 45 implementation organisations conduct mine action. A variety of partners are operating in Afghanistan, from humanitarian demining organisations to commercial demining companies¹³, explosive ordnance risk educators, and victim assistance organisations. MAPA as a whole had over 5,000 staff in 2021, predominantly Afghans, including those working across DMAC, UNMAS, and the implementation partners.¹⁴ It has evolved over time; once internationally led (including through previous programmes such as the Mine Action Coordination Centre of Afghanistan or MACCA), it has now transitioned to national ownership.

From DMAC to UN-EMACCA

This evaluation still refers to the Directorate of Mine Action, coordinator of MAPA at the time of writing. In the August 2021, after the Taliban had taken over provincial capitals and Kabul, the DMAC functions were halted after international donors suspended their financial support to Afghan ministries and government entities. In light of the altered context and urgent mine action coordination needs, and at the request of DMAC and mine action

⁷ See for instance GICHD (2008), Afghanistan Country Mission Report; GICHD (2008), Transitioning Mine Action Programmes to National Ownership: Afghanistan.

⁸ The European Union's Programme for Afghanistan (2008): Midterm Evaluation of the Mine Action Programme in Afghanistan.

⁹ Samuel Hall/UNMAS (2014). An Evaluation of UNMAS in Afghanistan 2008-2014: "A Success Story in Danger".

¹⁰ KII5 [DMAC], KII3 [UNMAS] and KII4 [UNMAS]

¹¹ The United Nations VTF is managed by UNMAS

¹² Central Emergency Response Fund (CERF). UN Office for the Coordination of Humanitarian Affairs (OCHA). PATRIP.

Australia, Canada, Denmark, Germany, European Commission Humanitarian Aid (ECHO), Netherlands, New Zealand, Ireland, Finland, Germany, Japan, Netherlands, Norway, Sweden, UK, USA. See: UNMAS (2021). Afghanistan.

¹³ Commercial operators work for profit and comprise an important stakeholder in MAPA. While they focus less on humanitarian and life-saving work, their impact must be taken into account given their roles on large-scale infrastructure projects which are intended to contribute to development. Two ongoing examples include commercial demining work along the Central Asia-South Asia (CASA-1000) power project and the Turkmenistan-Afghanistan-Pakistan-India (TAPI) natural gas pipeline.

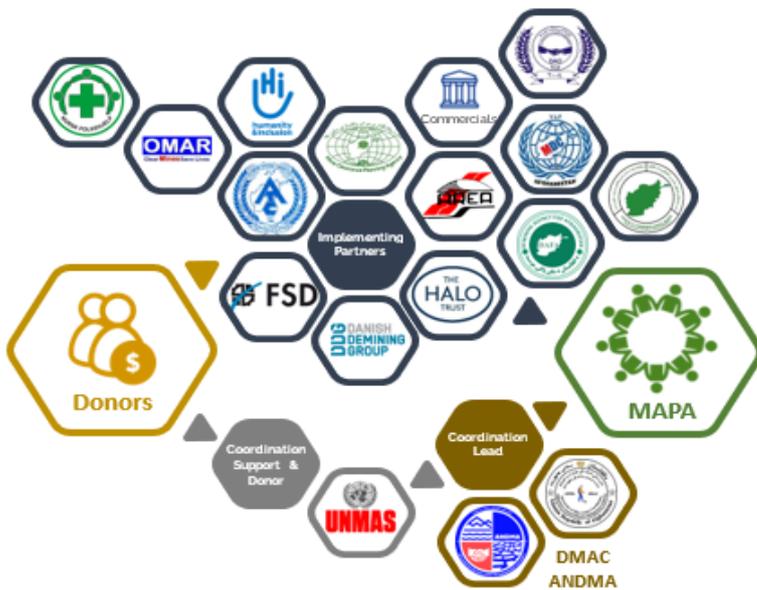
¹⁴ DMAC (2021). MAPA Annual Report for 1396 (Apr 2020 - Mar 2021); and: DMAC (2020). MAPA Annual Report for 1398 (Apr 2019 - Mar 2020). In 2020, the MAPA employed over 7,000 staff and in years prior, the MAPA has employed more than 14,000-16,000 people. See: KII31 [DMAC] and MACCA (2011). MAPA Annual Report, 1389.

stakeholders, UNMAS established the United Nations Emergency Mine Action Coordination Center for Afghanistan (UN-EMACCA). UN-EMACCA is a temporary stand-in for the DMAC and independent from the de-facto government.

MAPA has changed a lot. Previously, DMAC did not exist, and activities were run by OCHA. There are diverse constituencies. (...) If you ask different people what MAPA is, you will get different answers. In the end, we considered it more of a "portfolio".

KI14 [UNMAS]

Figure 1 A complex set of partners pursuing the same goal: a mine-free Afghanistan



Even after transitioning to national ownership, this vision of coordinated mine action was maintained.

Today, DMAC "coordinates" but does not "manage". If you go to DMAC and ask for the "Program Manager", you will not find one. The MAPA is more like a brand than a programme. The vision of a mine-free Afghanistan is what brings people together.

KI13 [UNMAS]

Perhaps because it has succeeded in bringing so many different stakeholders together, MAPA enjoys a high international standing, serving as an example of what humanitarian action can achieve when coordinated under a common goal. A reduction in available funding has further forced actors to coordinate and pool assets.

A lot of MAPA partners have been in mine action for a long time. It is a well-established institution. We tend to think of MAPA as a group of purely humanitarian agencies but there is an advocacy element. When you compare it to other countries, it does well.

KI12 [Danish Demining Group]

What does MAPA do? The diversity of MAPA stakeholders is matched by a variety of mine action objectives. Mine action projects can pursue different aims: from the many projects with an overarching focus on getting mines out of the ground, to those designed to provide returning refugees and migrants explosive ordnance risk education (EORE) at the country's borders, to those with longer-term development intentions for land, or projects with a mixture of objectives. The common thread which runs through MAPA and the different actors is the vision for a mine-free

Afghanistan.¹⁵ With an eye to including a gender-mainstreaming component, MAPA implements the five major activities of global mine action: explosive ordnance clearance and land release; explosive ordnance risk education; stockpile and ammunition destruction; landmine/ERW victim assistance (VA), and advocacy for mine action (Table 1). Explosive ordnance survey and clearance, with subsequent land release, is the primary activity of focus and of funding – hence the primary focus of this evaluation.

Table 1 The five major MAPA (and global mine action) activities

Major MAPA Activities				
Clearance	Advocacy	Stockpile Destruction	Risk Education	Victim Assistance
Clearance and removal of landmines and explosive remnants of war. This can include weapons and ammunition disposal.	Advocacy around mine action in Afghanistan with humanitarians, the development sector, and the donor community.	Destroying stockpiles of anti-personnel landmines as required by the 1997 Mine Ban Treaty.	Explosive ordnance risk education (EORE) involves public communication to raise awareness on explosive ordnance hazards.	Assistance for the rehabilitation, care, and reintegration of mine victims.

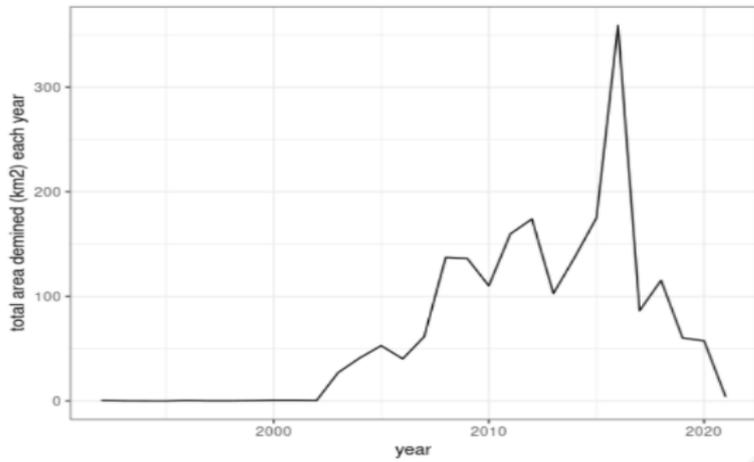
Figure 2 Last stretch? Stages of demining Afghanistan



Realising the vision of a mine-free Afghanistan has not been a straightforward task with linear accomplishments, but rather proceeded in waves, with geographic focus evolving over time based on a complex mixture of prioritisation, funding, and resource allocation and access.

¹⁵ KII2 [DMAC], KII4 [UNMAS] and KII5 [UNMAS]

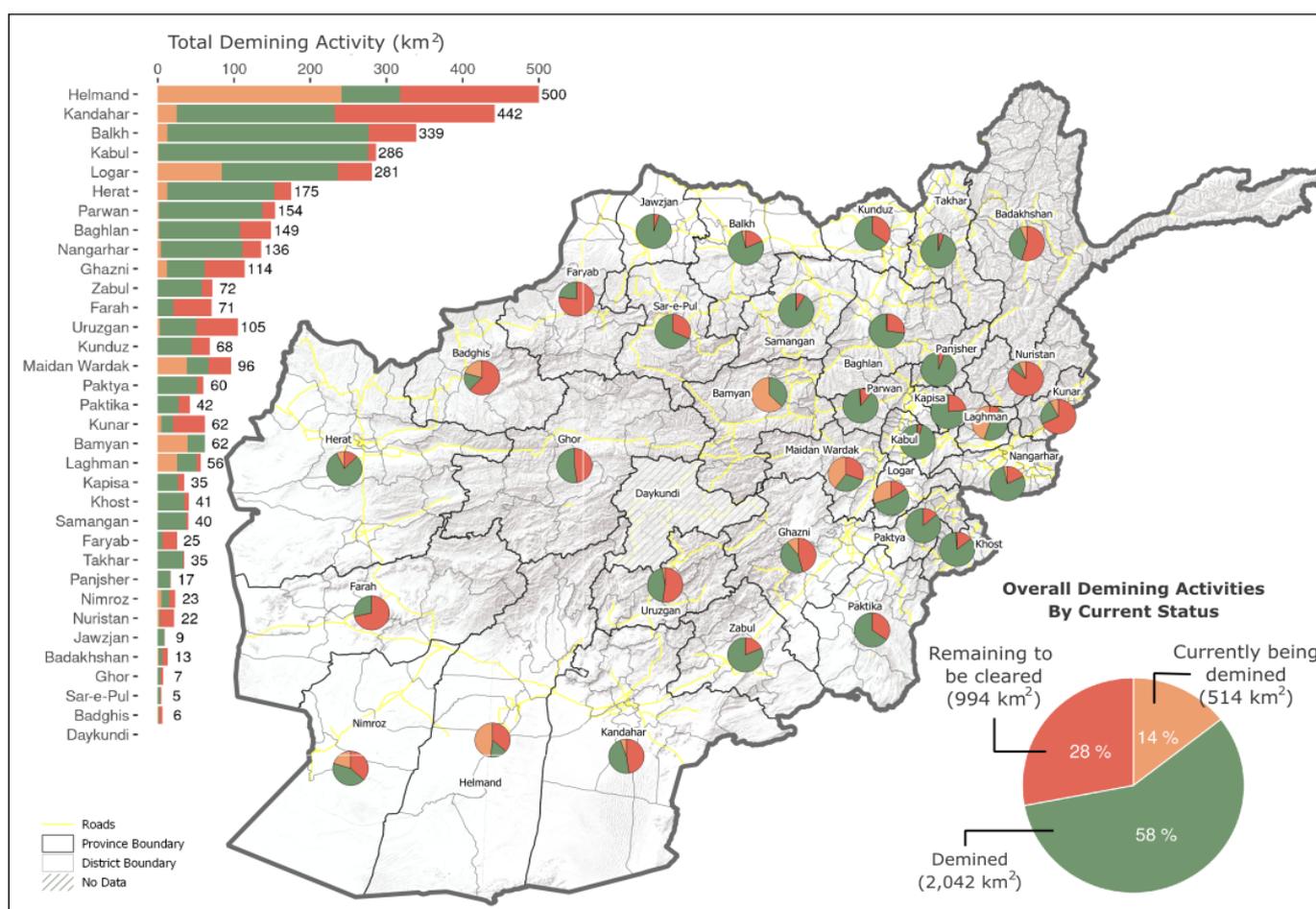
Figure 3 Following the ebb and flow of programming cycles and financing: area demined each year



Completing the goal of a mine-free Afghanistan remains a work in progress. In 2021, only one of Afghanistan's 34 provinces (Bamiyan) had ever been (temporarily) declared mine-free.¹ The remaining 33 provinces still have extant explosive ordnance located across 253 districts which affect more than 1,500 communities, alongside renewed hazards, and contamination from ongoing conflict.

What does MAPA not do?

Some efforts related to explosive ordnance fall outside of MAPA's purview and are not addressed in this evaluation. These include some firing range projects, which fall under the responsibility of military operations, while other firing ranges are cleared through the MAPA. Some elements of weapons ammunition management (WAM) have been regulated by the Ministry of Defence and the police, though some WAM does fall under the MAPA and the new National Mine Action Strategic Plan (NMAASP). Active mines of an improvised nature have been used in civil conflict: to maintain neutrality and impartiality, MAPA does not clear active improvised explosive devices (IEDs). It has started to address "abandoned" improvised mines (AIM) - those that are no longer considered part of active conflict.



Map 1 Progress towards a mine-free Afghanistan (DMAC, authors' calculations)

The above chart shows "cleared" areas that have been demined, "transitional" areas which are in the process of being demined, and "active" areas that remain to be cleared based on the data shared by DMAC.¹⁶

¹⁶ These data are not perfect. Like Rebecca Roberts in the 2018 report on anti-vehicle mine contamination, the authors note that "different data describing the extent of contamination, the percentage of overall contamination it represents, and the numbers of threats cleared have been used in

The MAPA Evaluation

Evaluation context. This evaluation was commissioned by UNMAS through the United Nations Office for Project Services (UNOPS) to take stock of three decades of mine action in Afghanistan, with the former DMAC as the lead counterpart prior to August, 2021. Its primary intended audience are the MAPA stakeholders themselves, ranging from UNMAS to implementing partners and donors. It is hoped that it will also benefit practice among a wider community, informing mine action coordination bodies and actors involved in similar endeavours in other contexts. Designed to build an evidence base, this evaluation aims to understand the historical and current-day impact of mine action and reflect on lessons learned from decades of collaboration. Based on this, it formulates learnings and recommendations for MAPA going forward. **The evaluation's main objectives are to identify both positive and negative primary and secondary effects of mine action, whether intended or unintended. Gender constitutes a cross-cutting theme across all research questions.**

The evaluation maintained a focus on MAPA's impact, historically and to the present day, while also including the Organisation for Economic Co-operation and Development - Development Assistance Committee (OECD DAC) criteria of relevance, efficiency, effectiveness, and sustainability.

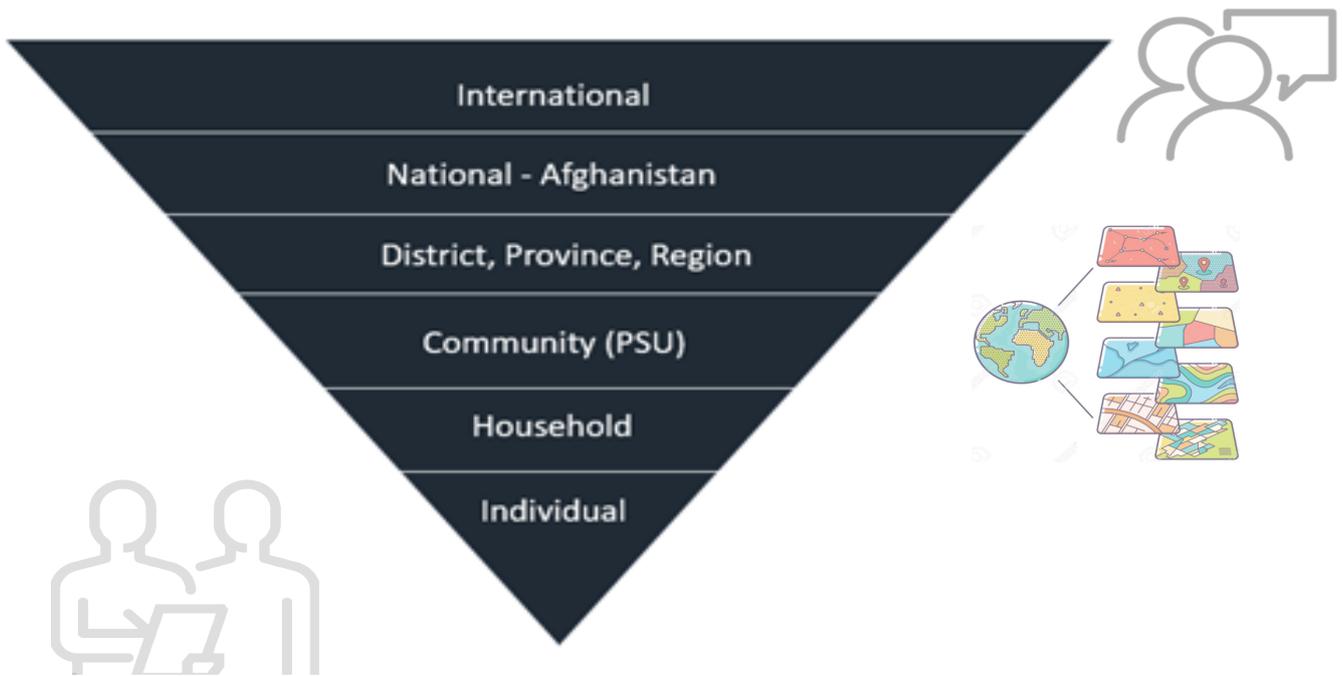
Table 2 An evaluation guided by the OECD DAC framework

Impact (evaluation weighting 60%)	The positive and negative changes produced by an intervention, directly or indirectly, intended or unintended. This involves the main impacts and effects resulting from MAPA on the local social, economic, environmental, health, and other development indicators. The examination should be concerned with both intended and unintended results.
Relevance (10%)	The extent to which the Mine Action Programme of Afghanistan is suited to the priorities and policies of international, national, and local beneficiary counterparts.
Efficiency (10%)	Efficiency measures the outputs in relation to the inputs. It is an economic concept which is used to assess the extent to which activities spend as little as possible to achieve the desired results.
Effectiveness (10%)	A measure of the extent to which MAPA attained/attains its objectives.
Sustainability (10%)	Sustainability is concerned with measuring whether the benefits of an activity are likely to continue after donor funding has ceased.

documents and presentations that are in the public domain. " See: Roberts, Rebecca (2018). "Anti-Vehicle Mine Contamination in Afghanistan Impact and MAPA Response".

The impact of MAPA is analysed across several dimensions, ranging from safety and security components, to economic, social, and psychosocial impacts, alongside possible negative externalities and unintended consequences of mine action. Impact is also considered at different levels, ranging from the individual to nation-wide. To this end, a range of different methods are employed.

Figure 4 Assessing impact at different levels via different methods



Evaluation timeline. The MAPA Evaluation commenced in December 2019 with a kick-off meeting, key informant interviews, a literature review, and the early steps of methodological design. Original tools were tested in Kabul Province in early 2020 under COVID-19 restrictions, resulting in the intermediary Kabul Scoping Study report. Based on the results of this scoping study, both the methodological approach and the tools were reviewed and amended. A meeting with an independent methods board¹⁷ provided an opportunity for reflection, critical feedback, and validation of the evaluation methods. In November 2020, a workshop was held in Kabul with over thirty MAPA stakeholders, including DMAC, UNMAS, and implementing partners, which constituted a capstone of the inception phase. With the methodology thus agreed upon, data collection took place in 24 primary sampling units (PSUs) across eight provinces in Afghanistan, resulting in some 2,000 surveys, community profiles, key informant interviews, and qualitative focus group discussions (FGDs) conducted from Dec 2020 to May 2021.

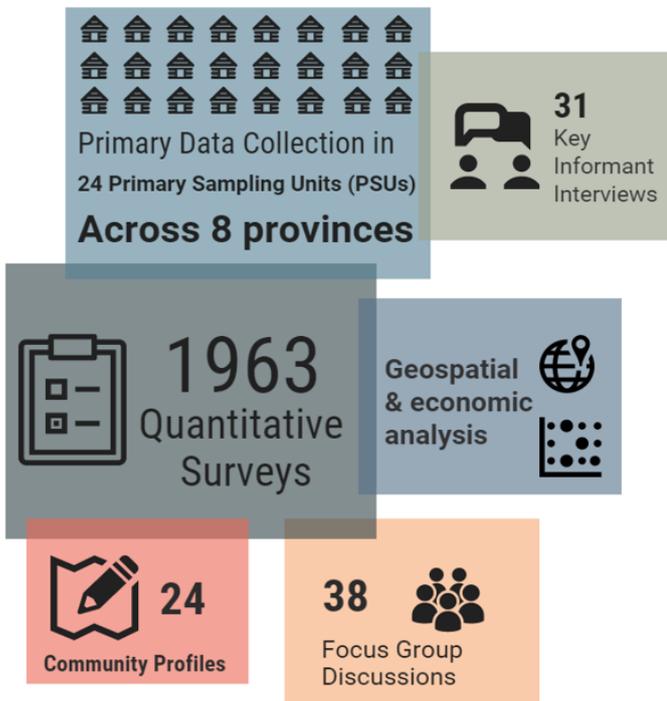
¹⁷ The methods board comprised members from GICHD, UNMAS Afghanistan and UNMAS Headquarters in New York, DMAC, Action Against Hunger, and the UN sub-cluster on mental health and psychosocial well-being.

Figure 5 Project timeline



Evaluation Methodology and Scope. A mixed methods methodology was employed, combining different sources of quantitative and qualitative data to gain an extensive understanding of mine action over time.¹⁸

Figure 6 MAPA Methodology Overview



Quantitative surveys: 1,963 in-person and 195 phone surveys were conducted in communities that had been proximate to explosive ordnance clearance since 2014, with a target of 100 per community.¹⁹ Women made up 49.9% of the quantitative survey sample (979 surveys). The surveys collected data on different aspects of explosive ordnance and mine action impact.

Focus Group Discussions: 38 focus group discussions were held in communities across eight provinces, targeting men, women, and children across different locations. In total, 14 FGDs were held with adult women, 14 FGDs with adult men, 5 FGDs with girls under the age of 18, and 5 FGDs with boys under the age of 18. Each group had between five and eight participants.

¹⁸ The methodology had a literature review component. The literature review included previous evaluations of the MAPA (or its previous iterations of components). This includes the 2007 GICHD Afghanistan Country Mission Report Evaluation and the 2014 Samuel Hall Evaluation.

¹⁹ No surveys were conducted in Baghlan province due to security considerations. An increased number of qualitative focus group discussions were held in the province in lieu of the quantitative data collection.

Community Profiles: Community profiles were conducted in each of the 24 primary sampling units, building an understanding of community dynamics pre- and post-MAPA intervention through interviews with community leaders.

Key Informant Interviews: The research team conducted over 30 key informant interviews with MAPA stakeholders (DMAC, UNMAS, and implementing partners), and other informants that could speak to the work of MAPA and its impact (such as government officials working across agriculture, industry, and historical preservation).

Geospatial and economic analysis: Samuel Hall employed geospatial data analysis, including night-time lights as a proxy for economic development and evaluation of land usage, to better understand changes resulting from mine action.

Primary data collection took place in 24 communities across eight provinces, representing the different regions of Afghanistan. The primary sampling units were selected based on criteria agreed-upon with the client and experts on the methods board. All had been sites of EO clearance within the past six years, on different land types and by different organisations. Various districts and environments were included in the sample. Access consideration and security assessments further informed the choice of fieldwork locations.

Map 2 The eight provinces of primary data collection

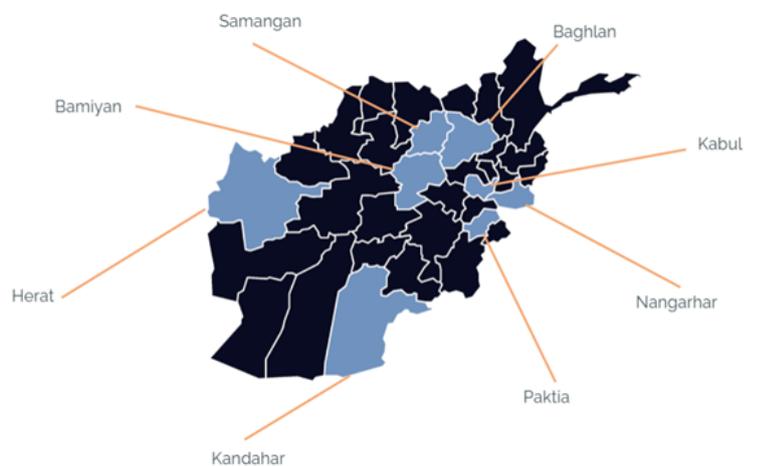


Photo 1 Organising research with community members (Samuel Hall, 2021)



Survey participants were selected randomly in each PSU to ensure a diversity of respondents across geographies. A target of 50% female participation was given and met. The focus group discussion participants were selected in a targeted manner to ensure the inclusion of different profiles. Six of them included children under the age of 18, an important beneficiary demographic when it comes to mine action.

Unique methodological challenges

Waves of demining, waves of impact – Past evaluations of mine action have often centred on high-priority areas, focusing on the impact, for instance, on major transportation roadways, electricity transmission, airports, etc. Beyond these flagship projects, many of which are included in this evaluation as historical case studies, sampling communities to survey presents a series of paradoxes for several reasons. Foremost among these perhaps is the timing of mine-action, and the timing of impact assessed. Indeed, mine action is rarely a discreet one-off event which leads to direct changes in its immediate aftermath. Rather, it occurs in waves, sometimes over decades, starting perhaps in fertile valleys and directly in communities to later return focusing on foothills, surrounding mountains, and other lower-priority areas. The reliability of both quantitative and qualitative impact measurements, including testimony, income, and socio-economic benefits, decreases over time. Memory – or lack thereof – of the impact of mine action that took place in high priority operations 15 years prior to research participation poses distinct problems in understanding said impact. Short of a panel analysis of demining beneficiaries over several years post-demining, starting with the first wave of demining operations, it is thus difficult to pinpoint the “peak” of mine action dividends across several dimensions. Furthermore, proximity to demining sites is often difficult to assess, as a village may be impacted by minefields not in its immediate vicinity, which might be blocking access to markets or infrastructure. These challenges are not easily solved but were mitigated by triangulating data and posing recall questions in different ways, and triangulating perceived distance to and time since demining operations with DMAC data on the local operation.

Sampling and “communities” – It is not always clear what constitutes a “community”. The evaluation identified primary sampling units (PSUs), which consist of urban neighbourhoods, villages, or clusters of villages proximate to MAPA clearance locations. Villages and neighbourhoods do not always form distinct, separate areas that can easily be classed. For instance, in Guldarah District in Kabul, the PSU comprised of two “villages” or clusters of housing, both smaller in size, near to one another and proximate to the minefield. Perimeters of communities can overlap – geographically and culturally – and they can be contested, as can associated land claims. This can be especially pertinent in mine action, where key informants and literature have spoken about conflict sensitivities around cleared land, whether between neighbouring tribes in Paktia, or between Kuchi nomads and settled communities. Outcomes and impact of mine action also extend beyond communities directly proximate to landmine/ERW clearance, for example, with flow-on economic effects. PSUs were selected based on who was nearest to the actual demining and who used the released land most, with the understanding that the flow-on effects and other impacts (historical, larger scale infrastructure, and development projects on demined lands) would be better understood with other methods.

Photo 2 Newly-built electric towers built on demined land in Paktia (Samuel Hall, 2021)



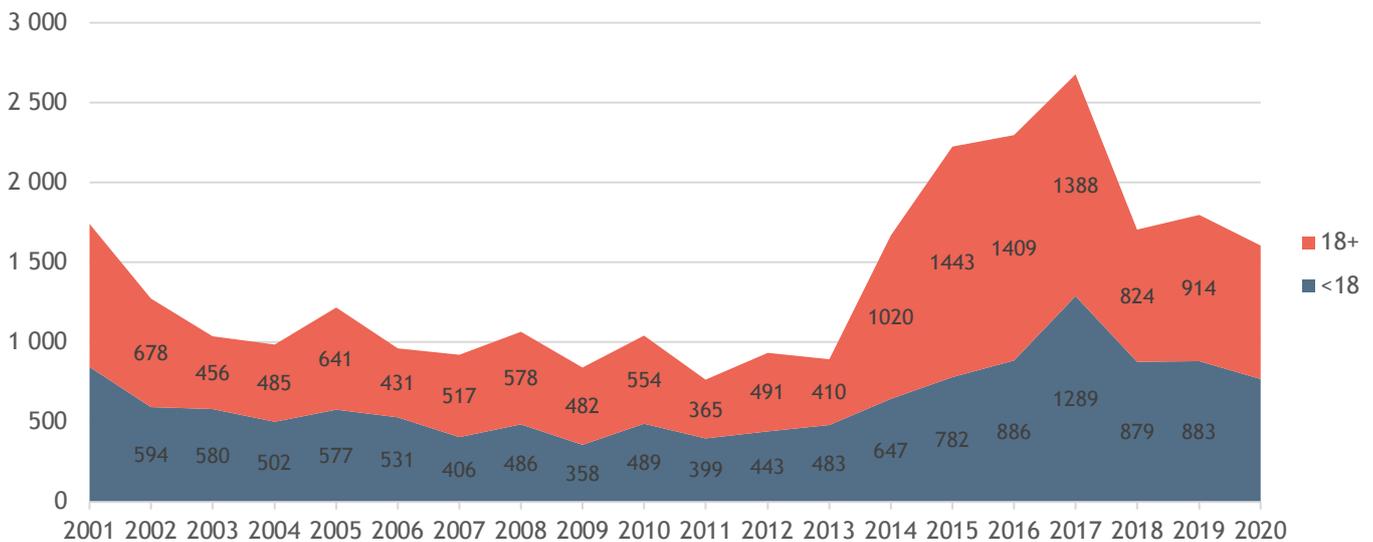
IMPACT

This evaluation confirms that the impacts of explosive ordnance clearance and other mine action components – such as explosive ordnance risk education (EORE) – result in **wide-ranging changes across different areas**. This follows decades of mine action research, which has similarly shown a range of changes across different spheres. Millard and Harpviken (2001) identified three distinct fields of information: the **economic** field (the physical environment); the **human** field (including injuries, indirect health benefits, education); and the then-underexplored, yet promising, **social** field (local institutions, solidarity, migration and displacement).²⁰ The research team's analysis shows that a wide range of impact areas can be seen across each of the 24 primary data collection communities. There are immediate humanitarian or life-saving benefits, economic changes, as well as more intangible impacts such as on people's mental health and social cohesion.

Physical safety

The original and ongoing rationale for mine action is humanitarian: to remove dangerous explosive ordnance to prevent the injury and/or deaths of civilians. Rarely has mine action been so needed: Afghanistan has previously experienced and continues to experience some of the highest number of recorded explosive ordnance victims in the world²¹, with over 40,000 casualties recorded since 1978²², and undoubtedly many more unrecorded ones.²³ In 2020 alone, 1,605 civilian casualties were recorded, the majority of which were Afghans under the age of 18.²⁴

Figure 7 Civilian casualties from explosive ordnance, from 2001 to 2019 (IMSMA, authors' calculations)



²⁰ Ananda S. Millard & Kristian Berg Harpviken (2001). Community Studies in Practice: Implementing a New Approach to Landmine Impact Assessment with Illustrations from Mozambique

²¹ Landmine Monitor Annual Reports

²² The Landmine and Cluster Munitions Monitor (2018), Afghanistan Casualties cites 30,980 casualties, including 7,456 killed and 23,524 injured in between 1978 and 2017. There have since been over 10,000 more casualties since 2017 recorded in the national IMSMA database.

²³ Landmine/ERW civilian casualties are generally understood to be underreported, see: Jo Durham, Peter S Hill, & Damian Hoy (2012). "The underreporting of landmine and explosive remnants of war injuries in Cambodia, the Lao People's Democratic Republic and Viet Nam". Bulletin of the World Health Organization 2013; 91:234-236. This is especially the case for reporting victims in areas not under government control.

²⁴ National IMSMA Data

Men make up a higher proportion of civilian casualties than women, due to their comparative greater mobility and increased frequency of activities such as farming, herding livestock, and travelling. However, women are not exempt – some 14.4% of explosive ordnance victims since 2001 have been women or girls,²⁵ with hundreds killed by mines in Afghanistan each year. Children are particularly at risk: they are often engaged in livelihood activities such as fetching water and collecting wood, while also often herding livestock. This places them at high risk of landmines and ERW.

These numbers and stories were reflected in our findings. Of the 1,963 survey participants, 1,784 (90.8%) responded that they knew of civilian casualties in their direct area resulting from explosive ordnance. Most of these (n=1,667, 84.9% of all survey respondents) knew of more than one casualty. Stories of incidents involving explosive ordnance were ubiquitous across all communities.

One day, I was in the mosque when I heard a boom. I went outside and saw a donkey with four nomads lying on the ground. I got closer to them and saw that all 4 nomads were martyred. There were a lot of casualties [before mine clearance]."

FGD15 [Adult Men, Paktia]

Mine action activities were delivered in two forms: first and foremost, **landmine clearance activities** whereby landmines were identified and cleared from contaminated sites. Contaminated areas were scoped out and marked or colour-coded according to their likelihood of contamination. Following these activities, and sometimes in parallel to them, mine action implementation partners were reported to have conducted **risk education activities** that informed local communities of the presence of explosive ordnance in the surrounding areas, increasing people's awareness of types of landmines, changing attitudes and behaviours, and reminding people of the best steps to take in the event that they encounter explosive ordnance. *"We have learned about landmines at school. We were told that red colour is the sign of danger while white colour is the sign that landmines are cleared."*²⁶

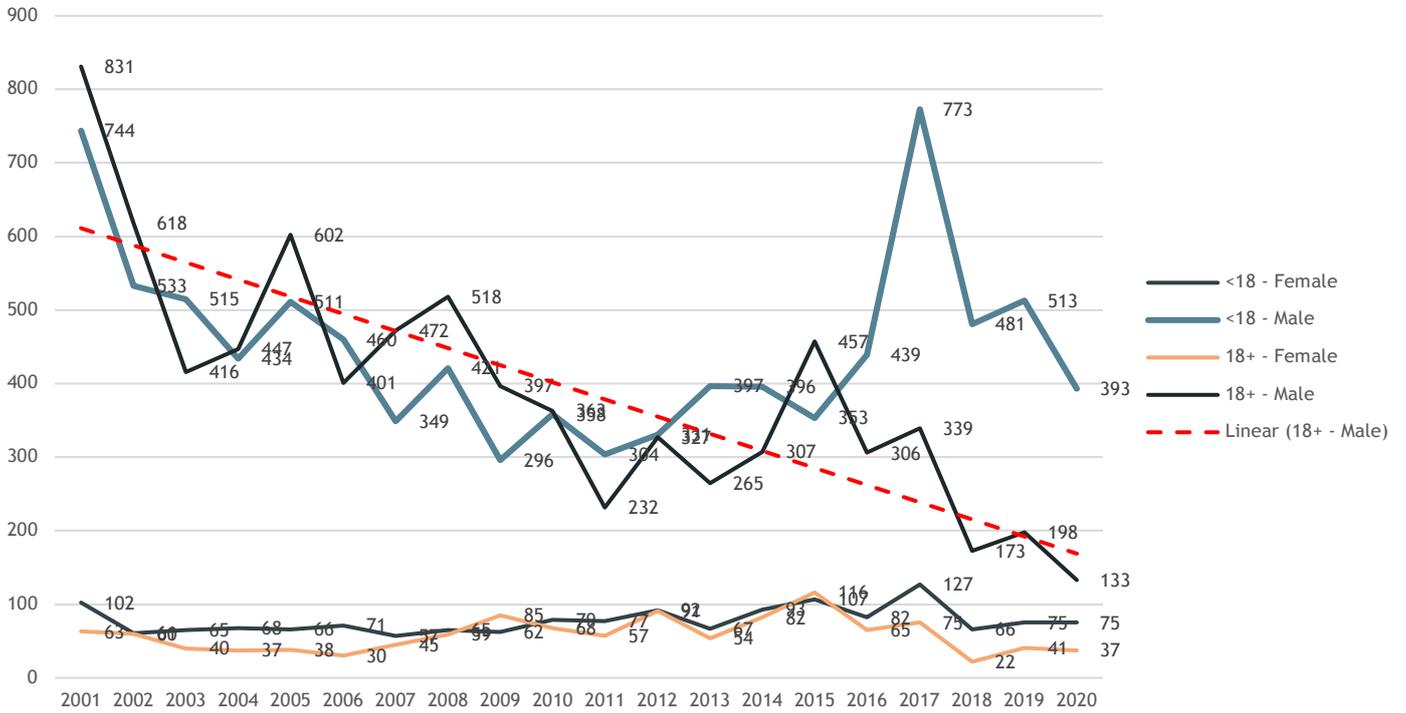
Saving lives by removing threats

Explosive ordnance deaths are generally hard to count, and frequently underreported. However, while the data for any given year might not be telling, a general trendline over almost 20 years does tell a success story. If there is a downward trend in reported mine-related civilian casualties, MAPA can be credited with saving countless lives. This is acknowledged by a key informant from the Geneva International Centre for Humanitarian Demining (GICHD): *"I think it's important to recognise that it's one of the biggest [mine action programmes] in the world, and it destroys the most items, clearing more in one month than some other programmes do in a year. It is indisputable that they are saving lives. The fact that they have cleared 80% of the country, and that abandoned improvised areas are where most accidents still happen, is a clear indicator of the impact."*

²⁵ 3,992 female victims were recorded from 2001 to 2020. 23,653 male civilian casualties were recorded, for a total of 27,645.

²⁶ FGD24 [Adult Women, Samangan]

Figure 8 Landmine/ ERW civilian casualties (not including improvised mines)



Source: IMSMA, authors' calculation. Trendline for male adults only.

Since landmine/ERW clearance commenced, there have been marked changes in people's perceived physical security. While there were rare reports of landmines/ERW still being found and reported to authorities, **almost all people said they now lived and worked in safety, free from the constant fear of being killed or maimed by landmines/ERW which were common previously.** Almost the entire cohort of survey respondents (1,903 of 1,963, 96.9%) cited that they experienced improved physical security as a result of mine action.

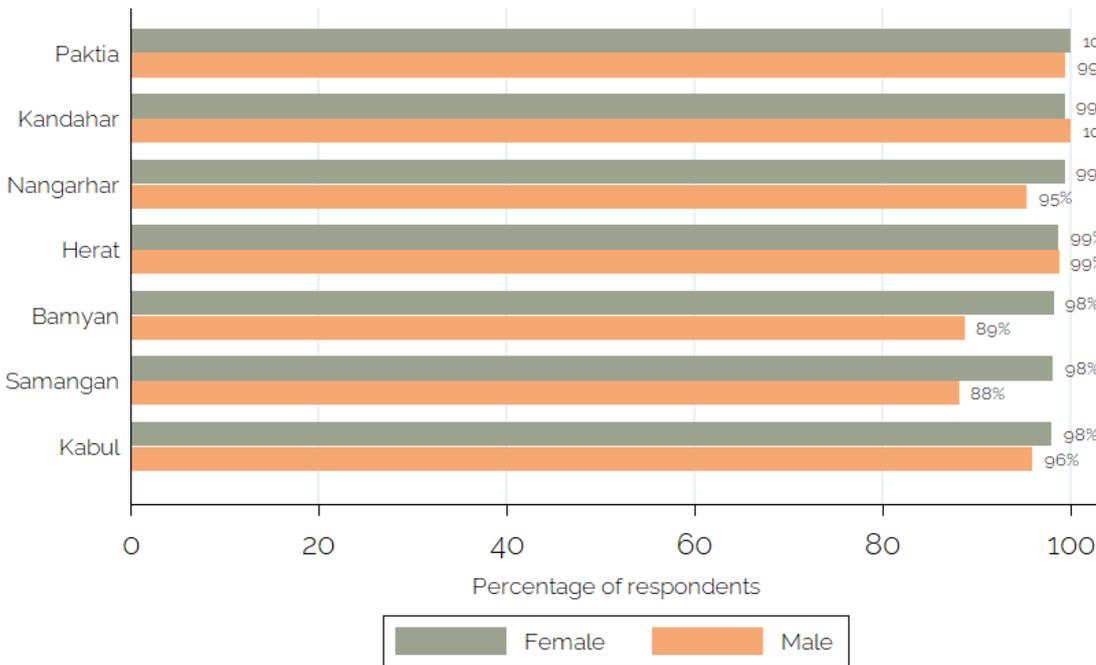
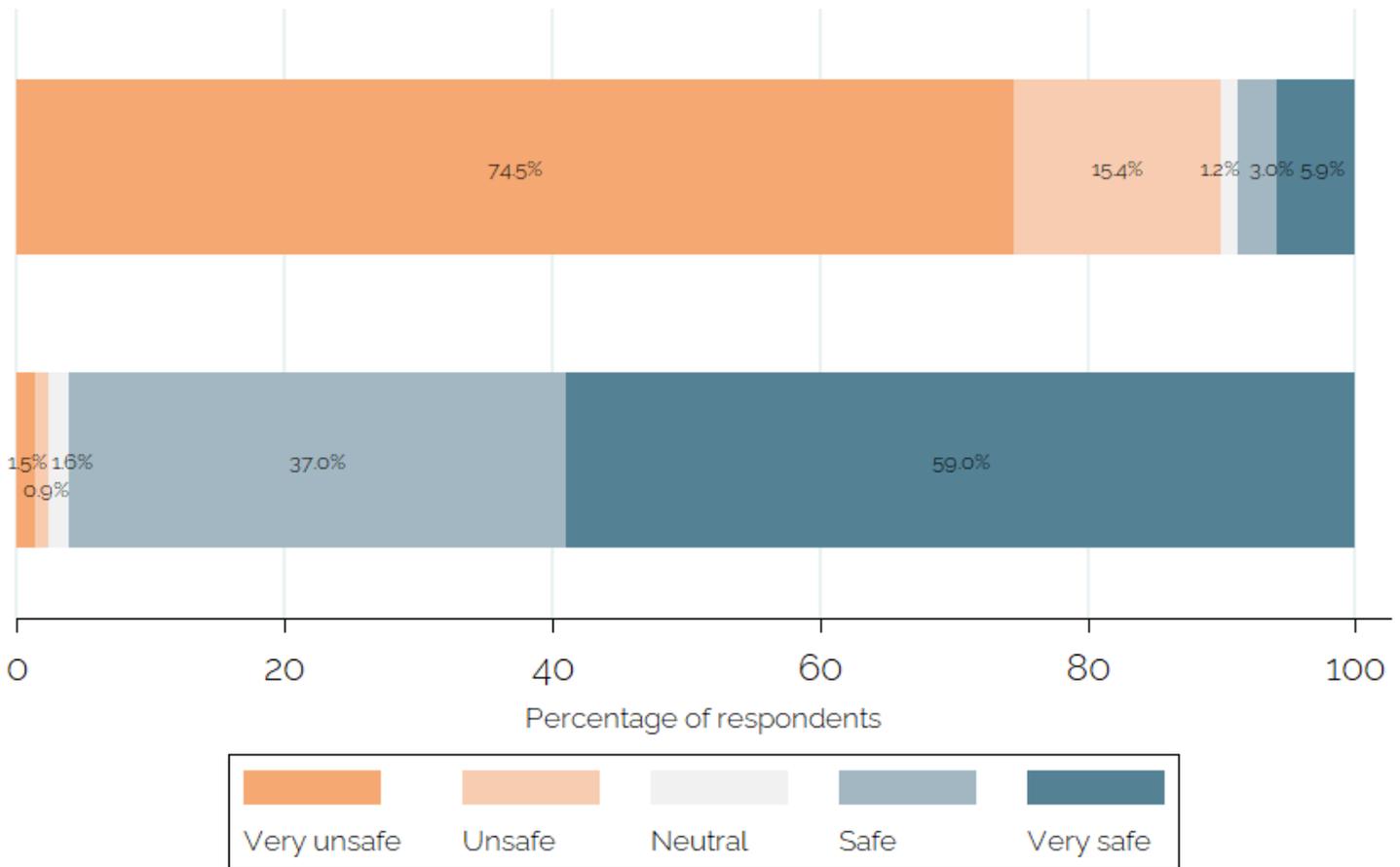


Figure 9 Respondents who consider their physical security to have improved as a result mine action, by province and gender

"There were a lot of landmines in this area before, many landmines would explode, and there were a lot of incidents. There was no clinic or hospital in the area to take victims of landmine explosions. Men, children, and nomads were mostly involved in the incidents. Everything has changed since the landmine clearance operation. The risk of landmine explosions has been reduced."

[FGD7] - Adult men, Kandahar

Figure 10 How safe did you feel about children playing outside - before vs. after mine clearance



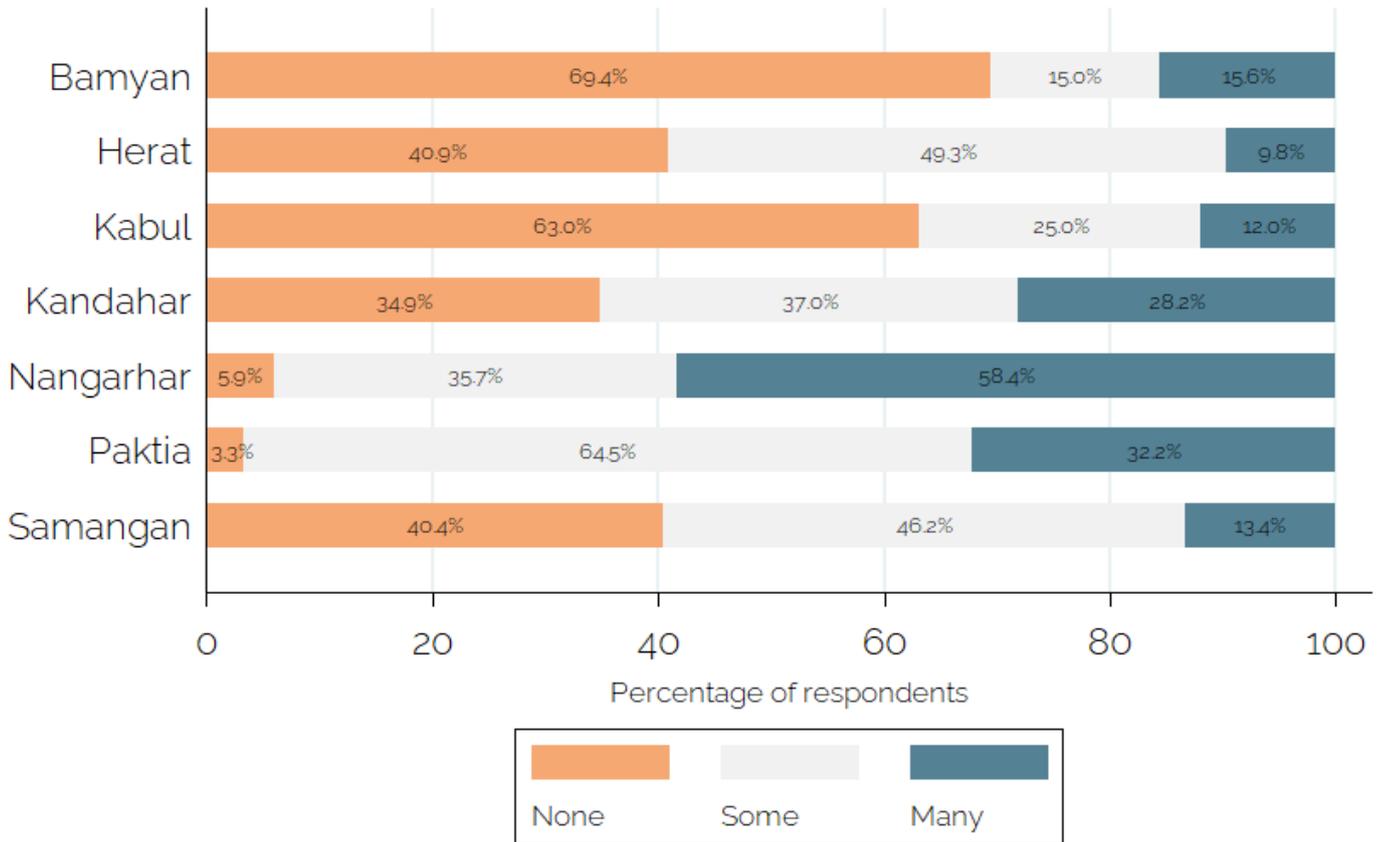
Overall, across communities and provinces, respondents tended to agree that they feel much safer now that landmines have been cleared. Whereas before mine clearance, almost 90% of respondents felt unsafe or very unsafe having their children play outside, after mine clearance operations, this number drops to less than 3%, with 96% reporting feeling safe or very safe about having their children play outside. The differences between men and women answering this question are subtle but present, with women considering the situation prior to demining more negatively than men. Women also considered the present situation more positively.

While the benefits on the population as a whole are obvious, they are even more apparent for the **displaced and children**. With improvised mines often laid as part of intense conflict, many people flee their homes to escape fighting. After a conflict ceases, the abandoned improvised mines that are left behind present imminent dangers for those returning home, alongside those who stayed. Over 20% of all civilian mine/ERW casualties recorded by DMAC up to 2015 were internally displaced persons (IDPs).²⁷

²⁷ Landmine & Cluster Munition Monitor (2015). Landmines/ERW, Refugees and Displacement: Briefing Paper for World Refugee Day. 20 June 2015.

Just as mine removal has acted as a catalyst for return migration, cleared lands have been a decisive factor in the mobility and settlement patterns of internally displaced persons (IDPs). Research participants witnessed the arrival of people displaced from unstable provinces or other areas of Herat, some of whom have chosen to relocate in Sara Naw and Talab-e-Ulia as a result of mine action. "When my family and I moved here from Badghis province, my main concern was ensuring that my wife and children would not get injured or killed by a landmine. We moved here while landmine clearance was ongoing and I can tell you that our lives have considerably improved," explained one IDP.

Figure 11 How many people have returned to this community because the mines were cleared? By province



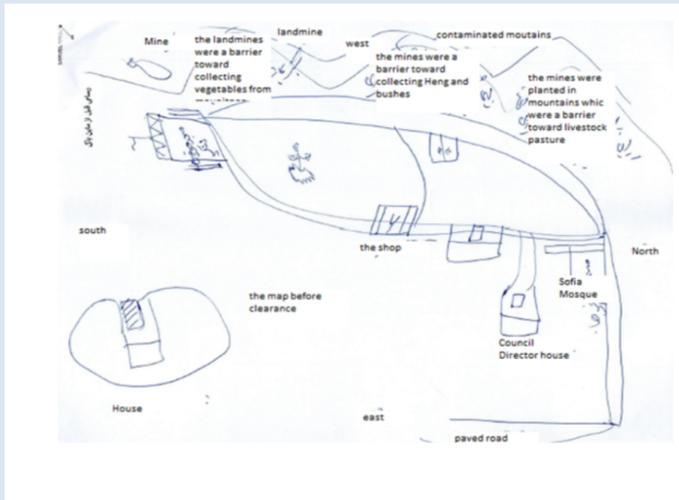
When asked about the inflow of people who have returned to this community because of mines being cleared, the majority of respondents described it as "some people" or "many people". This was particularly the case in Nangarhar and Paktia, where the most landmine incidents have been reported; here, almost all respondents agreed that returnees came back home after the landmines were cleared. (It is important to note that demining constitutes a contributing factor, rather than a sole reason for return; nevertheless it is likely that returns would not have happened, or not to the same degree, had mines not been removed.)

Demining contributes to making returns possible, and also affects the return journey. Landmines, including IEDs and AV mines, are a dangerous obstacle on transportation routes for returnees trying to reach their homes. Survey results show that displaced people are particularly vulnerable to landmine incidents, both during their journeys and when settling into a new area or returning home. In Bamian, where more than 20% of respondents are returnees from internal migration, 83% reported having had issues during the journey back home. In Nangarhar, where almost 50% of respondents are returnees (either from internal displacement or from abroad), 61% reported having had issues with landmines during their journeys.

Photo 3 Left-over shell of a mortar in Paktia (Samuel Hall, 2021)



Figure 12 Child mapping of mine hazards in their community



Multi-dimensional: MAPA impact on child well-being

Yunus and Amrullah participated in a child pair interview for a related evaluation for the HALO Trust, a member of MAPA. Yunus' favourite subject at school is biology, and his hobby is hunting. Amrullah likes volleyball and running in the hills. Both hunting and running were made possible by mine clearance operations. As part of the research, the two boys drew a map to visually show the areas of landmines / ERW and the changes in their community resulting from clearance.

Yunus explained: "The areas we showed in the picture were contaminated with landmines. Before demining, people were not able to move around there, and four people had landmine incidents. After demining, people take their animals there for grazing. People go there for sightseeing. Young people go there for hunting, and people collect bushes, ferula, and pistachios." Amrullah added: "I know the four people in our community who were injured by mines. But now after demining no one has had any landmine accidents. People now move around with peace of mind."

Photo 4 Boys and men playing cricket on land recently cleared of explosive ordnance in Paktia (Samuel Hall, 2021)



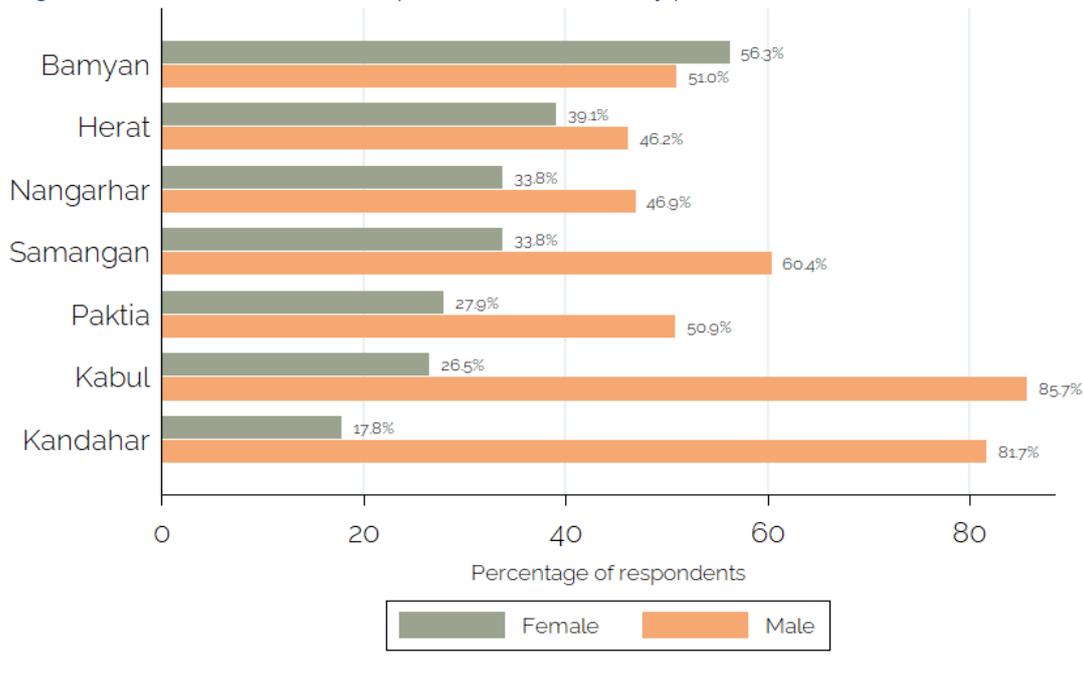
Saving lives and limbs through explosive ordnance risk education (EORE)

Explosive ordnance clearance activities were often paired with education and risk awareness activities conducted in local villages, mosques, schools, and through door-to-door visits. Risk education activities involving children generally took place in school settings, while for men they were carried out in the mosque. Risk education for women was in many cases held in clinics and within households. EORE was also conducted through social media and radio dramas. Whether for children, women, or men, landmine risk education often involved a visual display of different types of explosive ordnance and their characteristics, explanation of the dangers associated with approaching a landmine, and when relevant, information on how to distinguish areas marked as safe from those marked as dangerous or potentially contaminated. *"Deminers would come to our doorstep or tell our men what the white and red marks mean. They would also speak to the community leaders and provide training to people in the mosque. It was a positive move and people benefited from the training."*²⁸

²⁸ FGD19 [Adult Women, Herat]

Almost all surveyed communities (both urban and rural) reported that risk education activities happened in the nearby area.²⁹ However, EORE activities did not systematically occur in the specific communities visited for this study. The share of respondents reporting having taken part in these education activities themselves varied, and in some places the difference between male and female respondents was stark. While in Bamiyan 91% of respondents reported that these activities happened in the community, only 56% of female and 51% of male respondents reported having participated.

Figure 13 Percentage of men and women who took part in risk education, by province



One respondent stated: *"When deminers come, if we ask them questions about mines they will answer our questions, but no specific person came to give us training."*³⁰ In at least one case, risk education activities were performed in a highly informal setting to only a select number of families.³¹

Women were far less likely to be involved in conducting – or receiving – explosive ordnance risk training, creating a knowledge gap. In Bamyan, Herat, and Nangarhar there was almost no difference in participation between male and female respondents, while in Samangan, Paktia, and in particular Kabul and Kandahar, the differences between male and female participation were quite large.

Risk education training for women was provided by female trainers, who were critical in ensuring mine risk education was also provided to women. Elsewhere, women were excluded from public awareness activities (see Figure 13), and therefore relied on second-hand information at best. One female respondent in Paktia notes: *"There were landmine education activities, but I couldn't participate. Our men don't talk about this in the house. These education activities were carried out by male trainers to our men, while female trainers didn't come to the village to train women. We haven't received public awareness."*³²

²⁹ The only relatively lower number is in Jibrail, Herat, where only 57% of respondents report that these activities took place in their community.

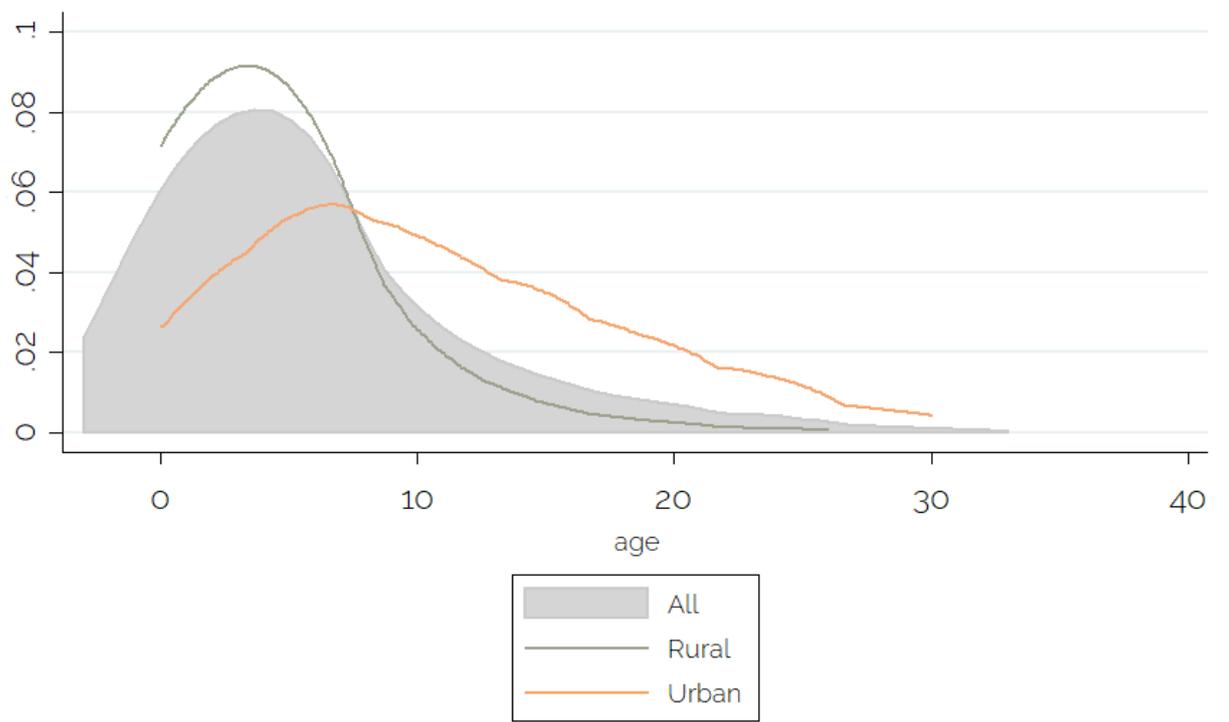
³⁰ FGD28 [Adult Men, Baghlan]

³¹ FGD32 [Adult Men, Bamyan].

³² FGD14 [Adult Women, Paktia]

One concern mentioned by several respondents in focus group discussions was the low recurrence and frequency of risk training - in certain cases, several years have passed since risk education was last conducted. *"Male and female trainers came to the village a long time ago, providing information and pictures; children also took part. Currently, we don't have such programmes. There are new women who have married men in this village and don't know about the information we have received. If they see landmines, they will think it is a piece of iron, and may touch it and be killed."*³³

Figure 14 Years since mine risk education, rural vs. urban



For those survey participants who did benefit from mine risk education, these educational activities took place on average 4 years ago in rural areas, and 11 years ago in urban areas. Some geographic differences could be observed: in rural areas surveyed, education activities had been carried out more recently than in urban areas. The gap in training takes on renewed importance given that 40.9% (n=802) of survey participants responded that they believed there was still at least some EO remaining near their communities.

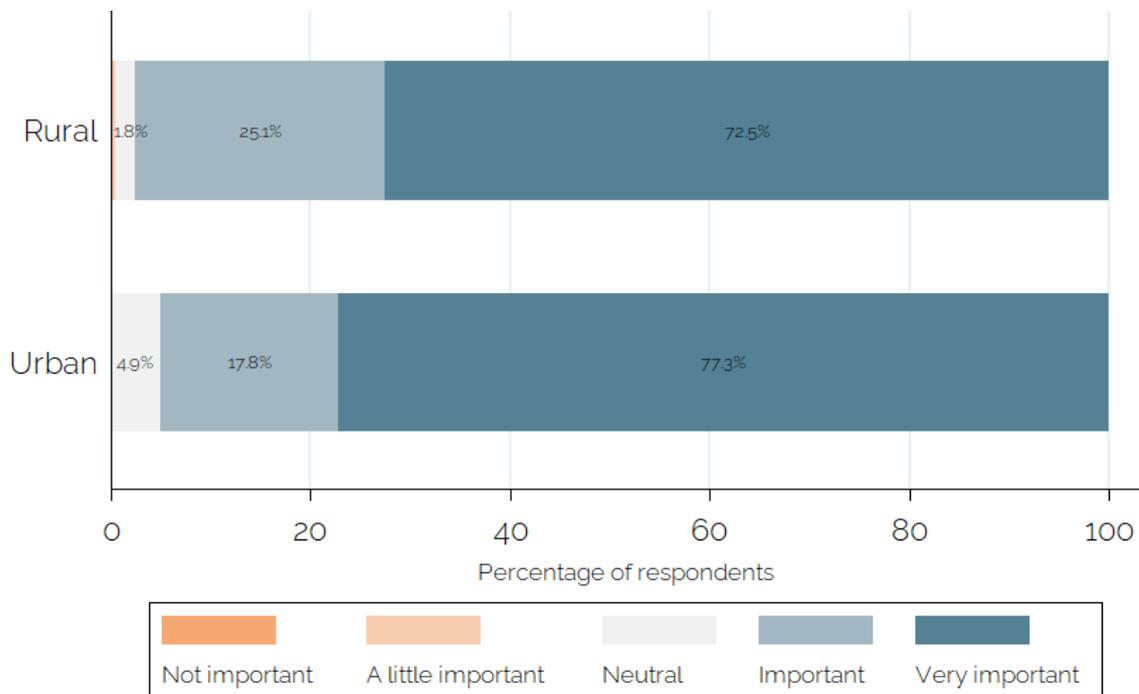
All respondents across the different locations (as well as across provinces and gender) tended to agree that this risk education was very important for their safety. Risk education was seen by interviewees as particularly impactful for younger groups, who were considered to be at a higher risk of falling prey to landmines in shapes that they might be interested in touching or playing with: *"They showed us that landmines can be in the shapes of pens, boxes, and play equipment. We kept our distance after we knew about landmines."*³⁴

³³ FGD10 [Adult Women, Kandahar]

³⁴ FGD17 [Adult Women, Herat]

Another respondent notes: *“They came to our school and told us that the red colour is the sign of danger. They showed us landmine pictures. They told us not to get close to the stones coloured red. It is a sign of a landmine. This training had positive impacts. Previously, we did not know what to do when we saw red stones. But now, we know.”*³⁵

Figure 15 How important was this risk education to your safety? Rural vs. urban



Children were also particularly reactive in sharing their knowledge of mine risk with peers and family members. *“We were at school when they provided us with information regarding mine action. (...) We would listen to the training and share everything with our younger brothers and sisters. We would tell them about the coloured stones. Trainers told us that if we didn’t obey what we are told in the training, we would probably lose our lives or lose some part of our body.”*³⁶

Unintended outcomes – a sense of dread. While the impacts of risk education were expressed as being overwhelmingly positive, one negative consequence that emerged from focus group discussions was the sense of continued urgency and threat, bordering paranoia, experienced by some children who had received explosive ordnance risk education. This was expressed by child respondents as a continued feeling of fear and danger, even with respect to areas that had been cleared of landmines. *“Mine action had some negative impacts. Mine action had caused fear and horror among people and children. They thought that there were landmines everywhere and were not able to go outside of their houses.”*³⁷

³⁵ FGD17 [Adult Women, Herat]

³⁶ FGD17 [Adult Women, Herat]

³⁷ FGD17 [Adult Women, Herat]

Beyond lives and limbs. The impact of mine action cannot only be measured in terms of lives saved. Traditionally, mine action in Afghanistan has been considered an essential precursor to humanitarian and/or development efforts.³⁸ Now, a shortfall in available funding^{39,40} is coinciding with pressing demining needs. The need to understand the impact of mine removal on livelihoods and development gains can clarify that mine action is not only a lifesaving requirement; it is also a requirement for further humanitarian and development work. Humanitarian and development considerations are interlinked: collecting wood can have social and/or economic objectives, mobility can be related to professional or personal motives, etc. This point confirms that an impact assessment of mine action cannot only focus on humanitarian dimensions and should include a broader spectrum of economic, social, and societal dimensions.

Infrastructure, mobility, and access

Landmines and other explosive remnants of war inhibit rehabilitation and reconstruction, agriculture, health, education, water supply, infrastructure development, environmental protection, industrial and commercial growth, and domestic and foreign investment.

Harpviken and Isaksen, 2004

Landmines and ERW did not just result in death and injury, but also in **vast stretches of land** becoming **inaccessible**. 86% of respondents in urban locations and 57% of respondents in rural ones noted that landmines were contaminating pathways and roads. A similar proportion found that they negatively impacted transportation routes. In the study locations, landmines directly contaminated pathways and roads and blocked transportation routes. **Freeing up land holds transformative power to increase economic opportunities and social connections for people.** Prior to mine action, land could not be used, or only used in a limited fashion, with the constant fear of threat to one's life. When asked about land usage after mine clearance, 77% of urban and 64% of rural respondents said that land is now used for mobility and transportation.

More broadly, demining enabled investment in infrastructure and growth. The following section presents the results of demining in the domain of mobility and infrastructure, beginning with a bird's eye view of the relationship between demining and market access, before zooming in on mobility, increased access to services for the direct beneficiaries of demining, and increased access to the area for humanitarian and development actors.

The impact of demining on night-time lights and market access

Night-time satellite-visible luminosity is increasingly used as a proxy for economic development. In 2018, Chiovelli, Michalopoulos and Papaioannou completed a landmark study on the economic impact of mine action in Mozambique.⁴¹ The research team recreated historic landmine/ERW clearance in a model, then matched landmine/ERW clearance to historic night-time luminosity.⁴² It then tracked economic development by district in Mozambique from 2001 to 2018, modelling it as a function of mine clearance activities. Samuel Hall employed a similar methodology in order to conduct high-level analysis of the economic impact of landmine/ERW clearance, matching historic mine action (using the IMSMA database) against historic night-time lights data across Afghanistan.

For night lights, data came from the American Defense Meteorological Satellite Program (DMSP), which provides global annual time averaged NTL data from 1992 to 2013 at a resolution of approximately 1km².⁴³ To model luminosity as a function of demining activities, it was necessary to calculate distances from all cleared ("expired") mine sites to all

³⁸ Paterson, Ted, Pound, Barry, and Ziaee, Abdul Qudous (2013). Landmines and Livelihoods in Afghanistan: Evaluating the Benefits of Mine Action.

³⁹ Samuel Hall (2014). "Mine Action in Afghanistan: A Success Story in Danger. An Evaluation of UNMAS in Afghanistan".

⁴⁰ The secured funding for the Mine Action Programme of Afghanistan (MAPA) in 2016 and 2017 (approximately US\$40 million each year) were less than half of the funding target and funds required to be on track for total landmine and ERW removal in Afghanistan (US\$94 million and US\$110 million in 2016 and 2017 respectively). DMAC (2018). Mine Action Programme of Afghanistan (MAPA) Annual Report, 1396/2017.

⁴¹ Chiovelli G, Michalopoulos S, Papaioannou E (2019). Landmines and Spatial Development. December 11, 2019.

⁴² The approach tracks the level of development by district as proxied by the amount of night-time lights visible from near-earth orbit.

⁴³ The DMSP was replaced in 2013 by the Visible Infrared Imaging Radiometer Suite (VIIRS), which publishes comparable NTL data at a much higher resolution of about 100m². While efforts have been made to harmonise this data with the DMSP globally, the results in Afghanistan remain quite noisy. We plan to work with Chiovelli et al to improve this data, allowing us to continue the analysis through 2018.

detected night-time lights (DMSP-VIIRS). Due to the topography/terrain of Afghanistan, road network distances were believed to be a better approximation of real travel distances than Euclidean distances. For this reason, all calculations were made using the road network.

The model

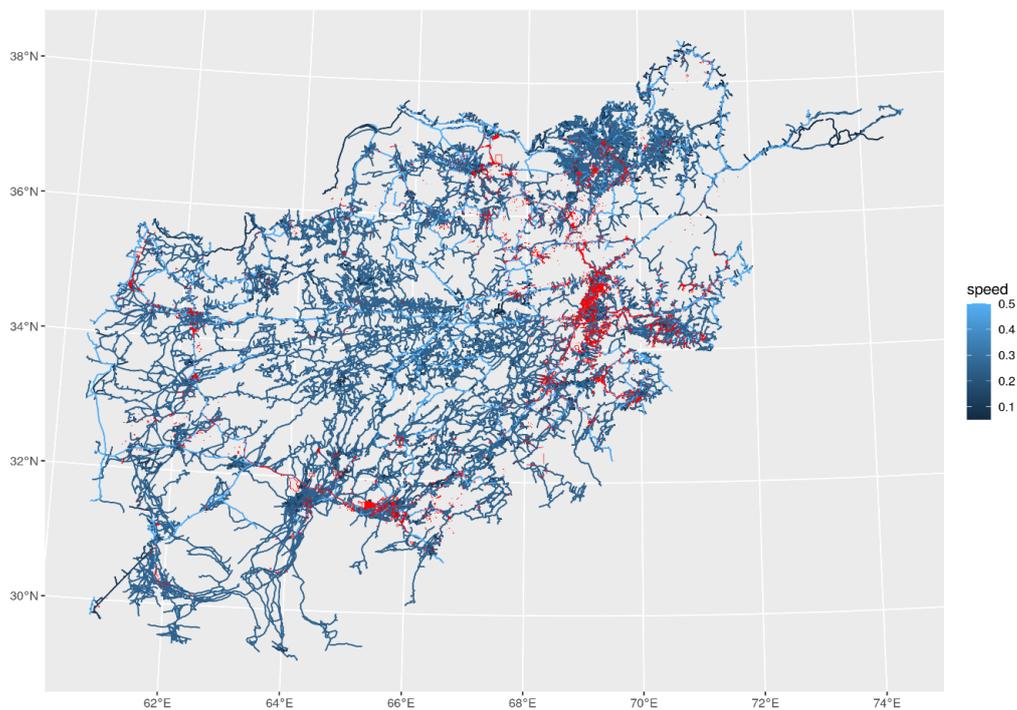
Our initial hypothesis is that demining action affects productivity in its surrounding vicinity, proportionate to the volume of activity and the distance to such activity. The model assumes that the longer a consumer or merchant has to travel to access a market, the smaller the value of the market to this consumer or merchant. The goal, then, is to elucidate the cumulative impact of mine action through the clearing of road segments and consequent reductions in the value of travel costs all over Afghanistan.

Modelling transportation cost : The modelling for distance and travel time is based on a detailed shapefile of the Afghan road network provided by OCHA's Humanitarian Data Exchange. The cost of transport between two points was estimated as the time taken to walk to the nearest "node" on the network, in addition to the time taken to traverse the quickest path towards the node closest to the destination and the time taken to walk from there to the destination location. The cost of transportation for each segment (edge) of the road network is modelled as the time it takes to traverse its length at a speed determined by the quality of the road.⁴⁴

Modelling the impact of mine hazards on the road network : As pictured below, the road network model is an idealised network based on maps and satellite imagery, which is incapable of detecting the presence of EO hazards. However, road segments intersecting an EO hazard are presumably not traversable. Consequently, the network model was altered to account for unavailable segments (edges). For each "hazard" documented by DMAC, data was provided on location and status (cleared, partially cleared, remaining to be cleared). Using this data, a time series model was created for some 21,000 hazards.

⁴⁴ Following Chiovelli et al, we estimate mean highway speeds at 60 km/h, secondary roads at 30 km/h, unimproved tracks at 10 km/h and walking paths at 5 km/h.

Map 3 Road network with EO hazards



Given this data, for every point in time, it is now possible to construct three separate road network models:

- The ideal road model, with no hazards;
- The actual road model, with all segments that intersect placed but uncleared hazards removed; and
- The control road model, with all segments that intersect placed hazards removed, regardless of whether the hazard had subsequently been cleared.

Modelling population centres: There do not currently appear to be any fine-grained population density estimates for Afghanistan. However, previous studies have found strong correlations between the night-time luminosity of a geographical area and its population density. Consequently, historical population density was proxied using annualised night-time satellite imagery provided by the United States Defense Meteorological Satellite Program from 1992 to 2013.⁴⁵

However, this data only provides a measure of the population density at each square kilometre of the country's surface. It does not identify the discrete localities whose populations are generating the light. No exhaustive list of settlement polygons exists for Afghanistan. A 2020 FAO analysis of satellite imagery using machine learning techniques was thus used to produce 165,000 polygons containing built-up areas in Afghanistan.⁴⁶ Thus in 2010, for example, it was possible

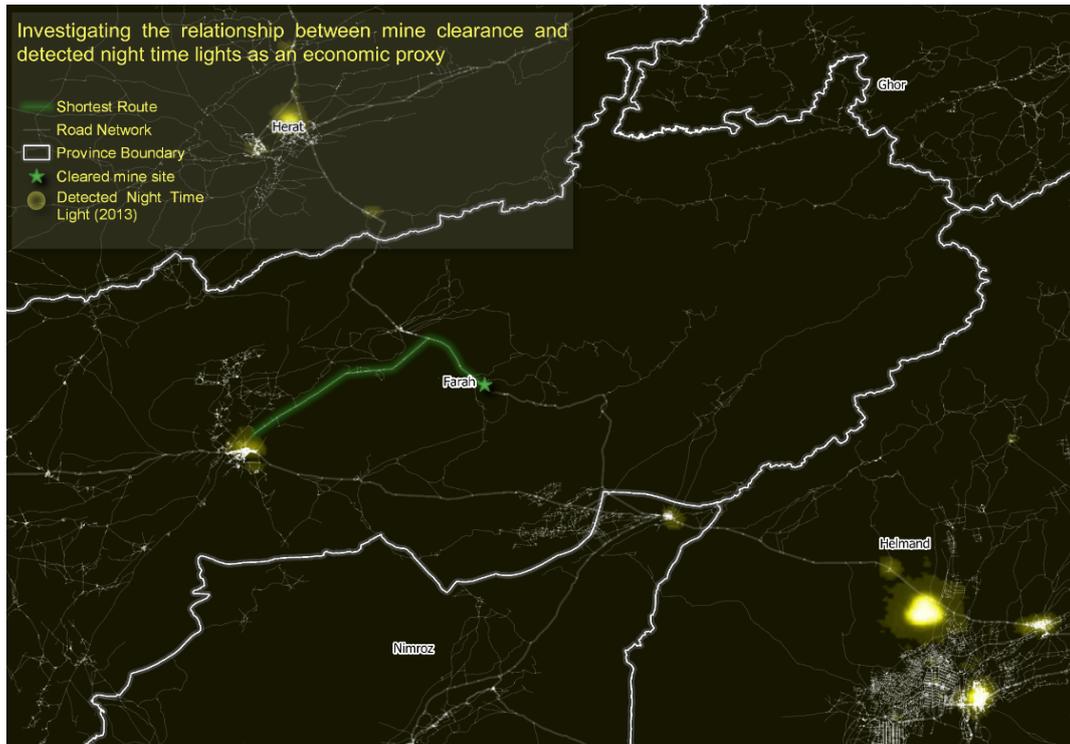
⁴⁵ In this paper, analysis is limited to the years prior to 2014. The DMSP's program was replaced by NASA's Visible Infrared Imaging Radiometer Suite in 2013 and provides imagery up to 2020 at a much higher resolution. Unfortunately, this data has not yet been calibrated to the DMSP data with sufficient accuracy for our purposes in Afghanistan. We hope to do so in the near future, which would allow us to extend our analysis deeper into the period of greatest mine action.

⁴⁶ To create the source settlement polygons for each year of night-time lights, each night-time light pixel with non-zero luminosity was ascribed to the nearest polygon within two kilometres of its centre (to account for the granularity of the images). Then, for each year, each polygon with one or

to discern 7,597 “luminous settlements” - some tiny, with a luminosity as low as 3, while some clearly urban, with luminosity as high as 13,000.

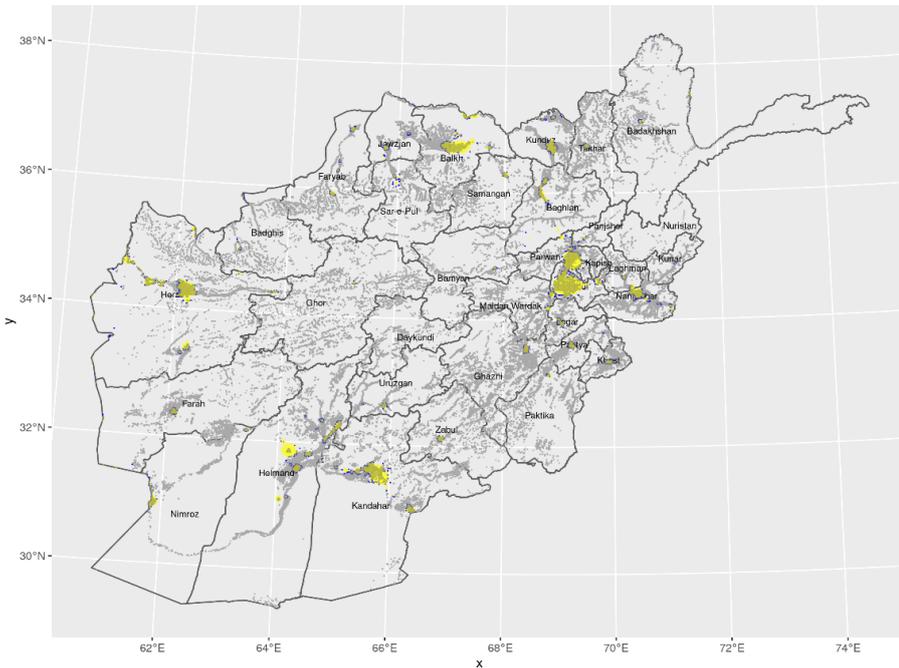
Nota bene: Although many of these areas were not built up in previous decades, it is unlikely that any that were built up are no longer.

Map 4 Network analysis to model luminosity as a function of demining activities



more pixels assigned to it was added to the roster of luminous settlements, assigning it a luminosity equal to the sum of its assigned pixels' luminosities.

Map 5 Settlements as proxied by night-time lights



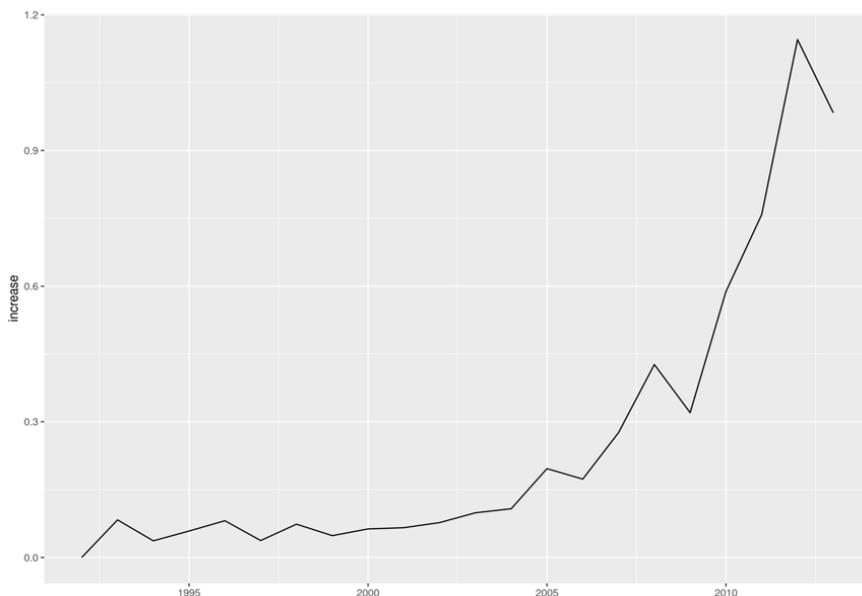
Aggregate market access, comparing scenarios: In order to gauge the impact of mine hazards and mine action on the aggregate value of market access, we compare different scenarios. Given the evolving hazard status over time, and with the evolution in night-time luminosity and population density, the following scenarios are considered:

- No hazards were ever placed (and thus mine action never occurred): ideal market access;
- Hazards were placed and removed as observed historically: real market access;
- Hazards were placed as observed but were never removed: no-MAPA scenario

Result: Mine action significantly increased aggregate market access in Afghanistan.

Looking at the country as a whole, market access improved drastically due to mine action. Thanks to mine action clearing transportation pathways, aggregate access to markets more than doubled between 1997 and 2012.

Figure 16 Increase in aggregate market access, mine action compared to a "no-mine action" scenario



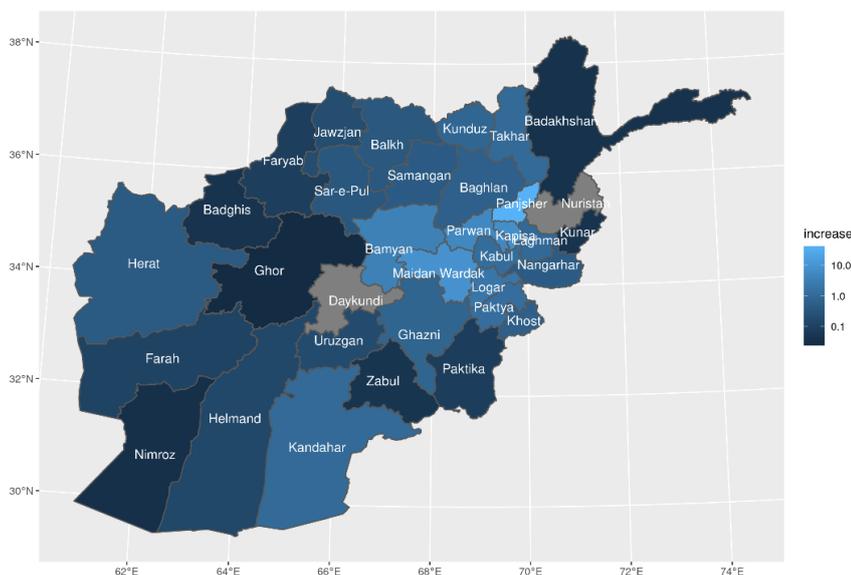
Scenarios can also be compared to assess the degree to which demining under MAPA has allowed Afghans to reach full potential market access, given road network and population distribution over time. The chart shows "perfect" market access as 1, and no market access (no travel possible between locations) as 0. It illustrates that up to 2005, mine action was contributing 5% or less of the potential market access, which ultimately grew to almost 40% in 2013. In 2013, the country is still about 20% below its full potential. Given the amount of mine action since then, it's likely we would see further progress with more recent data.

Figure 17 What would market access look like if MAPA had not cleared any mines between 1992 and 2013?



Improvements in market access by province or district show a more nuanced picture, showing considerable regional differences.

Map 6 Increase in market access due to mine action by 2013 : provincial level



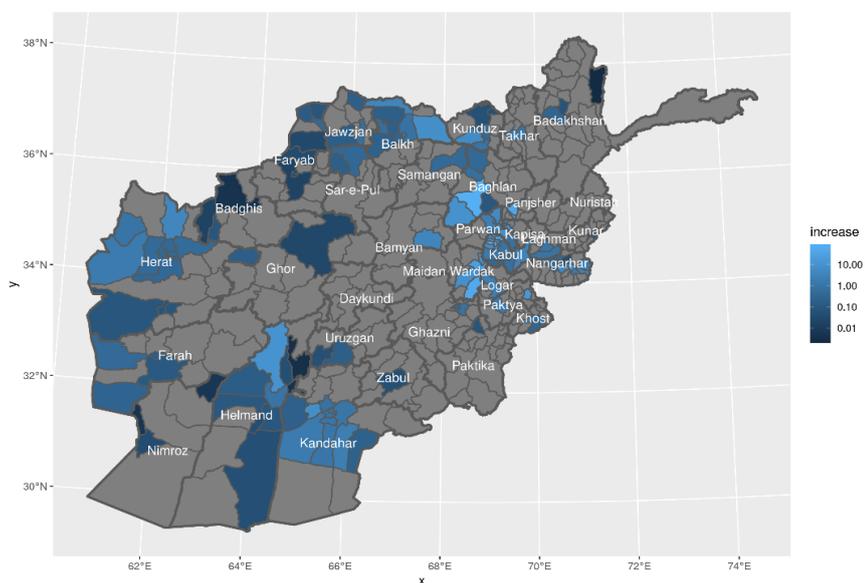
By 2013, compared to a scenario in which no demining had taken place, market access in Panjshir province had increased more than tenfold. In Paktika, this increase stood at 10%.

Map 7 Increase in market access due to mine action by 2013 : district level

An even more granular analysis shows that while all provinces saw their market access impacted by mine action, those impacts were much more confined, and often much more pronounced, at the district level.

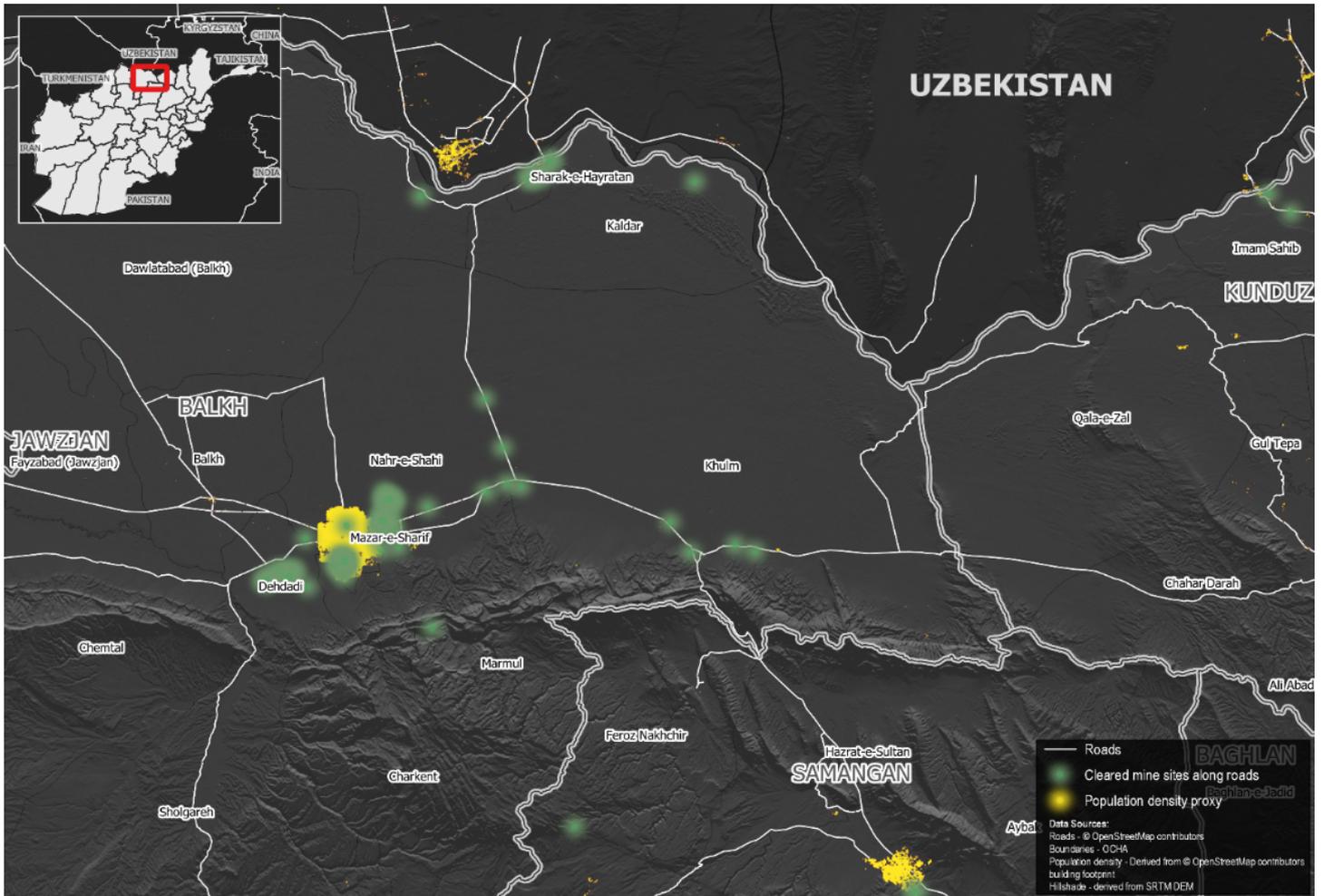
The importance of increased market access is felt by survey respondents. It was seen by many respondents as having a direct impact on livelihoods. *"There was no street or pathway in the past but there are now, and people can use them to go to the bazar to buy better seeds, to have a better harvest and improve their sales."*⁴⁷ Access to more work opportunities was also frequently cited as a result of improved access to roads, as residents were empowered to drive to neighbouring villages to work or to sell their products.

In a village in northern Afghanistan, landmines previously blocked the way to the provincial centre Mazar-e-Sharif and its many services such as hospitals, and it took more than four hours to get there by donkey. Since clearance, travel along the paved road only takes one hour. Landmine removal from contaminated roads has been crucial in supporting local economic development and allowing pastoralists to sell their products on larger markets.



⁴⁷ FGD34 [Adult Women, Bamyān]

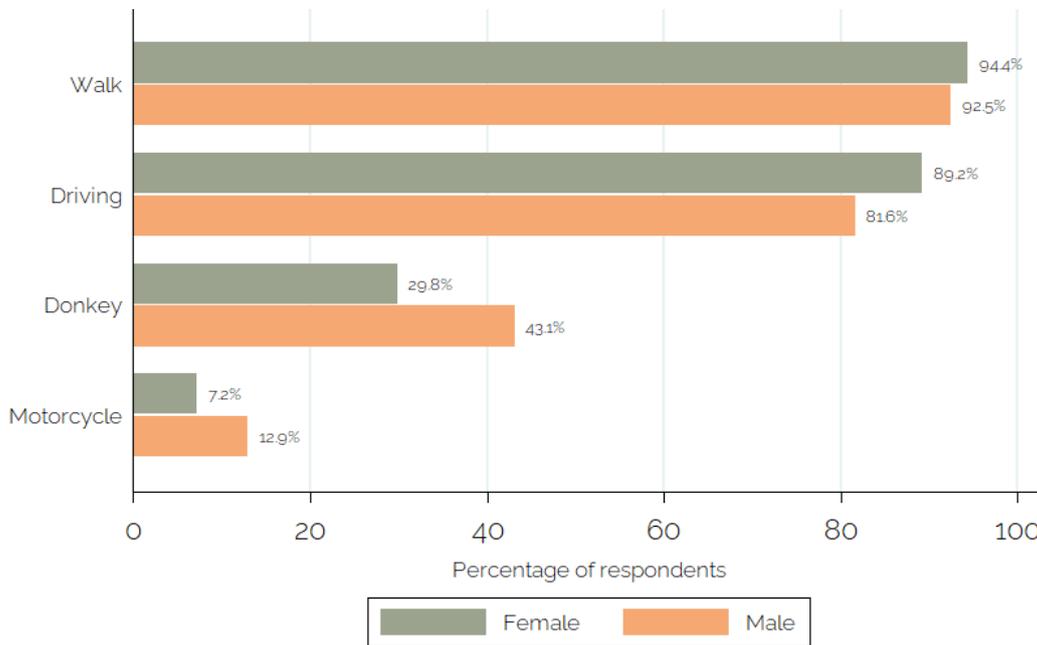
Figure 18 Roads and highways cleared by MAPA: a snapshot



Mobility and access to services

Markets were not the only place made more accessible by clearance operations. For the survey respondents to this study, one of the additional major benefits of mine clearance is **increased freedom of movement and mobility**. Many could not visit relatives or attend culturally important weddings and funerals in surrounding villages. Children who had previously not been allowed to go to school as a result of fear of mines were now able to pursue their education again after clearance. Access to healthcare was now much easier and safer. People could visit families again, and attend culturally important events such as weddings and funerals in nearby villages. Children could now not only get to school and support households through livelihoods activities without fear, but also resume sports and leisure activities such as cricket.

Figure 19 What type of transportation is safer/more accessible as a result of mine action? By gender of respondent



Both men and women consider walking and driving as considerably safer in all provinces after mine action took place. Generally, male respondents also tend to consider donkeys and motorcycles as safer, perhaps because they use these means of transportation more than their female counterparts.

Until a few years ago, no one would dare to walk or go with the bikes. Everyone would try to go on the asphalted road. No one was allowed to go on the sub-roads. Every day, around 50 to 60 landmines were cleared from the land. They were in the houses and across the stream. There were landmines in the Babaji school and shrines. There was only one route that deminers had identified for the people to commute on. People were not allowed to go on the other routes.

FGD20 [Adult Women, Herat]

Both rural and urban areas report having benefitted from better access to transport after demining operations. However, there are some notable differences between male and female respondents in specific areas. In Samangan, women seem to have particularly benefitted from land clearances in terms of mobility, whereas in Kabul and Bamiyan, men appear to have been more likely to do so.

Figure 20 Households with better access to transport as a result of mine clearance, by province and gender of respondents

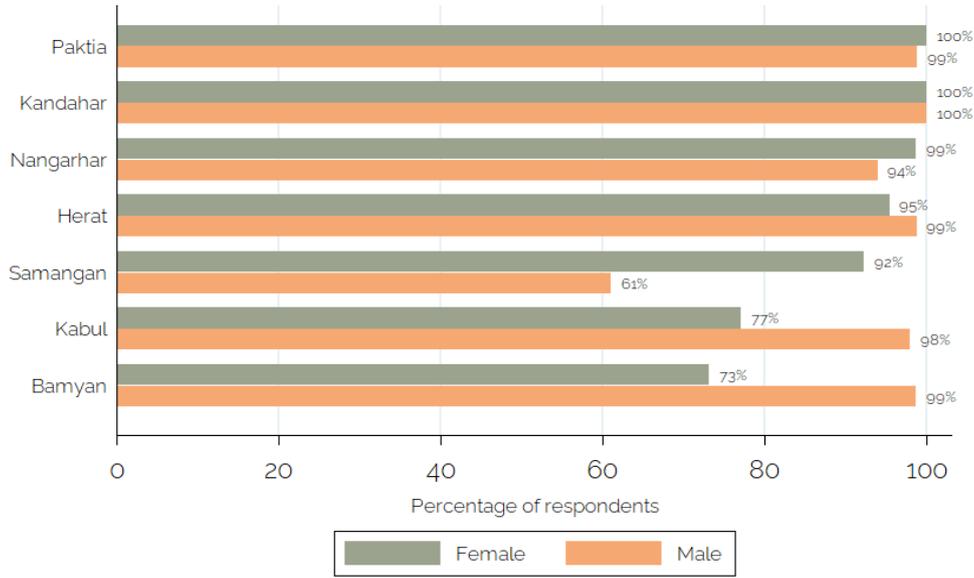


Photo 5 Made possible by mine clearance: Main road connecting villages with Gardez (Samuel Hall, 2021)

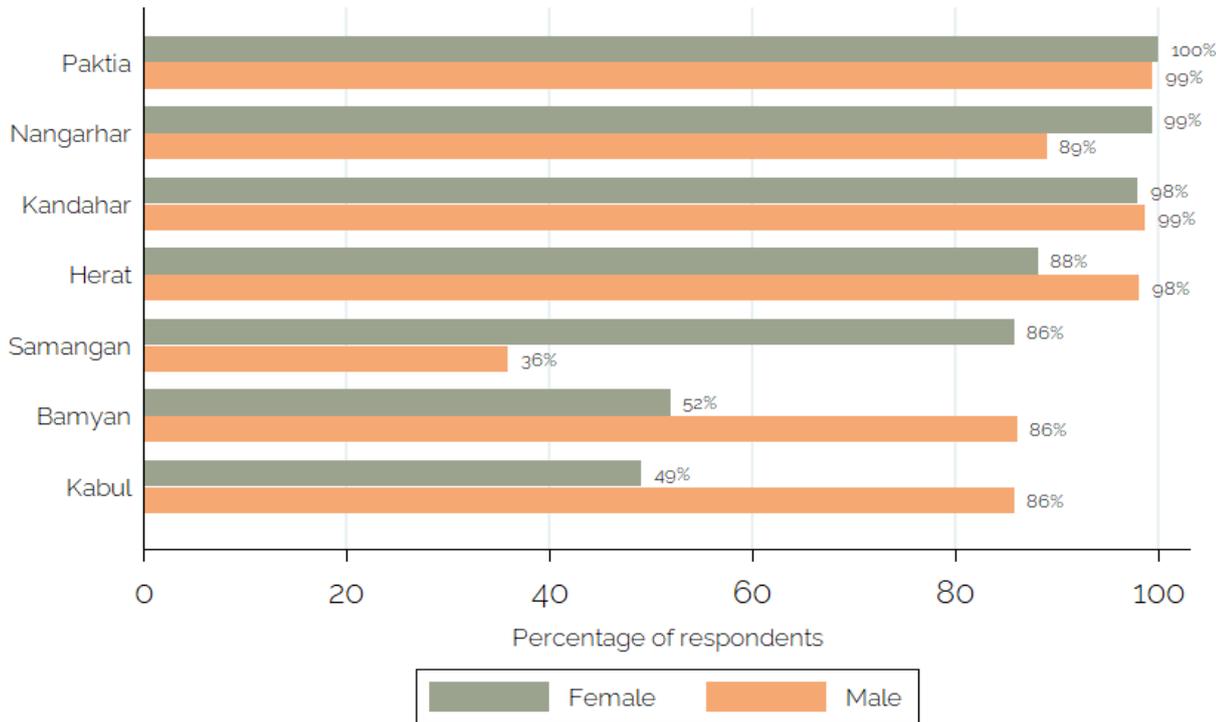


As pathways to streams, springs, and other natural water sources were previously obstructed by landmines in certain communities, the clearance of these pathways has also enabled residents to access and use these natural resources.⁴⁸

"We didn't have access to clear water in the past because there were landmines, which made people scared to dig water wells. People have now dug water wells and have access to healthy drinking water."

FGD4 [Adult Men, Nangarhar]

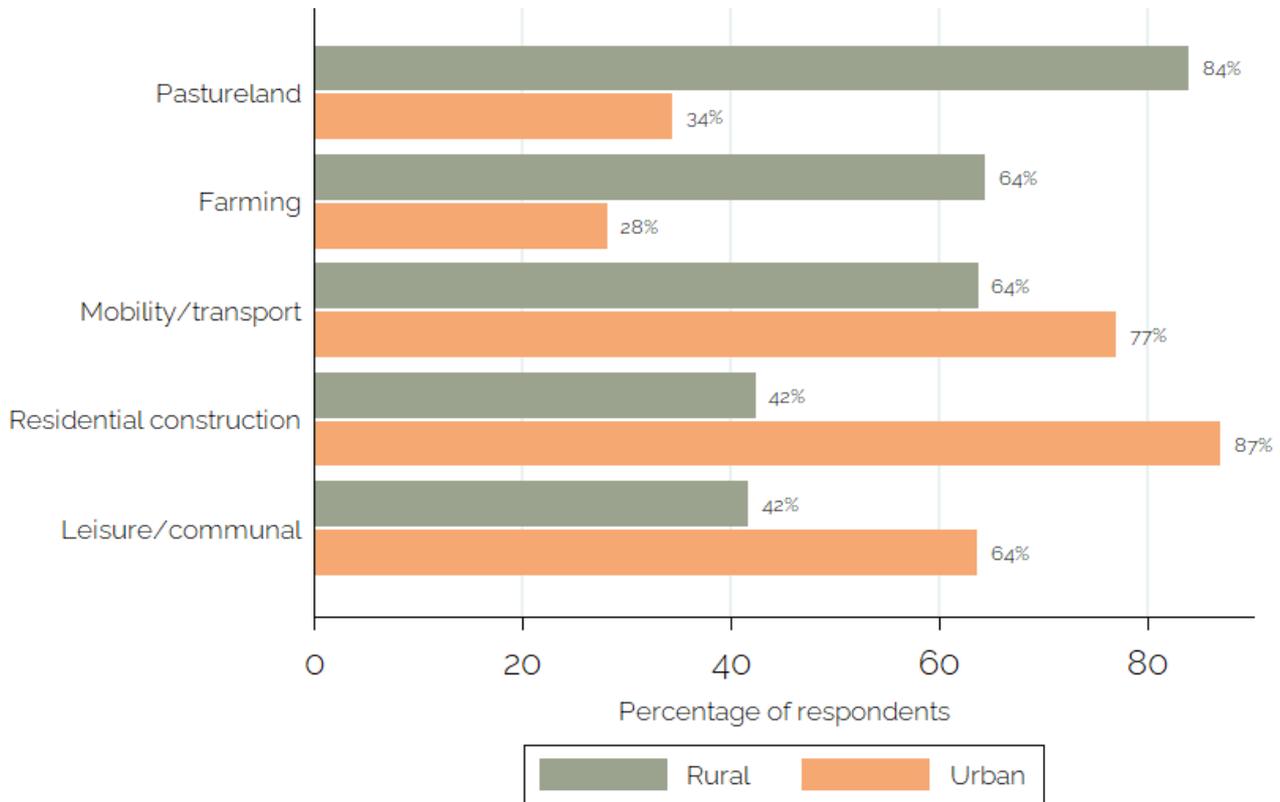
Figure 21 Respondents who consider it is safer to collect water, by province and gender



87% of urban respondents report that cleared land is now used to build new residential infrastructure. This number is lower but still relatively important in rural areas (42%).

⁴⁸ FGD19 [Adult Women, Herat]

Figure 22 What is the land used for now? Rural vs. urban



The clearance of landmines is reported to have led to **new housing developments** in almost all of the communities interviewed. Respondents noted there was an increase in available land that could be used for residential purposes. The decontamination of surrounding mountains also allowed residents to extract building materials such as wood, sand, and stone.⁴⁹ One respondent from Markaz, Bamyan, stated: *“Around 60-70 houses were built in one area and 1000 houses were built in the area behind the airport and houses were built in the Kandak area as well.”*⁵⁰ The expansion of housing was perceived by several respondents as yielding important societal benefits: one respondent from Markaz, Bamyan, reflects: *“Married men and women can move into a separate house (before they had to continue living with the families because of limited available housing).”*⁵¹

⁴⁹ FGD24 [Adult Women, Samangan]

⁵⁰ FGD32 [Adult Men, Bamyan]

⁵¹ FGD33 [Adult Women, Bamyan]

MAPA's Contribution to Urban Development: The example of Jebrail township

The rate of urbanisation in Afghanistan is one of the highest in the region, growing at 5 percent annually.⁵² Many densely built-up areas have been developed on lands that were previously contaminated with landmines/ERW, and subsequently cleared by MAPA. Western Kabul was the site of intense conflict in the 1990s and is now home to over a million residents after clearance in the early 2000s. MAPA landmine/ERW clearance allowed the previously-heavily mined area of Jebrail to develop into a major urban area. Located immediately outside of the city of Herat, Jebrail is a township which rapidly developed after multiple rounds of landmine/ERW clearance. Surrounding townships Shahrak-e Reza, Shahrak-e Mujahideen, and Talab-e-Ulia are also undergoing urban development after the clearance of large tracts of formerly-contaminated lands. With clearance commencing in 2004 and multiple operations in the area ongoing until 2013⁵³, the township now houses over 60,000 people.⁵⁴

Photo 6 Photos of Jebrail, Herat province during mine clearance 2011. (UNMAS)



Many of the 60,000 residents are returning refugees and internally displaced families who have built a new life in Jebrail. This includes Shia, Hazara families returning from Iran who had been displaced from Ghazni, Ghor, Daikundi, and Bamiyan.⁵⁵ Previously, prospective land buyers and builders were victims of landmine incidents, but there have been none since clearance concluded in 2013.⁵⁶ Land prices have now substantially increased, with the construction of thousands of houses and other buildings and infrastructure. New schools, colleges, businesses, railway infrastructure,⁵⁷ amusement parks, and recreation

centres such as swimming pools⁵⁸ have all been built on land cleared under MAPA. A community leader of Jebrail summarised: *"If the unexploded items and mines had not been cleared from this area, this town with all its existing urban facilities could not have been created. All these facilities are the result of the efforts of the deminers who risked their lives."*

⁵² UN-HABITAT (2014), Afghanistan 's Urban Future.

⁵³ IMSMA database. Key

⁵⁴ E&T (2018). [10 years of mine clearance brings hope in Herat](#). *Engineering and Technology (E&T)*. February 15, 2018.

⁵⁵ KII27 [Jebrail Community Development Council Leader, Herat]; KII25 [HALO Trust]

⁵⁶ KII27 [Jebrail Community Development Council Leader, Herat]

⁵⁷ E&T (2018). [10 years of mine clearance brings hope in Herat](#). *Engineering and Technology (E&T)*. February 15, 2018.

⁵⁸ KII27 [Jebrail Community Development Council Leader, Herat]

Photo 7 Jebrail Township in 2021 (Samuel Hall, 2021)

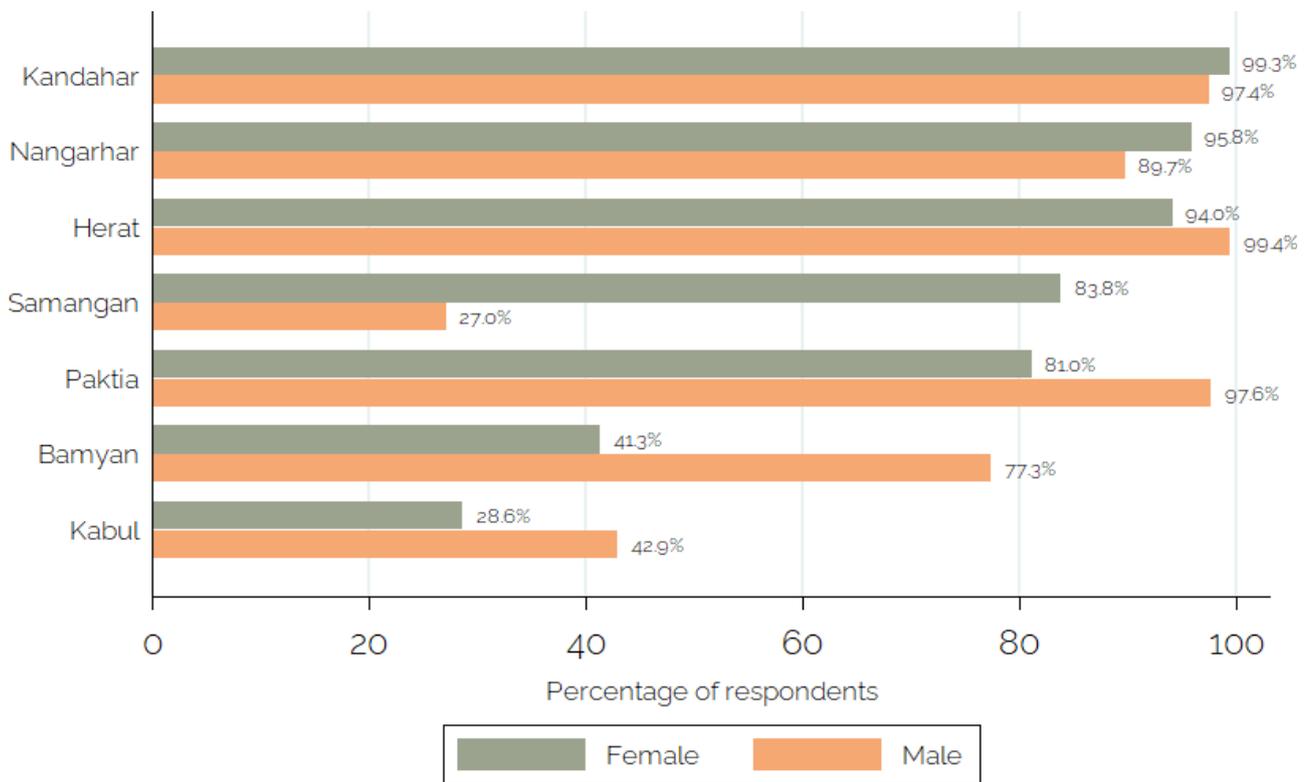


Map 8 GIS of construction on demined lands. (Halo Trust)



In villages where the provision of social services was not guaranteed, landmine/ERW clearance encouraged the construction of much-needed infrastructure.

Figure 23 Households with better access to healthcare as a result of mine clearance, by province and gender of respondents



Prior to landmine/ERW clearance, contaminated land and roads blocked access to schools and medical clinics or hospitals - or prevented them from being built. Numerous respondents noted the construction of a nearby clinic or hospital and attributed it to the impact of demining. These developments were seen as particularly beneficial to pregnant women. One respondent notes: *"One of the problems in the past was that if we had a patient we had to go a three to four hour distance to the clinic. Now that the roads are constructed, our problem is solved."*⁵⁹

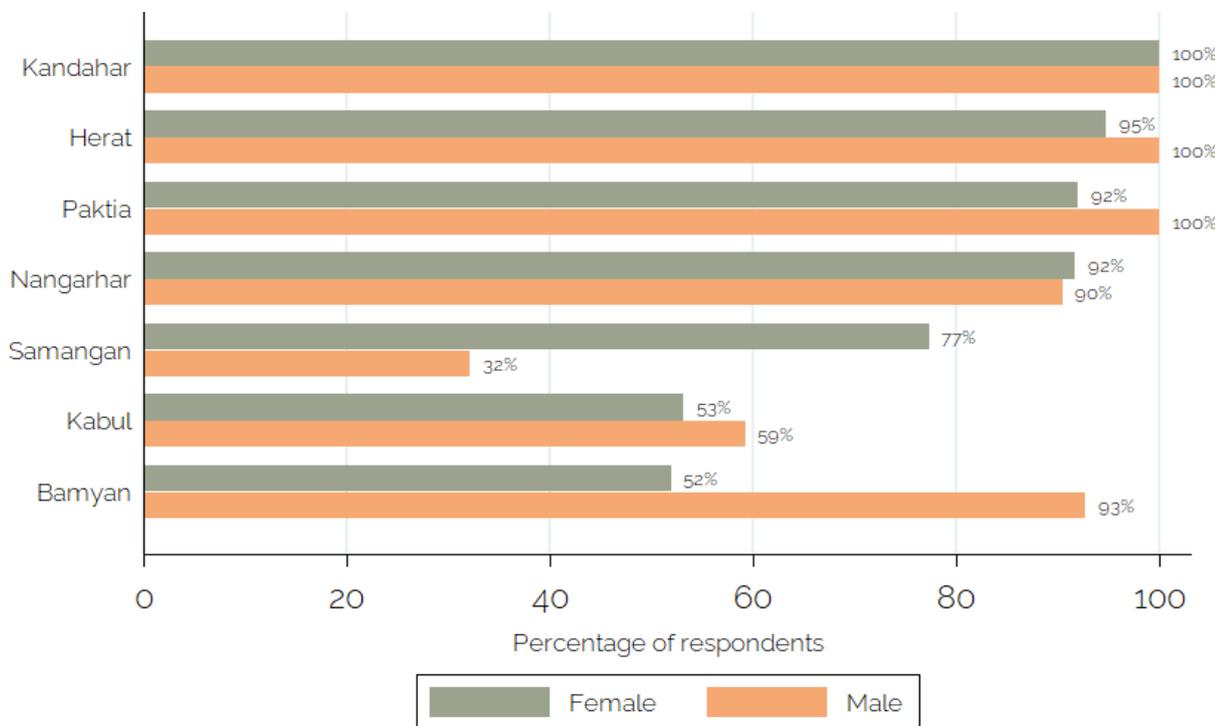
Landmines and ERW inhibit children's education – parents would keep children at home rather than risk them being endangered by hidden, abandoned, improvised mines. This **major impediment to education is removed when mines are cleared**. Access to education was seen to have improved for communities in the majority of those selected for focus group discussions. These improvements took different forms: firstly, the absence of landmines in the community and surrounding area helped families to feel more comfortable allowing their children to travel – in some cases alone and for considerable distances – to attend the nearby school. In a number of communities where demining took place, respondents noted the construction of schools as among the most significant changes to their surroundings.

One interviewee from Jebrail, Herat, recalls the dangers of going to school prior to mine action:

*"When we were children, there were only four or five houses. We were not able to play. There were a few coloured stones – we were told not to get close to these. We would often stay at the house. When we were going to school, there were a lot of landmines. We would not cross the areas where stones were coloured because we were afraid of landmine explosions."*⁶⁰

These dangers are all the more heightened as numerous respondents noted there was a risk of landmines being disguised as school equipment and children's toys.⁶¹ In other cases, such as in communities where schooling was taking place within families' residences, interviewees noted that teachers themselves felt more comfortable about travelling from house to house to deliver lessons following mine action.

Figure 24 Households with better access to schools as a result of mine clearance, by province and gender of respondents



⁵⁹ FGD28 [Adult Men, Baghlan]

⁶⁰ FGD19 [Adult Women, Herat]

⁶¹ FGD13 [Children Girls, Paktia]

In a small number of locations, improved access to education and home schooling was seen as benefitting both boys and girls. However – particularly during focus group discussions with both boys and girls – a number of interviewees specified that only boys were benefitting:

“Boys have improved access to school, girls less so because of the risks of the trip while travelling alone. Men forbid them to go far.”⁶²

One participant of a girls’ focus group discussion in Gari, Samangan laments: *“Our areas have become safe and secure but we don’t have a school. We go to schools in other areas. Only three girls from our area are going to school. School is at a remote distance and most families do not allow their girls to go there.”⁶³*

Even if girls reap fewer dividends than boys, when asked about changes in women's conditions as a result of landmine clearance, most male and female respondents in all provinces noted that the situation has improved. Access to water and to social services are among the most commonly cited reasons for this improvement.

Photo 8 Boys' school in Paktia, constructed on land cleared of explosive ordnance (Samuel Hall, 2021)



⁶² FGD34 [Adult Women, Bamyan]

⁶³ FGD21 [Children Girls, Samangan]

MAPA's impact on education: The demining of Kabul University

Kabul University is one of Afghanistan's largest and oldest higher education institutions and an engine of the country's economic development and prosperity. Since its establishment in 1921, the university has expanded considerably and up to the Taliban takeover in August 2021 housed more than 22,000 male and female students from across the country. Up to August 2021, it was the leading university in Afghanistan supporting higher education for girls, and held some of the highest proportions of female students in the country: in 2020, around 41% of its students were female.⁶⁴

Many remember Kabul University before the mine clearance, including DMAC's Chief of Operations: *"20 years back, Kabul University was the only place for higher education in the country. There were no private universities. I remember that while we were working, students used a narrow path to go to their classes, the rest of the area was contaminated."*

The city's university underwent several years of demining activities. Key informants noted that these activities began in the early 2000s⁶⁵ and continued in and around the campus until at least 2013, when the area was handed over to Kabul University and government officials in an official ceremony.⁶⁶ Carried out by several different implementing partners – including the ATC, Halo Trust, and OMAR – with financial support from the US Department of State, this work included surface and subsurface clearance to a depth of up to 150 cm.⁶⁷

In a November 2013 newsletter, the Mine Action Coordination Centre of Afghanistan (MACCA) estimated that as much as 48,500 m² had been cleared around the campus but cautioned that "as much as 40% of the campus remained to be cleared." In 2021, the campus has been completely cleared and there have been no recent incidents. University staff remain vigilant: *"If we see some suspicious items or area, we immediately inform mine action agencies and they react immediately too."*⁶⁸

Clearance efforts have proven key to enabling the University's expansion, such as with the construction of the Computer Science faculty building. The government of Japan has funded over \$7 million USD in diverse infrastructure and facility expansion projects for the University.⁶⁹

Photo 9 Kabul University today, Mine clearance achieved in the area immediately surrounding it (DMAC).



⁶⁴ Based on statistics shared by the Kabul University Database Office, referenced in KII26 [Kabul University Staff, Kabul]

⁶⁵ KII26 [Kabul University Staff, Kabul]

⁶⁶ Mine Action Programme of Afghanistan (MAPA) Newsletter: October 2013. Accessed at: <http://dmac.gov.af/wp-content/uploads/2017/08/MAPA-Newsletter-English.pdf>

⁶⁷ Mine Action Programme of Afghanistan (MAPA) Newsletter: October 2013. Accessed at: <http://dmac.gov.af/wp-content/uploads/2017/08/MAPA-Newsletter-English.pdf>

⁶⁸ KII26 [Kabul University Staff, Kabul]

⁶⁹ UNOPS. "Kabul University to benefit from new building and buses." 12 May 2013. Accessed at: <https://reliefweb.int/report/afghanistan/kabul-university-benefit-new-building-and-buses>

Development initiatives

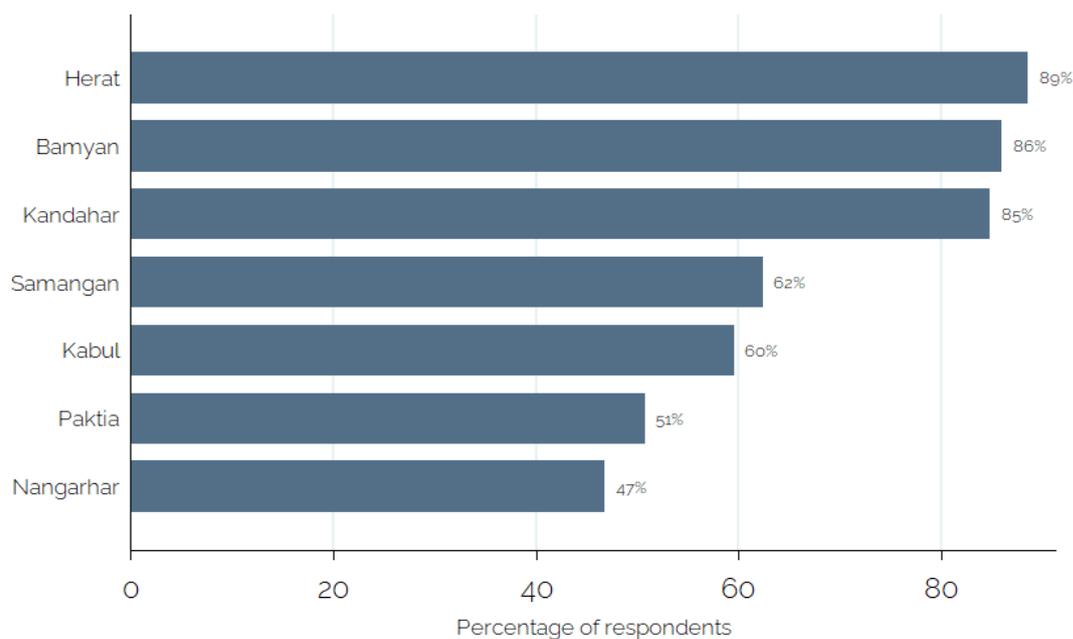
Gradually, when the bigger development projects came to Afghanistan, especially to rural areas, MAPA cleared key areas that played a vital role in economic development. For instance, Kabul Airport, the Kabul – Kandahar highway, the Kabul - Jalalabad highway.. but also the powerlines that allow us to import electricity from Tajikistan... the copper mines (Mes Aynak) in Logar... where eight deminers lost their lives.

KIIS [DMAC Programme Staff]

Communities with protracted presence of explosive ordnance are considered dangerous for development initiatives, especially for programmes such as road construction. Conversely, landmine/ERW clearance created the space for NGOs and the government to become more involved in local development, contributing to an increased sense of security in decontaminated areas. This included country-wide initiatives such as the Citizens Charter National Priority Programming (CCNPP). Along with government programmes, international and national NGOs were able to distribute agricultural supplies and cash in some of the communities cleared of mines.

“Previously, none of the NGOs had the courage to come here, and when we told the government that we didn’t have clean water, school, clinic, or electricity, the government used to reply that we didn’t have security. Now, different organisations come and safely implement their projects.”⁷⁰

Figure 25 Have there been development projects/activities that were only possible as a result of EO clearance? By province



In the locations visited for this study, the majority of interviewees agreed that a number of development activities had benefitted their community which would not have been possible prior to landmine clearance. These could be large or small. Several respondents noted that new water wells were dug, generally facilitated by government development initiatives, as well as by NGOs. For example, residents of Gardez, Paktia, reported that flumes were built by the government.⁷¹ In Nangarhar, Paktia, and Herat, respondents noted that the Citizen Charter programme had, in

⁷⁰ Samuel Hall (2021). Lives and Livelihoods - Impact Assessment of Anti-Vehicle Mines (AVM) and Abandoned Improvised Mines (AIM) in Afghanistan. Referenced from primary data focus group discussion.

⁷¹ FGD15 [Adult Men, Paktia]

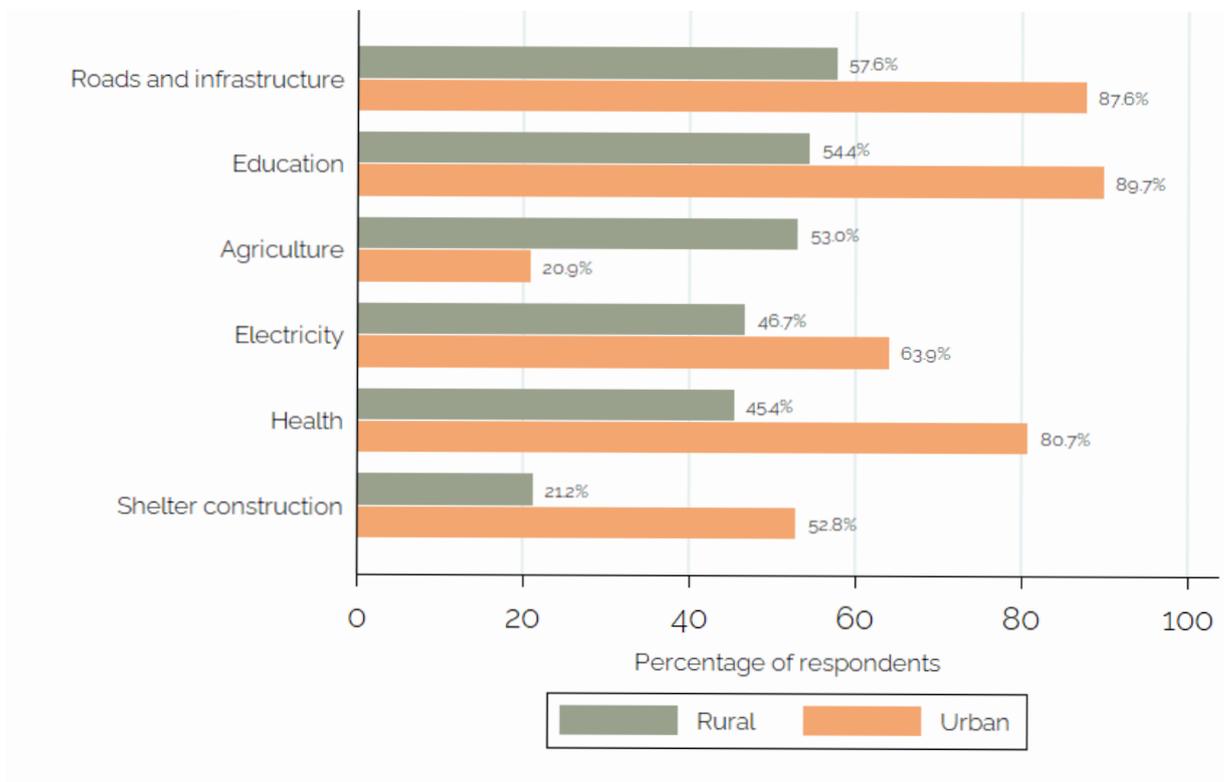
addition to other projects, cast concrete around streams to improve water quality.⁷² In certain villages in Baghlan and Bamiyan, residents from different communities noted the establishment of a pipeline system connected to individual homes as well as to agricultural lands – a development they judged would not have been possible prior to mine action.⁷³

"When landmines were cleared, people started work. Organisations also visited our village and this also helped in providing work opportunities."

FGD8 [Adult Men, Kandahar]

In some locations selected for this study, respondents described significant development initiatives in the construction of water pipelines, electricity⁷⁴ and solar power grids,⁷⁵ as well as telecommunications infrastructure. In both Behsood District in Nangarhar and Markaz District in Bamiyan, a notable development mentioned by respondents was the construction of a telecommunications tower, enabling residents to connect to the phone network.⁷⁶

Figure 26 What type of development projects? Rural vs. Urban



⁷² FGD15 [Adult Men, Paktia]; FGD3 [Nangarhar]

⁷³ FGD33 [Adult Women, Bamiyan]; FGD34 [Adult Women, Bamiyan]; FGD28 [Adult Men, Baghlan]

⁷⁴ FGD8 [Adult Men, Kandahar]

⁷⁵ FGD33 [Adult Women, Bamiyan]

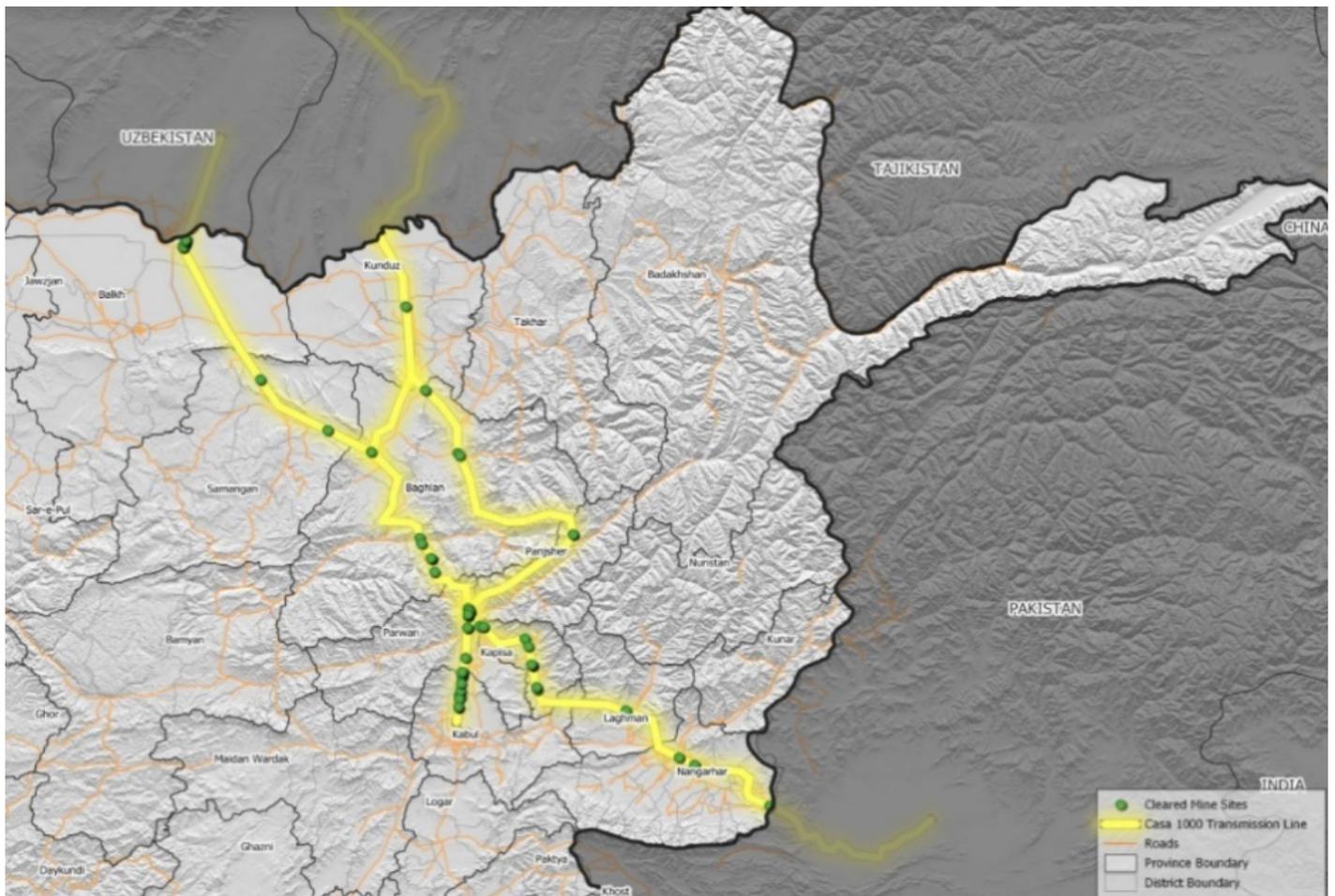
⁷⁶ FGD34 [Adult Women, Bamiyan]; FGD3 [Adult Men, Nangarhar]

MAPA contribution to the electrification of Afghanistan and neighbouring countries: CASA 1000

The CASA-1000⁷⁷ project is one of the largest power projects in Central Asia - a high-voltage electricity transmission system transmitting surplus hydroelectricity from Kyrgyzstan and Tajikistan through Afghanistan to Peshawar, Pakistan. Supported by a number of donors and international financial institutions, the 1,300km long CASA -1000 is designed to improve regional autonomy, alleviate energy shortages, and encourage economic growth by facilitating electricity trade between countries in Central and South Asia.

In Afghanistan alone, the project involves constructing some 680 transmission towers, an endeavour requiring extensive excavation along 562 kilometres, passing through Kunduz, Baghlan, Parwan, Panjshir, Kabul, Laghman, and Nangarhar. MAPA made this ambitious project possible by clearing dozens of mine sites along the CASA route. A DMAC key informant recalls the challenging operation: "*The clearance was very challenging, because a lot of the power pools are located on top of hills!*"

Map 9 Minefields cleared on the CASA -1000 trajectory (Samuel Hall)



Although Afghanistan is not the main recipient of the electricity generated, it benefits in many ways from this project. An official of the Ministry of Water and Energy / Energy Services regulatory office notes: "*When CASA-1000 is completed, some 40-60 million USD will be generated as public income as transmission fees. Afghanistan should also*

⁷⁷ CASA is short for "Central Asia-South Asia"

receive 300 megawatts of electricity, once a converter station has been set up. But the most important benefit at this stage is the CASA CSP- the CASA community Support Programme.” Implemented by MRRD, CASA CSP aims to benefit the communities directly impacted by construction of the transmission line. Community grants are provided to fund off-grid power solutions or other local development projects and economic infrastructure prioritised by the community.

Photo 10 Livelihoods indirectly made possible by MAPA



Thus far, 510 villages have been surveyed and offered projects that fit their needs. “For instance, in Panjshir province, we assisted with building concrete walls to prevent flooding.” Communities also benefit economically as they are involved in setting up, operating, and maintaining the infrastructure built.

Respondents in Khoshab, Kandahar further stated that the construction of a bridge by the Ministry of Rural Rehabilitation and Development (MRRD) was made possible because of landmine clearance activities in the area.⁷⁸ In Markaz, Bamyan, the construction of a bridge was similarly mentioned – and was seen to have positively impacted the ability of villagers (in particular women) to access and carry home water.⁷⁹ As a programme manager for an international organisation told Samuel Hall researchers, “One of the unwritten rules in our sector is that development organisations don’t move in until the whole municipality is deemed landmine free. So, landmines act as an inhibitor. Until all demining activities are finished, it is very hard to come in and start projects. Even municipal governments are restricted in what they are able to do until clearance is completed.”

Countless examples of development occurring in demined areas in provinces across Afghanistan⁸⁰

There is a government development plan for a road which will cross the cleared areas - Mohammad Agha, Logar Province

Near this site, road construction for a high voltage electricity transmission line project is going on - Khulm, Balkh Province

After clearance, a drinking water pipe was brought to this area. - Nadir Shah Kot, Khost province

⁷⁸ FGD8 [Adult Men, Kandahar]

⁷⁹ FGD34 [Adult Women, Bamyan]

⁸⁰ DMAC (2020). Post-demining Impact assessment (PDIA) 2020.

Photo 11 Information billboard of an irrigation canal construction, Gul dara, Kabul (Samuel Hall, 2021)



Photo 12 Rehabilitation of a gravel road in Samangan province (Samuel Hall, 2021)



MAPA's impact on large development projects: landmine clearance and the reconstruction of Kabul's Hamid Karzai International Airport

Kabul Airport is Afghanistan's primary international airport, doubling as both a military base and a hub for a dozen other airlines connecting travellers both internationally and to the country's most remote provinces.⁸¹ Its four-lane highway, multiple taxiways, and aprons allow for a steady stream of buses, taxis, and private cars. The airport is a feat of extensive decontamination and reconstruction efforts undertaken by the Afghan government and partners spanning several years.

Photo 13 Kabul Airport before clearance in 2003 (ATC)



Originally built in the 1960s, the Kabul Airport was heavily mined by Soviet forces during their occupation of Afghanistan from 1979 to 1989, and was eventually destroyed during heavy bombardment. Extensive mine action supported the reconstruction of the airport from November 2003 to December 2004. Mine action was undertaken by the Afghan Technical Consultants (ATC) in collaboration with UNMACCA and officials from the Ministry of Transport (MOT). Over the course of two years, the KIA team decontaminated a total area of 1,123,656 m², eradicating 210,214 ERWs and 6,752 APs.⁸² A phased approach was used which began with clearance of the runways.

Phase two then decontaminated the surrounding areas of the airport.

One area that required particular attention was a road cutting through the glide path – an airplane's path of descent – and connecting the northern and southern parts of KIA. This led to a major revision of the original work plan: *“Operations on lower-priority sites were halted, and the clearance project completion date was pushed back from September 2005 to May 2006. Due to a lack of funds, the project was not restarted until September 18, 2006.”*⁸³

Photo 14 Clearance team at Kabul Airport in 2003 (ATC)



The demining team overcame numerous hurdles and delays throughout the demining process. One deminer from the Afghan Technical Consultants (ATC) recalls: *“One of the challenges that caused our work to take longer was that Kabul Airport was covered with different kinds of metals, including pieces of weapons, bottles, pieces of airplanes and so on.”*⁸⁴ This slowed the process considerably and increased the level of difficulty, as the teams spent extra effort differentiating debris from landmines: *“We had to spend much of our time identifying common metals apart from mines.”* The team notes the grassy terrain added to the level of difficulty - and potential danger - as it made it more difficult to spot landmines.

One key informant describes the airport prior to landmine action as an *“aircraft cemetery”* – with landmines contaminating both sides of the main runway. Under such conditions, no international flights were permitted – and only military and authorised UN aircraft were able to use it.

Map 10 Mine clearance around Kabul Airport (DMAC)



This created significant barriers to the country's international trade, business, and tourism. Today, Kabul Airport is the country's busiest airport. During the August 2021 evacuations, following the Taliban takeover, this airport was the only formal access route between Afghanistan and the rest of the world. In the near future, Qatar and Turkey are likely to finance the reconstruction of the airport to restore its economic, commercial, and strategic pre-eminence. It stands as an example of how mine clearance is critical to ensuring transportation development and unlocking mobility within the country.

Livelihoods and economic development

Benefits to livelihoods resulting from MAPA interventions are apparent through the qualitative and quantitative community data at the individual, household, and community level – for instance, through increased agriculture and resource gathering on and from lands released from landmine/ERW contamination: *"Our village was cleared of landmines. This has brought positive changes. My father has one jerib of land [approximately 2,000 m² or half an acre] but he was not able to use it due to landmines. But after mine clearance, we are able to use the land."*⁸⁵ Boosts to the economy can have positive knock-on effects at a wider level. Increases in agricultural production and better access to markets can be seen through various data sources to increase a larger area's socio-economic growth, with impacts at the district and provincial levels. This section zooms in on the economic and livelihoods impacts of mine action, discussing changes in land usage as visible through satellite imagery before presenting findings at the community level. We then discuss the direct impact of MAPA on individuals: those working as deminers, and those benefitting from disability assistance.

⁸¹ Airport Technology (nd.). *Kabul International Airport*. Accessed at: <https://www.airport-technology.com/projects/kabul-international-airport-kabul/>

⁸² Afghanistan Technical Consultants (ATC) (2021). *Kabul International Airport Project presentation*, April 2021.

⁸³ KII23 [Afghan Technical Consults (ATC), Kabul]

⁸⁴ KII23 [Afghan Technical Consults (ATC), Kabul]

⁸⁵ FGD24 [Adult Males, Samangan]

Photo 15 Cleared pastureland in Baghlan (Samuel Hall, 2021)



MAPA impact on agricultural livelihoods and food security: Key Agricultural Zones – The Devil’s Garden in Bagram

MAPA has historically cleared large tracts of land that are used for expansive, high-value agricultural production. These key agricultural zones are in addition to the tracts of land that adjacent communities use for smaller-scale farming, often for rain-fed and dryland agriculture. MAPA cleared the Bagram Area and the Shomali Plains in the early 2000s, famed for its significant grape production. Bagram and the Shomali plains were long-known as the Bargh-e Shatan, or the Devil’s Garden, as they are one of the most intensively landmine contaminated areas in the world. First mined in the 1980s during the Soviet-Afghanistan war, the area stretching north of Kabul through to the Salang Pass saw hundreds of thousands of mines laid during the 1990s civil war and as the main frontline between the Taliban in Kabul and the Northern Alliance in the northern provinces.⁸⁶

Photo 16 “Photos: Remnants of War Cleared from Afghanistan’s Devil’s Garden”. (HALO)



Considered one of the largest operations in the history of MAPA, demining operations surged in 2003 as thousands of people were trying to return to their former homes amidst the contaminated former battlefield. Funded by an array of donors⁸⁷, 1,100 deminers were set-up in two camps, with approximately three-quarters of the deminers local to the area.⁸⁸ The clearance activities initially allowed the humanitarian return of displaced people. In Bagram alone, the clearance operation allowed over 72,000 refugees and IDPs to return to the area in the years during and immediately following clearance.⁸⁹ The operations cleared fields and vineyards, as well as the important Chobaksh canal which provides water to surrounding farms.⁹⁰ Afghan farmers now generate substantial income from hundreds of thousands of high value grape vineyards. The fertile area at the crossroads of two river valleys also

has high-quality apples and apricots, along with onions, potatoes, poultry, and livestock.⁹¹ Women earn through fruit and vegetable farms, dairy products, and poultry.⁹²

The income from the improved agricultural harvests has been reinvested into other income-generating activities. This includes reinvestment into shops, cooperatives, and businesses that cater to tourism and transport running along the major highway between Kabul and the northern provinces. Income has been reinvested into fuel supply businesses, food distribution and retail, and mechanical services. In the years since clearance, Bagram and the Shomali plains have transformed from contaminated, empty lands where trees and vegetation lay fallow into one of the agricultural powerhouses of the country.

The Head of Planning and Policy at the Ministry of Agriculture, Irrigation and Livestock (MAIL) noted that the Devil’s Garden in Bagram is now important in food security and business opportunities. *“Bagram district is one of the most important agricultural zones for the Ministry of Agriculture, Irrigation and Livestock. Previously, most land was contaminated with mines in the district. These lands were useless several years ago because no one could work on*

⁸⁶ DFID (2010). “Afghanistan: clearing the devil’s garden”

⁸⁷ Donors included the US, UK, Germany, Ireland, Japan, the Netherlands, Norway, and private philanthropy, such as the Roots of Peace organisation and their “mines into vines” program. See: US DOS (2006). “Afghanistan’s “Devil’s Garden” blooms again”. 30 August, 2006.

⁸⁸ KII22 [HALO Trust]

⁸⁹ DFID (2010). “Afghanistan: clearing the devil’s garden”. US DOS (2006). “Afghanistan’s “Devil’s Garden” blooms again”. 30 August, 2006.

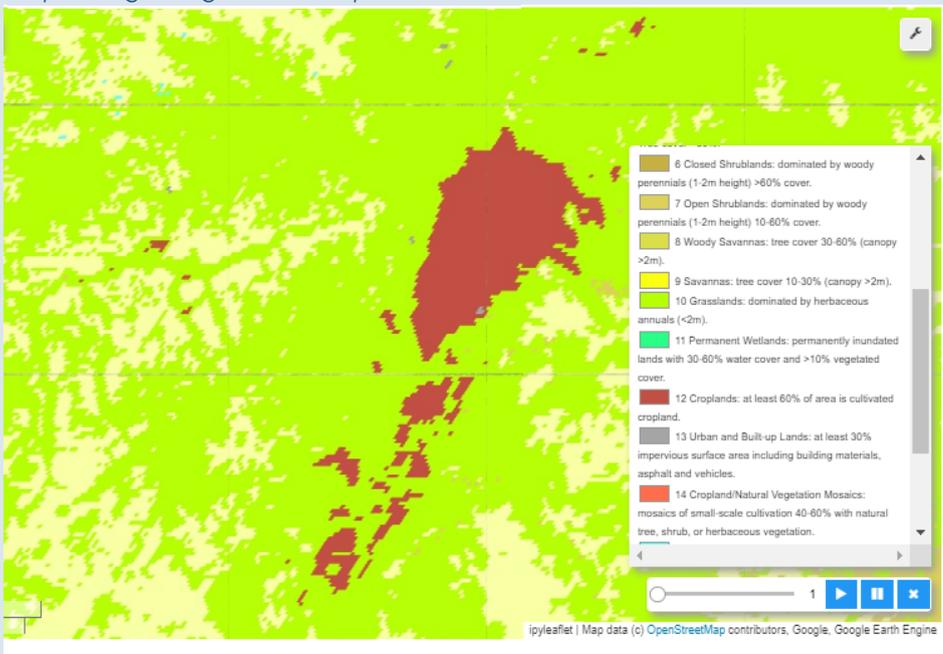
⁹⁰ DFID (2010). “Afghanistan: clearing the devil’s garden”.

⁹¹ KII28 [Afghanistan Ministry of Agricultural, Irrigation and Livestock (MAIL), Planning and Policy, Kabul]

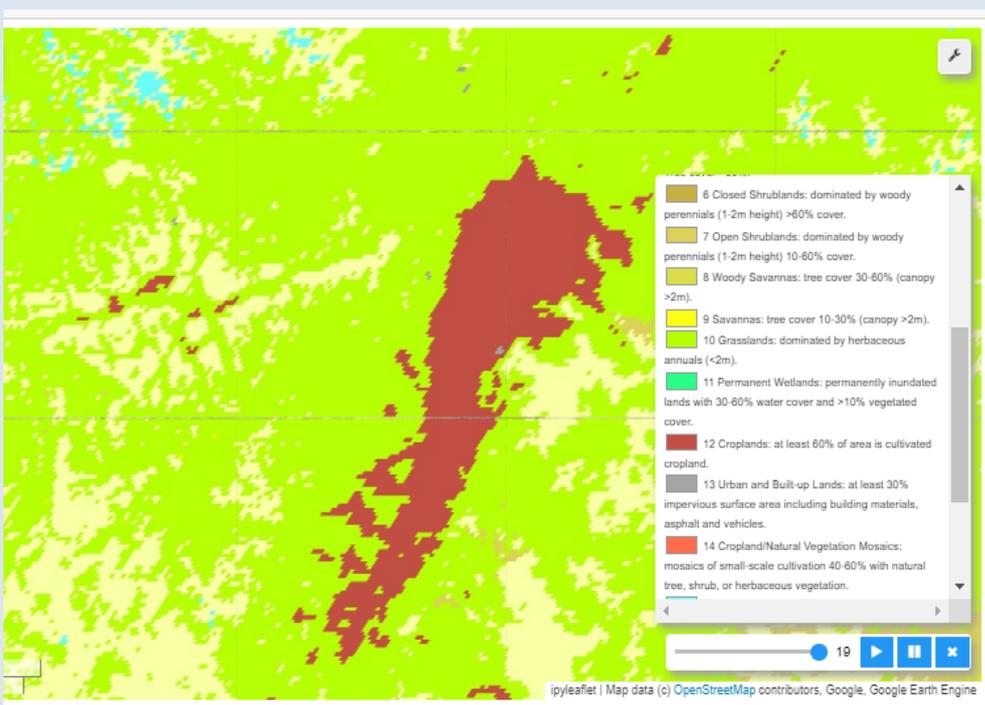
⁹² KII28 [Afghanistan Ministry of Agricultural, Irrigation and Livestock (MAIL), Planning and Policy, Kabul]

them. When they were demined, opportunities were given to both the government and people. Cleared lands such as those in Bagram district play an important role in agriculture and the economy. This year, we saw a 3.5% increase in the government's income through agricultural products. Today, people can generate income from their land and the government can increase its agricultural production to help the economy flourish."

Map 11 Bagram agricultural crop cover 2001



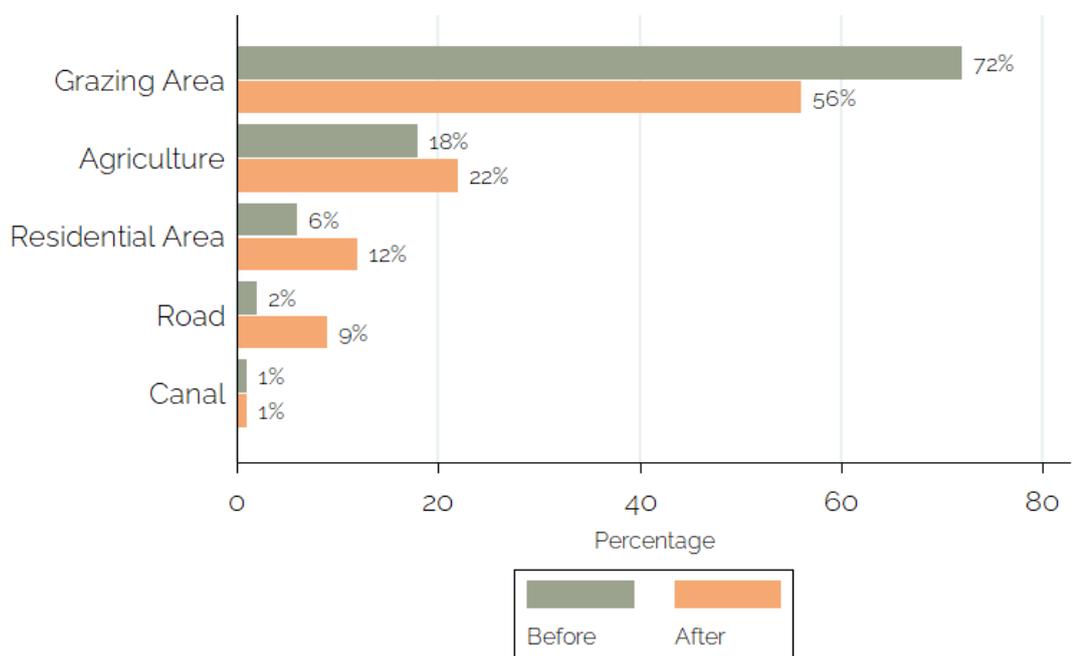
Map 12 Bagram agricultural crop cover 2019



Returning land to productive use

Approximately 80% of Afghanistan's population live through farming and pastoralism.⁹³ While the impetus for humanitarian mine action (HMA) has been primarily to save lives and limbs, there were also wide-reaching positive economic impacts in every sampled community across the eight provinces. Where lands were released of landmines/ERW, communities had more land for agricultural crop cultivation. Mine action was seen not only to increase the physical safety of people farming or herding livestock, but through land release it has led to improvements in food production and income in adjacent communities.

Figure 27 Land use prior to and after clearance of communities surveyed as part of post-demining impact assessments



The DMAC found correlative data about productive land-use in their post-demining impact assessments (PDIAs). A total of 120 PDIA visits were conducted in 16 provinces between September 2019 and September 2020.⁹⁴ The PDIAs covered clearance of 113 minefields and 7 battlefields. The PDIAs found that in 84% of surveyed areas, land was put to productive use after demining. Where it wasn't, the most commonly cited reasons were seasonality, a lack of water, and a lack of clarity in terms of rights to use.

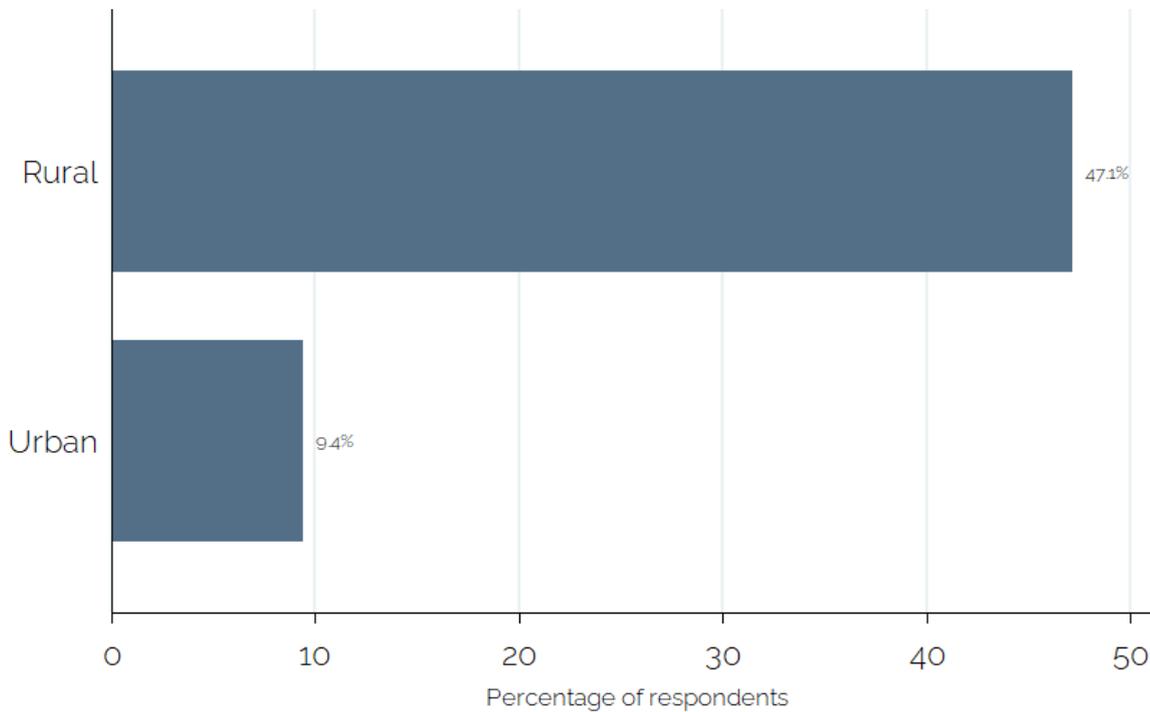
Agriculture

Before mine action, the area available for agriculture in many villages was constrained due to landmines/ERW. Upon clearance and release of the lands, community members could expand their food production. Men in Baghlan noted that they could not cultivate on the drylands outside their village because of the risk posed by the many landmines/ERW buried there. After clearance by MAPA, the men cited that they could now grow wheat, barley, linseed, and sesame, leading to bountiful harvests and life improvements. Similar trends were seen in other provinces.

⁹³ United Nations Environment Programme (UNEP) (2017). A Guide to Fodder and Forage in Afghanistan.

⁹⁴ The PDIA methodology implemented by DMAC followed a phased approach. PDIAs usually involved a desk assessment; meeting with local authorities and communities; and a field assessment and review. The field assessment and review comprised comparison of land release completion reports with current area status; documenting changes; interviewing government authorities; interviewing beneficiaries; and physical observation. For instance, see: DMAC (2021). MAPA Post-Demining Impact Assessment Report 1399/2020.

Figure 28 Households with increased access to farmland as a result of mine clearance, rural vs. urban



"We can now cultivate agricultural land, build houses on the [land cleared of landmines/ERW] and use it to commute. There is a market where people sell tomatoes, eggplants, watermelons, melons, pomegranates, grapes, and other fruits and vegetables from our area. This has boosted people's economy."

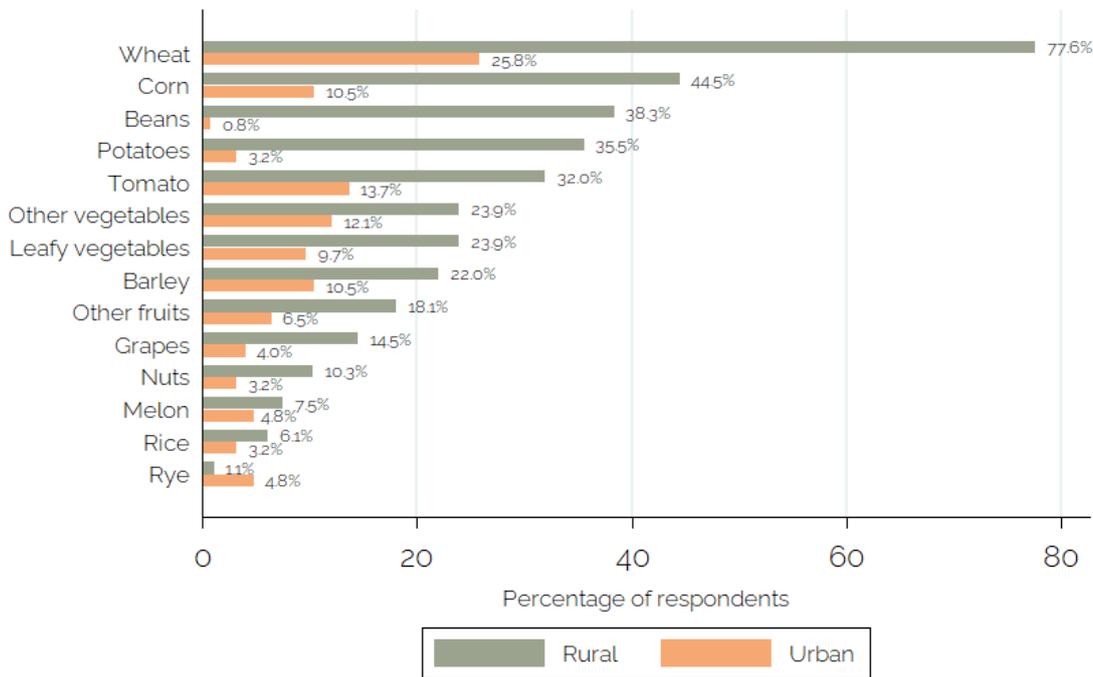
FGD8 [Adult Men, Kandahar]

The crop grown most frequently on demined land by respondents consulted for this study is wheat, a cash crop with quick yields which is by far the most important crop in Afghanistan (and, at the time of writing, at serious risk of crop failure due to the 2021 drought). **Nine out of ten survey respondents in rural areas noted that their household income from agricultural products had increased after demining.** This was also the case for over half of the respondents in areas designated as "urban".

"Now the owner of lands are using them, they are cultivating, for instance, potato, wheat, carrot, walnut trees, cherries, apricot, and they gain good harvests... When the mines were laid, we didn't have harvests, but after mine clearance, very good changes happened."

FGD38 [Adult Women, Kabul]

Figure 29 What type of agriculture do you use the additional farmland for? Rural vs. urban

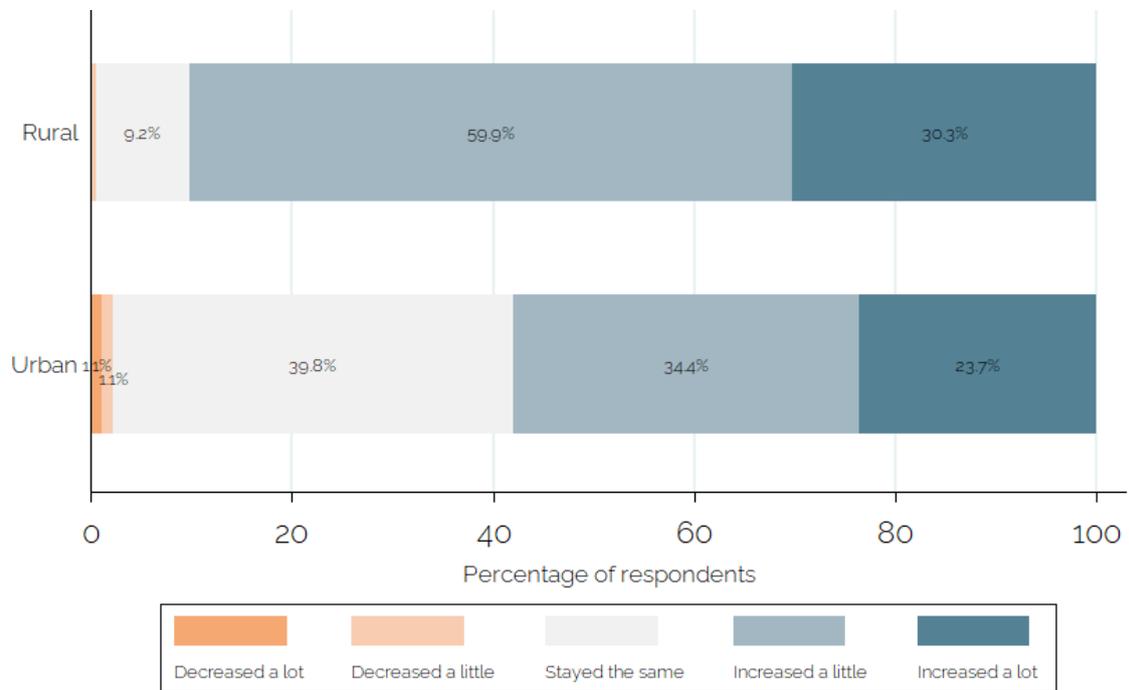


Demined lands also increased in value. The 2020 DMAC Post-Demining Impact Assessment notes that “as most of the visited released land is located in hillside and covers pasture and rain-fed agricultural lands, following clearance the communities/beneficiaries used the land for agriculture and grazing of animals. These are the factors that further increase the value of land in the assessed areas. Based on the evidence land value has increased significantly after the clearance in 33 communities. The locals stated that the cost of one Jerib (2,000sq. m) land was 45,000 AFN (\$580) in a grazing land which was contaminated by mines and ERWs. But after the areas were cleared of mines/ERW, and some people built new houses, the cost of one Jerib (2,000sq. m) land increased up to 90,000 AFN (\$1,160), – a 100% increase in the value of land in the assessed areas.”⁹⁵

This finding is confirmed by data collection for this study – the majority of respondents in both urban and rural settings noted that their (agricultural) land had increased in value after demining took place.

⁹⁵ Afghanistan Natural Disaster Management Authority: Post-demining Impact Assessment Report 1399 / 2020. <https://dmac.gov.af/wp-content/uploads/2021/03/MAPA-PDIA-Report-1399-2020.pdf>

Figure 30 As a result of mine action, my household's income from agricultural products has... rural vs. urban



Livestock and grazing

Prior to landmine/ERW clearance, pastoralists and their livestock were particularly vulnerable to landmines and ERW. Along with the deaths and injuries of people, there was a high number of livestock animals killed while grazing. Livestock grazing benefits highly from hazard clearance, especially in areas where intensive, irrigated crops or dryland agriculture was not suitable. Landmine/ERW clearance increased the land available for livestock pasture, enhancing income for the many Afghans who derive their livelihoods from grazing. Lands released from contamination were often used by community members living nearby or kuchi nomads to herd their sheep, goats, and cattle. Over half (n=1115, 56.8%) of all respondents noted that their income derived from livestock had either increased a little (n=880) or a lot (n=235) as a direct result of mine action in the area.

Photo 17 Newly demined pastureland in Mula Qudrat, Paktia (Samuel Hall, 2021)



Livestock herders in a FGD in Baghlan province discussed the changes. "Mines were a big problem for us. We couldn't take our livestock out to the mountains and plains. Now, more than 2000 jerib [4 square kilometres] of land has been cleared of mines by the deminers."⁹⁶ When asked the most significant change in the community resulting from mine action, another herder continued to explain: "*I bought goats for 40,000 AFN [approximately US \$500], will take them out for grazing, and will sell them out at the end of the year which will gain a good benefit.*"⁹⁷ Not only could people invest in more livestock, but a woman in Bamyan noted that the livestock were also healthier because of the greater grazing areas made available through clearance.⁹⁸

MAPA landmine/ERW clearance also led to major reductions in livestock deaths. As many rural Afghan households rely on livestock for much of their income, the death of animals can be disastrous for family's livelihoods. A herder in Baghlan recalled: "*The community lost around 200 livestock from landmine incidents, including cows, sheep, and horses. I alone lost around 20 cows and goats from landmine incidents.*"⁹⁹

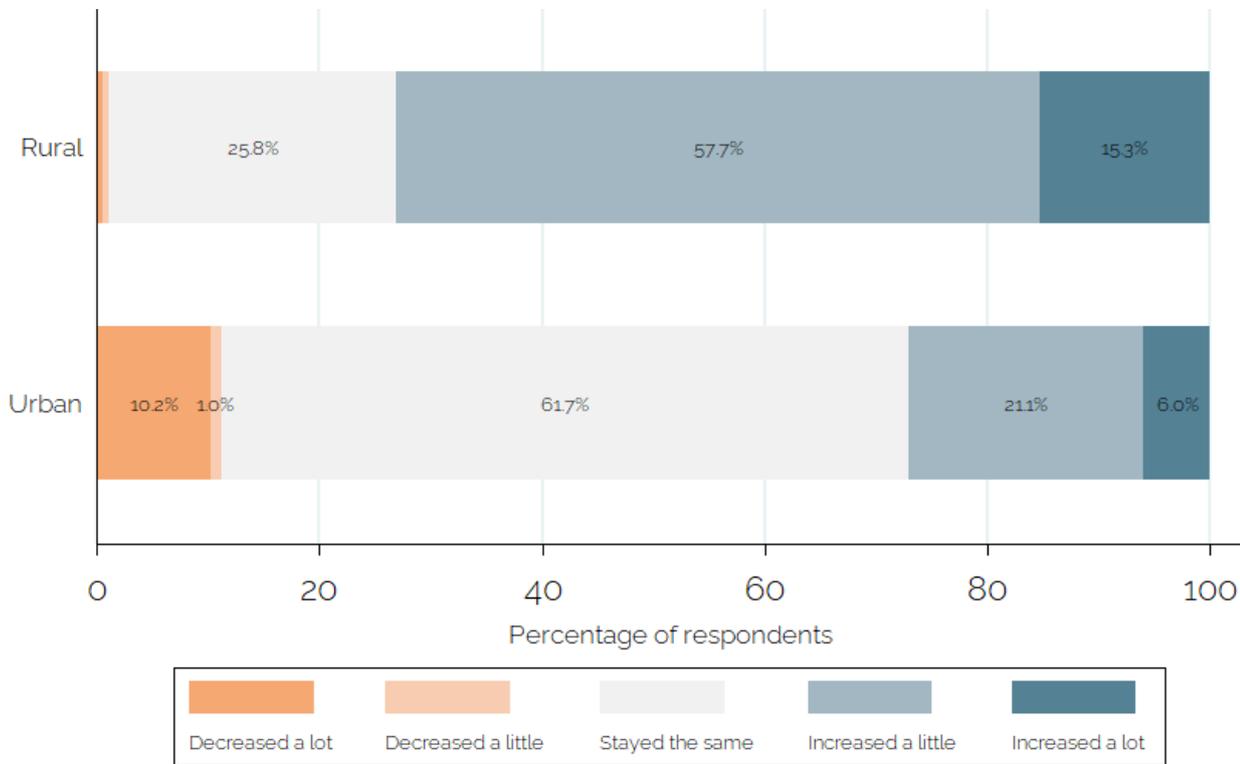
⁹⁶ FGD27 [Adult Men, Baghlan]

⁹⁷ FGD27 [Adult Men, Baghlan]

⁹⁸ FGD33 [Adult Women, Bamyan]

⁹⁹ FGD28 [Adult Men, Baghlan]

Figure 31 What has the impact been on the value of your agricultural land holdings? Rural vs. urban

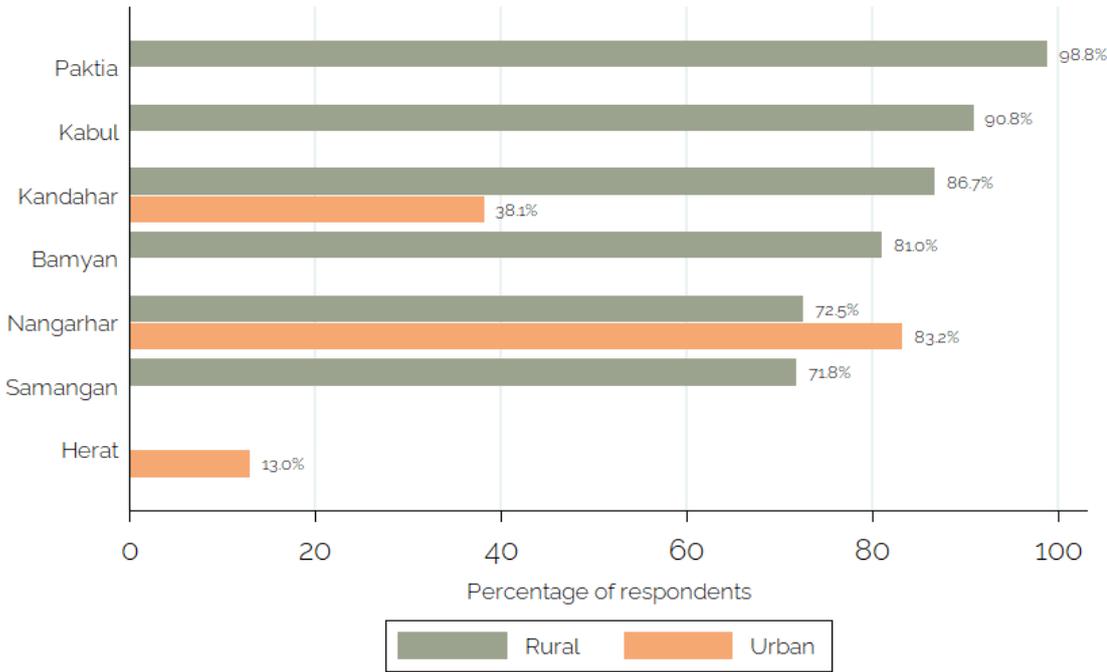


In most provinces, respondents reported that their income from livestock has increased as a result of landmine clearances. This is in line with the previous graph, showing that in most locations, there was an important increase in access to pastureland after demining operations took place. The only exception is Herat, where only 13% of urban communities consider that they now have better access to pastureland, and they mostly report no impact on their income from livestock production.

Natural resource collection

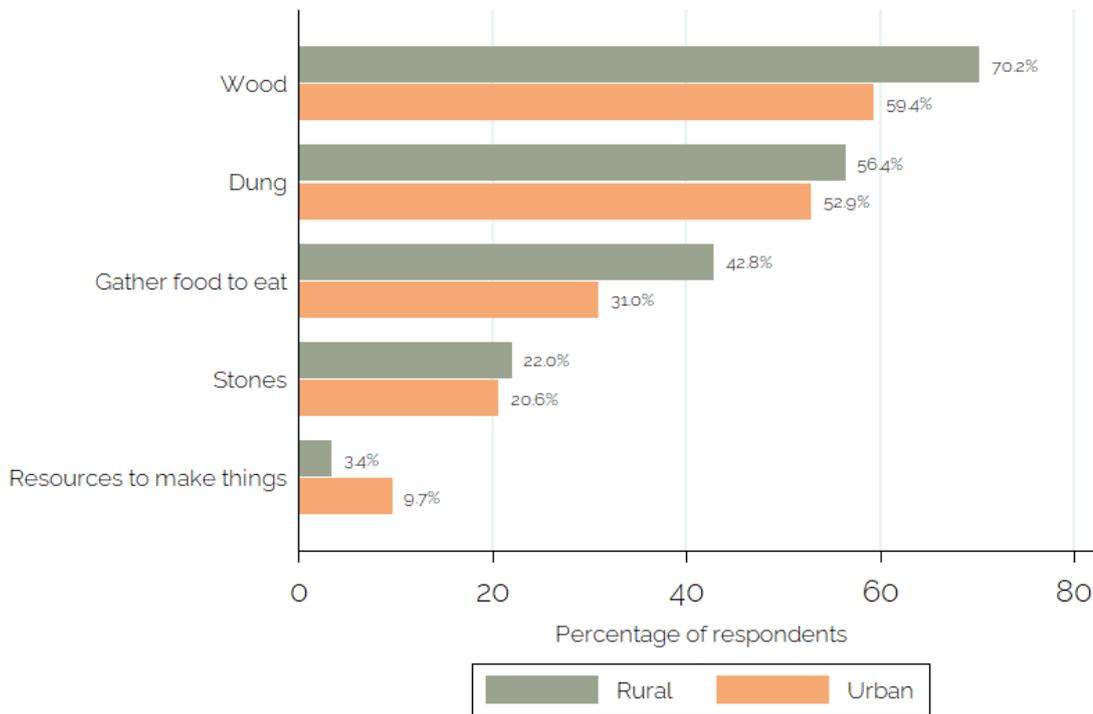
Landmine/ERW clearance allowed community members, especially from poorer households, to gather resources from the cleared lands such as wood, brush, stones, herbs, and dung. Because much of the released land is public, this resource gathering increased self-sufficiency and decreased the high costs often associated with winter heating and construction. When interviewed for an impact assessment for the HALO Trust in 2020, a female evaluation participant interviewed by Samuel Hall teams in Balkh province explained that before mine action, villagers were forced to spend their income buying basic necessities such as firewood and livestock-feeding straw. Since the completion of demining activities, their economic situation has changed: they are able to gather natural resources and firewood in addition to agricultural cultivation and livestock herding.

Figure 32 Households with better access to resources as a result of mine clearance, by province, rural vs. urban



Based on the quantitative data collected for this study, urban areas appear to have profited less from increased access to resources after landmine clearances. This can be seen in Herat and in Kandahar. One potential explanation for the increased access to resources in Nangarhar urban areas could be that this specific community (Daman) more closely resembles a peri-urban than an urban location. Thus, it is possible that it still benefitted from access to resources, otherwise inaccessible from a fully urbanised location.

Figure 33 Which resources? Rural vs. urban, among those with better access to resources



Collecting firewood or timber constituted a small income source for community members, and it is mostly poorer households that resorted to this as an income stream. Better-off households were able to buy fuel (either wood or liquefied petroleum gas), with participants pointing out this meant mine action benefitted vulnerable households as they could now gain access to fuel from demined areas. Community members would have more wood and brush to collect for their fuel needs, such as for daily cooking, and winter woodfire.

Photo 18 Loading of a truck with stones, Dodkash, Baghlan (Samuel Hall, 2020)



Rocks collected are used for graves, heating, and houses. They are sold in Kabul. A group of men collects the rocks and fills a truck. One reported earning AFN10,000 per month, with the work being done four times throughout the year. This equates to approximately US\$130 per month, or US\$530 per year in earnings based on the mining for four months. The man paid five labourers AFN400 per day (approximately US\$5). The number of stone mining sites increased from one to five after mine/ERW clearance, and the stones in the released mountains were said to be of higher quality.

Field observation notes

MAPA contribution to exploiting Afghanistan's natural resources: Mes Aynak

Afghanistan is well-endowed with natural resources: deposits of gold, silver, tin, iron, copper, and lapis lazuli were – and still are – grounds for competing interests in this land. Located 40km southeast of Kabul, the site most frequently mentioned when assessing the immense potential for development via natural resource exploitation is Mes Aynak, Afghanistan's largest copper deposit.¹⁰⁰ The Afghan Mining Ministry estimates that the mine holds some six million tons of copper, worth tens of billions of dollars. The lease to exploit the mine was granted to the China Metallurgical Group in 2007 for USD 3 billion, the largest foreign investment in Afghanistan's history. As laid out in the first and second National Priority Programs (NPP) of the infrastructure development cluster, namely the "National and Regional Resource Corridors Program" and the "National Extractive Industries Excellence Program," \$350 million in annual revenue is expected to eventually be generated from the Mes Aynak copper mine. An engineer from the Ministry of Mines and Petroleum consulted for this study notes that *"4,500 to 5,000 people will be directly employed here, and many more will benefit indirectly! (...) It is a national project to improve the living condition of all Afghans."*

The risk of landmines in the area was substantial – in 2009, landmines were estimated to have caused 89 deaths and 92 injuries. In 2011, an SUV full of MCC workers hit a land mine on one of the winding gravel roads, killing all passengers in the vehicle.¹⁰¹ Mine clearance in Mes Aynak took place between 2008 and 2016 under difficult conditions: a number of contaminated areas were located high up on steep mountains, in rock with a high mineral content which would trigger the mine detectors even in the absence of danger. The Government of Afghanistan contributed towards the clearance, investing over USD 2.5 million.

A key informant notes that *"without demining in the area, Afghanistan's largest development project would not have been planned. After the contract with the Chinese company was signed, the path was paved for other projects. More international organisations showed their interest in working in Afghanistan, much more infrastructure was built. If the project is successful, the international companies will come. And people will be hired here. The Chinese company has promised to hire workers from among the local residents of the area. Moreover, schools, mosques, hospitals, and other public services will be set up to cater to the area thanks to Mes Aynak."*

¹⁰⁰ Mes Aynak is also the site of an ancient settlement, featuring hundreds of Buddha statues, a monastery complex and, underneath, an even older bronze-age site.

¹⁰¹ MACCA (2009). Aynak Copper Mine predicted to create 8,000 direct jobs once landmines are cleared. 27 August, 2009. Accessed at: <https://dmac.gov.af/wp-content/uploads/2017/03/Press-Release-Copper-Mines.pdf>

Map 13 Mine clearance around Mes Aynak (DMAC)



Disagreement between the parties over contractual amendments, resettlement of affected communities, and archeological discoveries have delayed operations. For the time being, the mine is suspended. A group of deminers was attacked in 2012.

In a statement released in 2017, the Taliban count Mes Aynak among projects which would continue under their lead, rightly seeing its potential as "beneficial to the Afghan people."¹⁰²

Direct monetary benefits for deminers and explosive ordnance victims

While many mine action processes are labour intensive, in the Afghan context, they also represent the opportunity to enter **formal employment and receive a regular salary**. As of April 2018, there were 5,370 Afghans employed in the mine action sector.¹⁰³ Through the community-based demining (CBD) approach, many more have been employed over the years. This involves local recruitment in a contaminated area which stimulates the local economy, especially in areas which have been affected by explosive hazards contamination, while also helping to build trust with the local population, which improves the security of mine action organisations and their access to local knowledge about contamination. As the DMAC Chief of Operations notes, impact goes beyond the individuals employed, extending to their families and communities:

"Speaking of direct impact: we have over 5,000 people working in MAPA (down from 14,000 in 2011!). This means that the programme provides work for a large number of Afghans. Tens of thousands of people, and they support a household of seven members on average."

As HALO Trust has previously noted, deminers are respected by the population, and households with a member employed in mine action have reported less reliance on badly paid casual labour and lower rates of migration to neighbouring countries for employment.¹⁰⁴

The challenges of community-based demining

While in the early days of MAPA most mine clearance was conducted by foreigners, deminers are now almost exclusively Afghan, mostly trained and recruited from local communities. This is undoubtedly beneficial to local economies and is efficient in terms of resource allocation, but it has not been without challenges. Almost by definition, communities to be demined are not easy to access. It is thus up to the communities themselves to first report the existence of minefields, and it is also from the communities that demining teams tend to be recruited. This has been known in the past to create incentives to misrepresent the danger. Mobile teams from other parts of the country dispatched to conduct surveys or demining operations have on occasion been prevented from accessing

¹⁰² Diplomat: Story behind China's Long-Stalled Mine in Afghanistan. Mohsin Amin. January 7, 2017.

¹⁰³ Roberts, Rebecca (2018). "Anti-Vehicle Mine Contamination in Afghanistan Impact and MAPA Response".

¹⁰⁴ Roberts, Rebecca (2018). "Anti-Vehicle Mine Contamination in Afghanistan Impact and MAPA Response".

reported mine sites. As noted by DMAC key informants, "one negative impact of mine action programmes in Afghanistan (...) was the recruitment of local people in the mine action programme. We trained the local people and then recruited them. Then they worked as deminers. The problem with this is that in some cases these people are trying to offer us the safe lands as contaminated. They want to provide work opportunities for themselves." Even where real ordnance remains to be cleared, gatekeepers within a given community can also play a role in limiting the benefits of employment in demining to a selected few: "Our village elder Munawar Khan has employed his own people in mine action programmes, and they too were not from our village. None of our villagers have been employed or have received any training regarding mine action."¹⁰⁵

Mine action operations have also been leveraged to provide employment to particular cohorts such as women or former combatants, supporting the reintegration process.¹⁰⁶

We used to have only male colleagues in our operations, but in our strategic five-year plan we committed to gender mainstreaming and diversity. All implementing partners are taking this into consideration now. We included female colleagues not only in administrative and awareness-raising tasks, but also as de-miners. Our female deminer colleagues in Bamiyan won an international award last year!

KII5 [DMAC]

The willingness to directly engage women has been on the wider mine action agenda in the country for well over a decade. One example from the Kabul Scoping Study was the return to the 2014 focus group discussions in Pasha'i, where women took an active role in explosive ordnance risk education and other demining activities, with a dedicated dual-gender team deployed.¹⁰⁷

I participated in road-graveling, which was implemented by the Care and the National Solidarity Programme, it was very good for me in terms of economic and social impact. The programme lasted for two years. We were around 11 women taking part. (...) We worked from 8am to 11am, they paid us 2,000 Afs (USD 30) per month.

FGD38 [Adult Women, Pasha'i, Kabul]

MAPA collaborated with the Ministry of Martyrs and Disabled Affairs to extend direct financial benefits to another group of individuals, namely maimed victims of explosive ordnance. MAPA is working on setting up a database containing all mine victims and their families, to be digitised and used for referrals.

Victims are predominantly male adults and children, and often day labourers (particularly those who travelled to the mountains), nomadic pastoralists and farmers. Numerous respondents explained that they knew of victims who had received assistance from the Directorate of Martyrs and Disabled Affairs in the form of a **disability benefit** equal to 60,000 Afs per year, or 5,000 Afs per month.¹⁰⁸ This can be a lifeline – of the communities who reported that victims were receiving a disability benefit, the majority did not mention receiving other types of support. Only in Paktia and Herat key informants mentioned that the Red Cross had provided some disabled villagers with support in the form of artificial limbs, bicycles, blind-sticks, and wheelchairs.¹⁰⁹

*"Red Cross provided bicycles, blind-sticks, and wheelchairs. They also treated people. Families of those killed by landmines received ID cards from the Directorate of Martyrs and Disabled and receives annual assistance (cash)."*¹¹⁰

FGD19 [Adult Women, Herat]

¹⁰⁵ FGD12 [Adult Men, Paktia]

¹⁰⁶ Samuel Hall/GICHD (2012). HALO Trust's Reintegration of Former Combatants into Demining, Afghanistan Case Study.

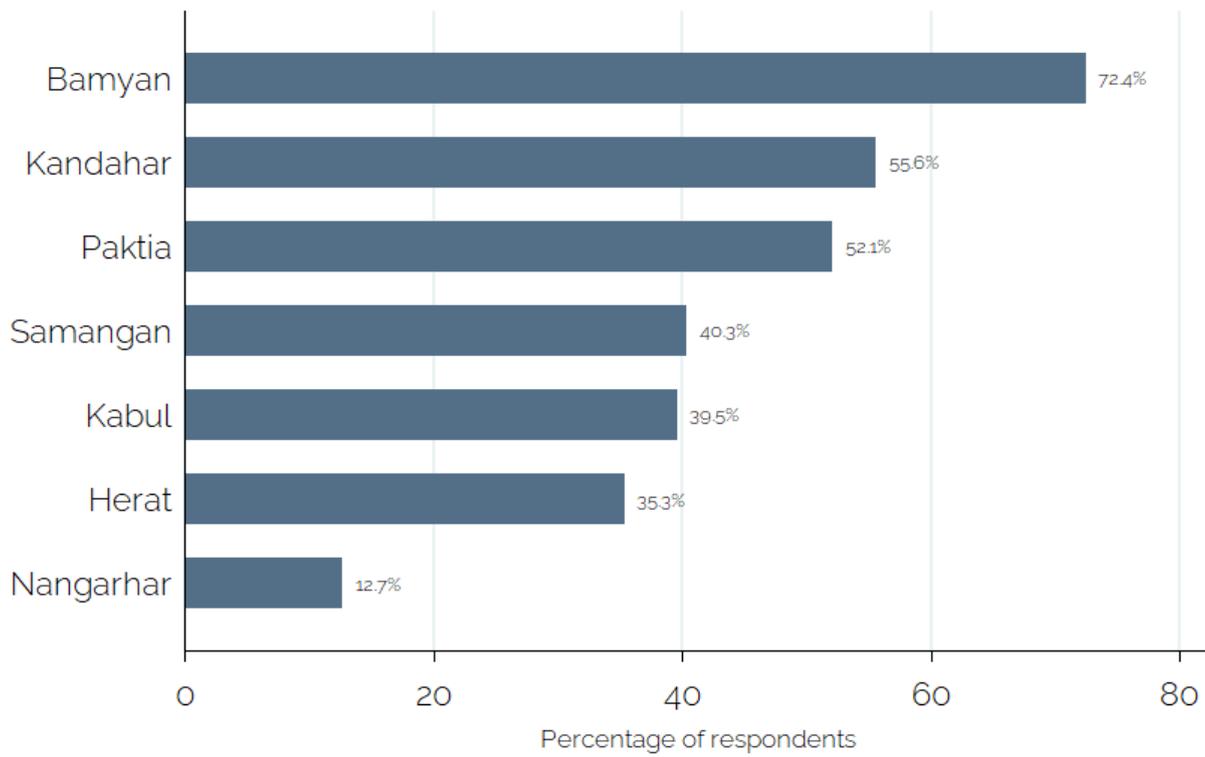
¹⁰⁷ Samuel Hall (2014). Primary data: Female Focus Group Discussion, Pasha'i, Kabul.

¹⁰⁸ FGD3 [Adult Men, Nangarhar]

¹⁰⁹ FGD19 [Adult Women, Herat]; DMAC noted that in Paktia, other organisations also provide assistance, but services may not be reaching all explosive ordnance survivors based on qualitative research with specific communities in Paktia and other provinces.

¹¹⁰ FGD19 [Adult Women, Herat]

Figure 34 Victim assistance programmes for supporting landmine accident survivors, by province



In numerous locations, interviewed respondents reported that although they were aware of the existence of this benefit, concerned individuals from their village had not received any assistance.

Photo 19 A victim of a mine explosion in Nangarhar (Samuel Hall, 2021)



Safety, social and psychosocial sphere

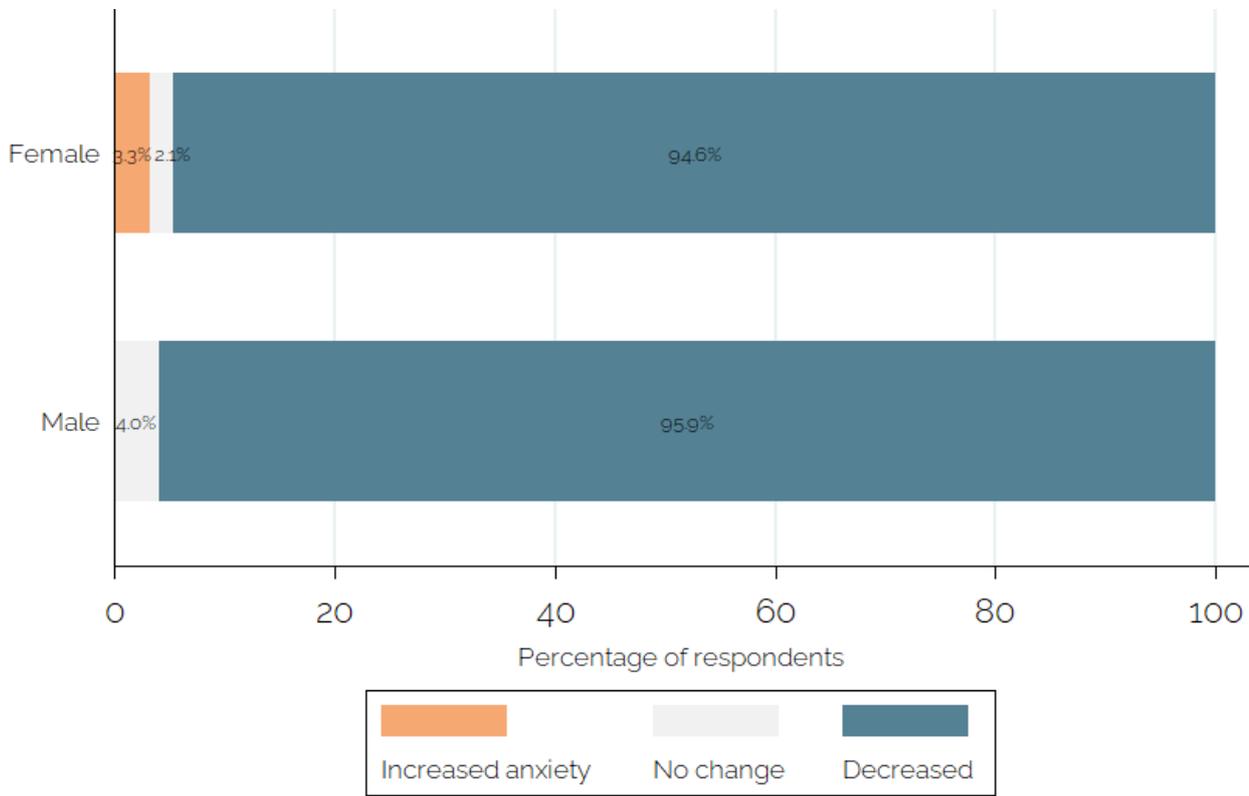
Mental Health

The MAPA evaluation found that the removal of landmines/ERW had positive impacts for people's mental health. This aligns with systematic academic reviews which demonstrate the high comorbidity of anxiety and depression for the victims of landmines or ERW.¹¹¹ In addition to preventing injury, which is then associated with high anxiety and depression, the presence of landmines/ERW in community has pervasive, deleterious impacts on people's mental health more broadly.

Psychosocial relief from the decreased threat of harm to community members was widely discussed with unanimous agreement about community members' psychosocial wellbeing increasing. Women report a reduction in anxiety, connected to no longer having to worry intensely about children, male relatives, or themselves undertaking activities near mine contaminated lands.

¹¹¹ Peter Boyle, Philippe Autier, Colin King, Wim Zwiijnenburg, David Hewitson. The effect of explosive remnants of war on global public health: a systematic mixed-studies review using narrative synthesis. *The Lancet*. Vol 2, Iss 6, E286-E296, 1 June 2017.

Figure 35 Level of anxiety of the household, after mine clearance, by gender of respondent



While there are a multiplicity of factors affecting people's mental health in areas where landmines/ERW have been cleared, there are noticeable differences in people's mental well-being when focus group participants reflected on the situation before mine action compared to after. People living near to minefields felt highly restricted in terms of movements and commute. Participants reflected on traumatic incidents of people, often family members or friends, being injured or killed. People were also living in near constant fear, either for themselves, for their loved ones, or for other people in the community who would herd livestock or gather resources such as wood. A community leader in Baghlan stated: "Before the mine clearance, people were not able to move around and they were getting worried when their children were taking the livestock to the mountains or plains." This changed after landmine/ERW clearance, and was often understood to be a sense of lifting of or emergence from danger.

The WHO wellbeing score was calculated for the respondent cohort of this research.¹¹² Overall, psychological wellbeing is very low for both men and women in fully and partially cleared areas.

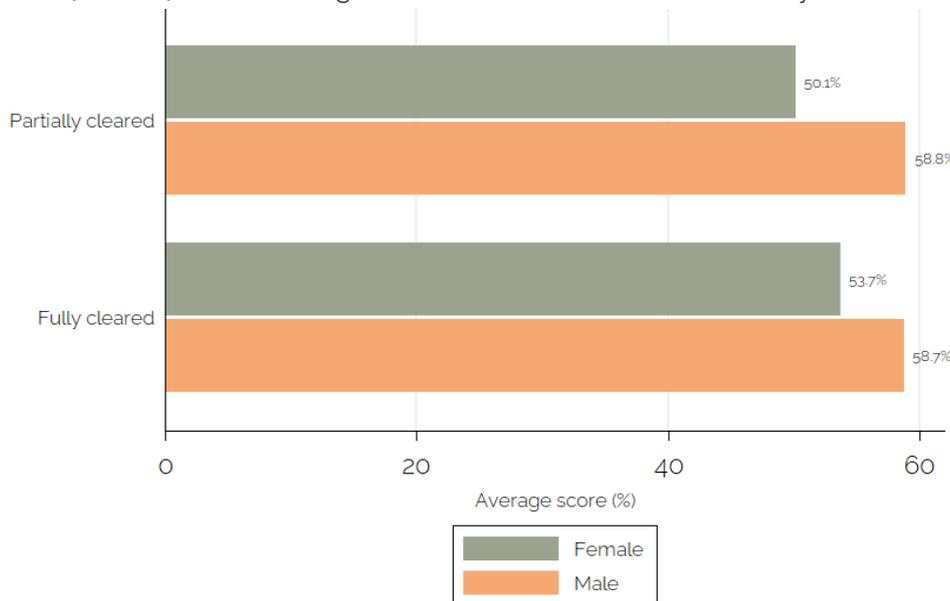
Figure 36 WHO wellbeing scores' distribution, fully vs. partially cleared land, by gender



Results further suggest that women tend to report a lower wellbeing rate than men, in particular women in partially (as opposed to fully) cleared areas. There seem to be no differences in wellbeing between men in fully vs. partially cleared areas. (Note: differences in wellbeing mean of partially vs. fully cleared land are not significant; whereas gender differences in wellbeing are significant at the 99% confidence level).

Figure 37 Average WHO wellbeing score, fully vs. partially cleared land, by gender

Paterson, Pound, and Ziaee Afghanistan Landmines and Livelihoods journal article in 2013 notes that generally women have a much higher perception of casualties from mines/UXO.



According to the study, this also means a potential higher psychological burden, in spite of a lower exposure to risk, specifically because of women's seclusion and dependence on second-hand information. Including the community in the planning was found to be beneficial to perceived psychosocial improvements, again especially for men.

This may be due to the common exclusion of women from the process – in all of the locations selected for in-person interviews, women were excluded from participating in

¹¹² This score is computed through five wellbeing questions, rated from one to five, with a total raw score ranging from 0 to 25. The total raw scores are then aggregated and multiplied by four to obtain a percentage result between 0-100%. A percentage score of 0 represents the worst possible result and of 100 the best possible quality of life. A score below 52% indicates poor wellbeing, and the possibility of depression. A 10% difference indicates a clinically significant change (John Ware, 1995).

handover activities relating to decontaminated land. *“Women weren’t allowed to be part of handover activities of lands because uneducated men and even the educated men were seeing women’s participation in outside activity as a shame.”*¹¹³

Community relations

Prior to mine action, the presence of explosive ordnance was eroding the social fabric and sparked tensions among community members. Respondents explained disputes would emerge every time a mine incident occurred, and villagers solicited the community leader to settle the disagreement. Whenever children got injured in a mine explosion, parents would blame each other and place the responsibility on each other’s children, worsening the social climate. Following landmine clearance, the pretext for fighting disappeared and communities were now able to live in a more peaceful environment. *“Once, some children went to the mountain in order to find iron to sell. They all got injured in a mine explosion – and their parents blamed each other’s sons for taking them to the mountain. After the mine clearance, all these issues of conflict are gone.”*¹¹⁴

In a separate study with the HALO Trust related to their mine action programming delivered under the MAPA, similar sentiments were expressed about alleviating social tensions.¹¹⁵ This was conceptualised through a *social cohesion* lens, exploring the nature and patterns of social relations between individuals and groups of people, along with their interrelation with broader economic, social, and political outcomes (with a specific emphasis in this case on mine action).¹¹⁶ Further examples emerged directly from communities. *“If a boy or girl was wounded by a landmine on someone’s land, his or her parents would fight with the landowner. They would claim that their son or daughter was injured on so-and-so’s land,”* stated one female research participant.¹¹⁷

The study also found that along with removing direct sources of social issues between people, EO clearance and land release attenuated tensions over land and resources. This included tensions within communities that were experiencing economic hardships before EO clearance. It also included tensions between different groups, including settled farming communities and kuchi nomad pastoralists. As there was more land, the competition and pressure for livestock grazing grounds decreased. One man confirmed: *“People needed a lot of space, but the available space was small in the past due to landmines. Now, the area has broadened, and people have access to everything. Problems create tensions. When problems are solved, there will be no tensions.”*¹¹⁸

¹¹³ FGD33 [Adult Women, Bamyan]

¹¹⁴ Samuel Hall (2021). Global HALO Trust mine action projects with multiple spheres of change: An independent evaluation of the HALO Trust 2016-2020 mine action programmes funded by the Netherlands Ministry of Foreign Affairs. Primary data focus group discussion.

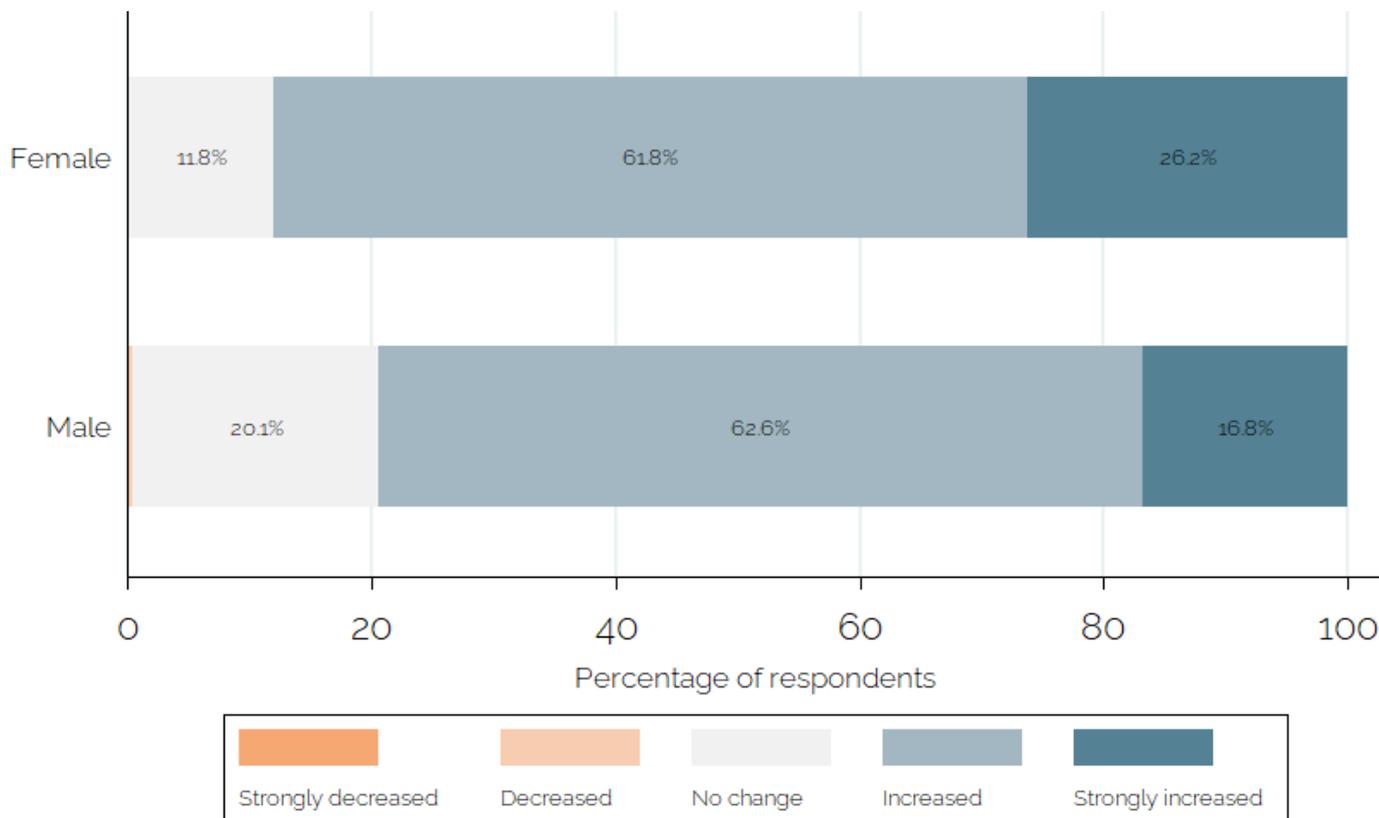
¹¹⁵ Samuel Hall and the HALO Trust (forthcoming). Mine Action, Peace, and Stability.

¹¹⁶ Babajanian (2012).

¹¹⁷ Samuel Hall and the HALO Trust (forthcoming). Mine Action, Peace, and Stability.

¹¹⁸ Samuel Hall and the HALO Trust (forthcoming). Mine Action, Peace, and Stability.

Figure 38 How did the mine action work influence the level of peace and co-existence in the village?



Mine action was also integral to fostering positive social relations. Echoing a sentiment observed across several different provinces, a respondent from Bihsud, Nangarhar notes: *"Mine action gave my community back to me. It enabled me to participate in the wedding ceremonies of my relatives and gave me the courage to be hospitable and care for my relatives."*¹¹⁹

In a number of separate studies that also discuss the impacts of MAPA, research participants discussed the importance of attending these types of ceremonies, including weddings and funerals, as well as paying visits to families and wider networks.¹²⁰ Social bonds could be renewed. In the MAPA evaluation, one man explained: *"Mine action has brought many positive changes. People have strengthened relations with each other. People get married and are going to each other's wedding and funeral ceremonies."*¹²¹

The construction of other community infrastructure has been described as helpful to foster greater social cohesion and unity among its residents with, for example, the construction of mosques, playgrounds and cricket fields, beauty parlours,¹²² tailors, and even graveyards.¹²³

Several respondents noted that a stronger sense of community and belonging had arisen from mine action. *"When there is a problem, people come together in a mosque. They have established a community council. People consult*

¹¹⁹ FGD4 [Adult Men, Nangarhar]

¹²⁰ Samuel Hall (2021). Global HALO Trust mine action projects with multiple spheres of change: An independent evaluation of the HALO Trust 2016-2020 mine action programmes funded by the Netherlands Ministry of Foreign Affairs.

Samuel Hall (2021). Lives and Livelihoods – Impact Assessment of Anti-Vehicle Mines (AVM) and Abandoned Improvised Mines (AIM) in Afghanistan. Samuel Hall and the HALO Trust (forthcoming). Mine Action, Peace, and Stability.

¹²¹ FGD3 [Adult Men, Nangarhar]

¹²² FGD19 [Adult Women, Herat]

¹²³ FGD1 [Adult Men, Kabul]

with each other and solve problems in the community. This did not happen in the past. When you faced a problem in the past, you had to solve it yourself. There was no one to help you."¹²⁴

MAPA contribution to preserving, and showcasing, Afghanistan's rich cultural heritage

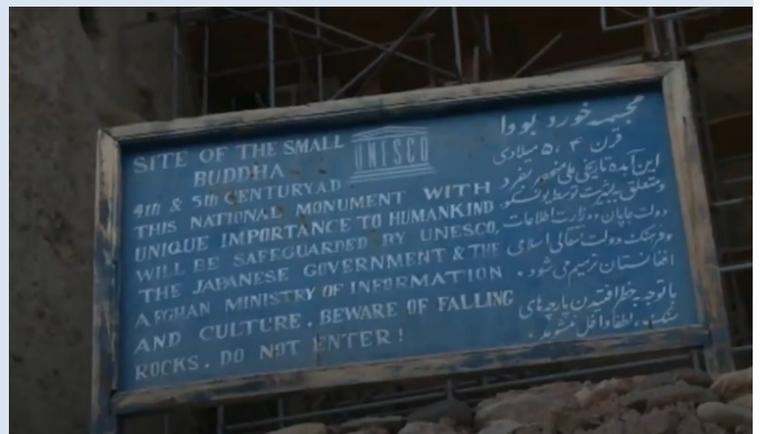
Bamiyan is home to several UNESCO World Heritage sites, including the (now destroyed) Buddhas of Bamiyan and the historical Gholghola city, one of the ancient royal citadels. According to the Directorate of Cultural Affairs, approximately 2000 national and international visitors visit these historical sites each year, and there is great potential for a much larger flow of visitors to this unique setting. The area was cleared starting in 2008, when a broader reconstruction project began involving the Ministry of Culture, UNESCO, and mine action organisations. 500 deminers worked to clear the ruins that date back to the 11th century, covering an area of 1,800,000 square meters of land in the historic city of Bamiyan.¹²⁵ The setting required a slow and careful approach to avoid causing any damage to the site.

Work began first in central Bamiyan district as a humanitarian priority, before moving to the World Heritage Sites. UNESCO archaeologists received special Landmine Safety Programme (LSP) training in order to equip them for working in a mine/ERW impacted field environment. Several historical artefacts were discovered over the course of the demining operations. *"Before the clearance, not all sites were accessible. There was only one narrow path, visitors could not walk freely in the site. Now they can walk around and see all the places. Before demining, it was mostly men who were coming to visit. Now, men, women, girls, and people from other places are visiting the sites. Tourists and visitors buy tickets to visit the sites, and they also go to the bazar and buy handicrafts from the women."*

As DMAC notes, making the area accessible to tourists and scholars had been in line with the Afghanistan's National Development Strategy (ANDS) in its goal to 'reduce poverty, ensure sustainable development through a private sector-led market economy' in which tourism could play an important role.^{126, 127}

Map 14 Mine clearance in Bamiyan (DMAC)

Photo 20 An invitation for tourists (UNMAS)



¹²⁴ FGD20 [Adult Women, Herat]

¹²⁵ United Nations News (2008). UN aims to have historic Afghan city of Bamiyan mine-free by October. 29 July 2008. Accessed at: <https://news.un.org/en/story/2008/07/267682-un-aims-have-historic-afghan-city-bamiyan-mine-free-october>

¹²⁶ MACCA (2010). Clearing landmines and explosive remnants of war from Bamiyan World Heritage Sites. Accessed at: http://dmac.gov.af/wp-content/uploads/2017/03/Bamiyan-World-Heritage-Sites-Report_Jan-2010.pdf

¹²⁷ NATO (2011). Video: Tourism in Bamiyan Province - NATO in Afghanistan. Accessed at: <https://youtu.be/boXLIGF6ig0>

MAPA contribution to a symbol of transparent political culture: The Kabul Parliament building

The foundation stone for the new Afghan parliament was laid in 2005 by the last king of Afghanistan in the presence of the President of Afghanistan and other regional leaders. The building is located in Darulaman section of Kabul, close to historical landmarks and palaces.

Map 15 Area demined around the Kabul Parliament (DMAC)

The building was built on top of what had been a battlefield. It took the two-year Kabul Clearance Project (KCCP) two years to clear 2,340,700 square meters in seven districts in the capital city and the suburbs.¹²⁸ In Darulaman alone, a mine-field of 8,000 square meters was cleared of ERW and anti-personal mines. The activities were coordinated by MAPA, managed by UNOPS, and implemented by ATC (Afghan Technical Consultants) with the support of trained locals.



A HALO Trust key informant notes the symbolic importance of making this area accessible: "After the area was cleared, the Indians built the parliament. (...) The importance of this place cannot be compared to a cleared mountainside. (...) Without clearance, this would not have happened."

Photo 21 Kabul Parliament building, during and after demining operations (Dixit)



¹²⁸ UNAMA (2011). Community-based deminers clearing Kabul neighbourhood with United Nations' support. April 7, 2011. Accessed at: <https://unama.unmissions.org/community-based-deminers-clearing-kabul-neighbourhood-united-nations%E2%80%99-support>

Negative externalities of mine action

The positive impacts of mine action are beyond dispute. Nonetheless, MAPA has made a conscious effort to document, and mitigate, negative externalities of its activities. These are discussed in the following sub-section.

Land disputes

In some villages, the benefits of mine action are differentiated based on land ownership and existing power dynamics within the community. In two focus group discussions with adult women in two different Bamiyan communities,¹²⁹ community members pointed out that those who owned land could grow wheat and benefit from development projects which occurred after mine clearance. Those without land continued to have to resort to daily wage work for low wages, thus deriving no direct economic benefit from the clearance. In the communities surveyed for this study, community disputes over cleared lands were not generally common, with an average of 7% of respondents mentioning their existence. It is however of note that in certain communities, such as Ghelgay in Paktia, 60% of respondents reported community disputes after clearance. This is also the case for nearly a quarter of those consulted in Daman, Nangahar.

The variation suggests that land disputes can be highly localised and dependent on social dynamics related to specific communities.

Table 3 % of respondents reporting land disputes after clearance

Community	% who report disputes in the community over cleared land
Bamokhel	5.43
Banozai	15.84
Chenargai	4.5
Chora Galai (Tagab Camp)	5.15
Dahane Ahangaran	0.93
Dalkhaki	2.02
Daman	23.91
Dara Mola Qudrat	11.28
Ereqe Ulya	0.97
Gadi	4.85
Ghelgay	59.52
Gul Nemat	5.17
Heydarabad	4.04
Jalwani	2.5
Jebraill	1.01
Khvosh Ab	3.16
Mahal-e-Babajji	0.96
Mahal-e-Wardaka	0.96
Murghan	2.13
Safdar	1.94
Tandan	19.05
Total	6.81

¹²⁹ FGD33 [Adult Women, Bamiyan]; FGD34 [Adult Women, Bamiyan]

In the community in Nangarhar where a quarter of people noted disputes occurred, qualitative research participants spoke about the clashes that broke out over land. *"There are a lot of disputes on this land. Residents have even been killed as a result of disputes. [One tribal group] has a dispute with another tribe, as well as the government and kuchi nomads. Our people have been killed as a result of the dispute."*¹³⁰

Another focus group participant then added: *"After the landmines were cleared, members of the community and local residents confiscated the land and used it for their own benefit. There were no land confiscators when there were landmines. After the landmines were cleared, [one tribe] fought with others, and as a result, suffered casualties. They claim the land is theirs and say that they have sacrificed when there were landmines. But when the land was cleared of landmines, many people from other areas settled here and claimed this land. They claimed from the mountain edges and a desert behind the mountain – which was a frontline of the war during Dr Najib's regime."*¹³¹

This dispute seemed particularly pronounced given the proximity of the area to a major urban centre. Previous research has concluded that urban expansion pushes up the price of land, *"creating strong incentives for grabbing pastures and turning them into townships."*¹³²

Some research participants in another community in Nangarhar also pointed to a dispute between the people in the community and a tribal elder, while others in the same focus group did not report any disputes occurring. The dispute arose over land ownership, with contestations between who rightfully should access the land: *"We were satisfied with the mine clearance. There was a dispute over land between us and another tribal elder... [The other tribe] constructed a township on this land, while we have a land certificate from Ghazi Amanullah Khan's era and have submitted pasture land tax to the government. There is no dispute among our own people. Our people are all united."*¹³³ A girl in the same community vaguely remembered a similar account passed onto him by his father, suggesting some sort of dispute indeed occurred. *"I don't remember any dispute, but my father has told me that some residents protested against the government because of a land dispute. Residents were later given some land to build their houses."*¹³⁴

While land disputes are not pervasive across all communities proximate to EO clearance, their prevalence and seriousness suggest that the MAPA should continue to implement conflict sensitivity and locally contextual analysis before, during, and after mine action. This includes addressing land conflict issues and their different dynamics in all areas where the MAPA work.¹³⁵ It is not always easy for stakeholders to be certain of whom clearance may benefit the most:

We ran into all kinds of issues around the deeds, it is very complicated. We already started looking into what land we are clearing, whether it is public or private. But that is an oversimplification of land usage in Afghanistan. Government-owned land is often seen as community land, and used in a communal way. But not always. There are do-no-harm considerations here. In Palestine, UNMAS stopped clearance in certain areas because all the freed land was being grabbed by settlers. Even though it was doing good work, UNMAS had to stop. (...) If there are community tensions, we do not clear. We do not even try to help resolve the issues. We leave, and come back when the issue has been solved. That could take one month, or it could take a decade. The disputes can be tribal, or family feuds. I would not be surprised if we never found out about most disputes about demined lands.

KII4 [UNMAS]

¹³⁰ FGD4 [Adult men, Nangarhar]

¹³¹ FGD4 [Adult men, Nangarhar]

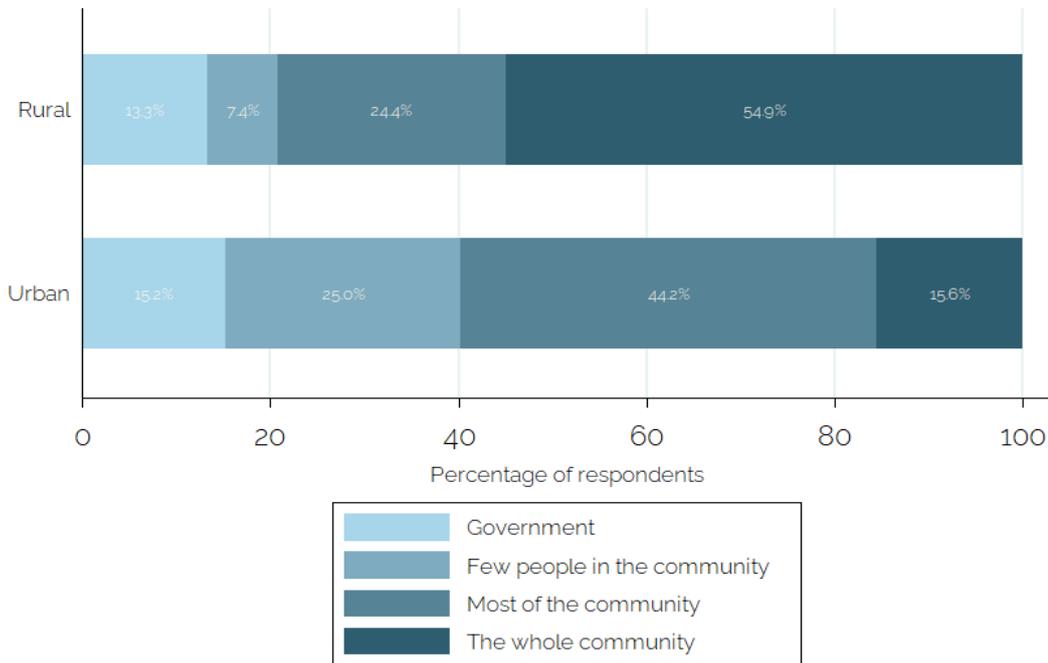
¹³² Giustozzi A (2019). Nomad-settle conflict in Afghanistan today. AREU

¹³³ FGD3 [Adult Men, Nangarhar]. Ghazi Amanullah Khan refers to the Emir and King of Afghanistan who reigned (discontinuously due to an uprising) from 1919 to 1929.

¹³⁴ FGD5 [Girl children, Nangarhar]

¹³⁵ Gaston E & Dang L, 2015, Addressing Land Conflict in Afghanistan, USIP

Figure 39 Who owns the cleared land? Urban vs. rural



It is clear however that areas near urban centres are potentially at higher risk of dispute and land-grabbing due to increased land value. In a previous evaluation, Samuel Hall found that mine action could also have the opposite effect, relieving tensions over land between settled communities in Afghanistan and nomadic pastoralists, with increased pastureland meaning there was less tension over land use.

Destruction of infrastructure

Another frequent complaint voiced by research participants was the degradation of soil and destruction of community infrastructure over the course of clearance operations. Roads, bridges, and irrigation systems were commonly mentioned as having been destroyed by deminers. Qualitative research participants in Paktia noted that EO clearance led to damages to the local irrigation canal system called *kariz*.¹³⁶

The consensus amongst research participants was that EO clearance was unequivocally positive, and even when discussing negatives that arose as a result of mine action, many research participants across the different focus group discussions noted that the benefits far outweighed the often-minor detriments.

*"This area is not damaged due to mine clearance, but the deminers' vehicles damaged the road somewhat, because they were heavy and big. We built the roads again. No damage has occurred to infrastructure. All people were happy with the mine action... Everyone was happy their area will be cleared of landmines and that they will be able to commute with their relatives and attend various ceremonies."*¹³⁷

¹³⁶ FGD12 [Adult Men, Paktia]

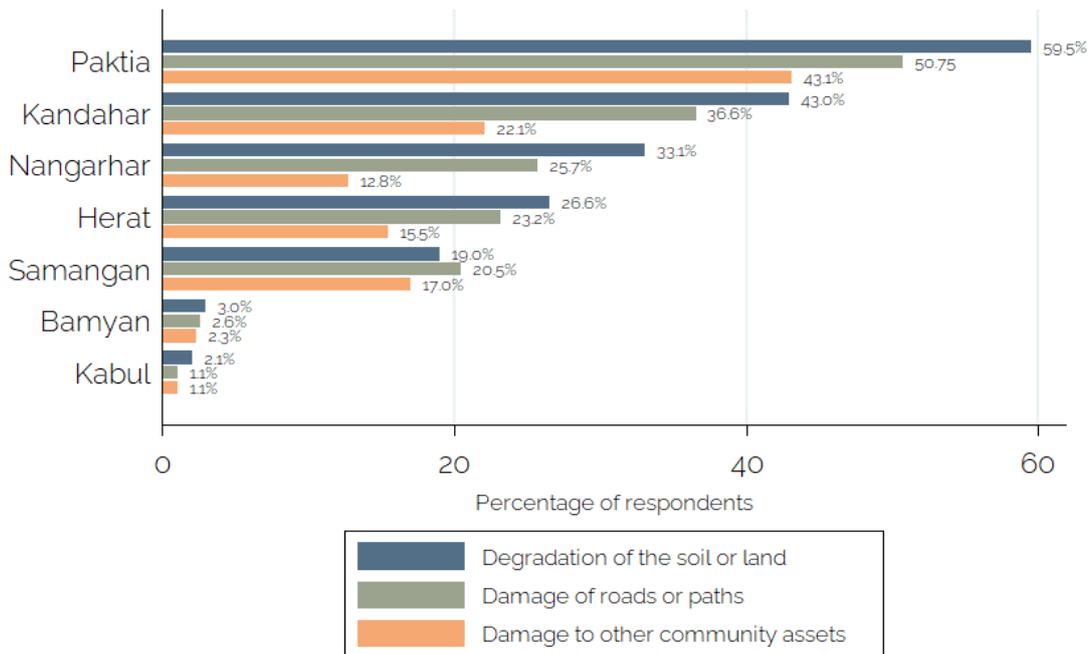
¹³⁷ FGD4 [Adult Men, Nangarhar]

Photo 22 Planned externalities: Remains of cleared houses in Kabul (Samuel Hall, 2021)



The quantitative data must be caveated with the fact that people were responding with binary answers, without reference to the extent or nature of the damage. One research participant in Nangarhar put forward that a house was damaged: "A house was destroyed due to mine action. The government didn't reconstruct the house but the people did. There are no other negative impacts."

Figure 40 Percentage of respondents reporting degradations and damages as a result of mine action



Generally, community members that were consulted agreed that the benefits of mine clearance far outweighed the infrastructure destroyed. They noted, nonetheless, that the promised reconstruction tended to take a long time, or sometimes to not manifest at all.

"Mine action has destroyed people's land and mine action teams have not rebuilt the land. People are not able to cultivate their land because mine action has stopped water flow to the farms."

FGD12 [Adult Men, Paktia]

"When any resource such as bridges were destroyed by deminers during demining, it took too long for another project to come and reconstruct the bridges. Some farming lands weren't usable for a while after demining operations. People agreed demining was needed, though. We had water and woody electricity towers in the past which were destroyed during the demining operations but still no one was against demining."

FGD33 [Adult Men, Bamyan]

Photo 23 Building back better, but when? Recently built paved highway in Nangarhar (Samuel Hall, 2021)



A DMAC key informant acknowledges the problems and actively seeks to prevent and mitigate negative externalities caused by demining: *"We learn as we go. I remember a few years back houses were ruined in Kabul when the boundary walls were destroyed by our machines. We found a solution in this case. We work hard for our work not to cause people problems. Sometimes, for instance, it would happen that we hire some people from one community and then others complain about not getting hired. Or someone would ask us to start our work without a proper community consultation. When we have a negative experience, we revise our policies to prevent this in the future, based on 30 years of experience! For instance, also, now, when we clear agricultural lands, we make sure the land is not used for poppy cultivation. In the past, we did not have such a role. But now it is part of our policy!"*

Due to the nature of EO clearance, often involving excavation or heavy mechanical clearance machinery, some forms of damages may be inevitable. Enhanced community liaison regarding the issue could help mitigate potential problems.

A final negative externality noted over the course of data collection for this study is the potential trauma caused by explosive ordnance risk education, especially for children. EORE should not be questioned or challenged on this ground. Saving lives must indeed prevail over any other consideration. Moreover, it is difficult to know whether the cases of stress or anxiety reported by children or adolescents are the result of a context that is itself unfavourable to the development of children because of the risks and dangers, now in addition to an increased awareness of these same risks, hitherto ignored or passed over in silence.

MAPA PERFORMANCE

Relevance

Relevance to the global humanitarian and development agendas

Mine action can be situated at the heart of the triple nexus: it is humanitarian in its lifesaving work, is a precursor to longer term development, and has positive implications for peace and security. It is linked to the 2030 Agenda for Sustainable Development, connecting to nearly all Sustainable Development Goals (SDGs) as illustrated in the below visual based on the example of Jordan¹³⁸, and specifically SDG5 on achieving gender equality and empowerment of all women and girls; SDG16 on peace, justice, and strong institutions; and SDG1 on ending poverty in all its forms everywhere.

When we draft our strategies, they reflect our priorities. We understand that the Afghanistan Mine Action Programme is in line with the sustainable development goals. This is reflected in our national documents, and important also for funding purposes. We report on our activities with a sustainable development lens to show progress.

KII29 [DMAC]

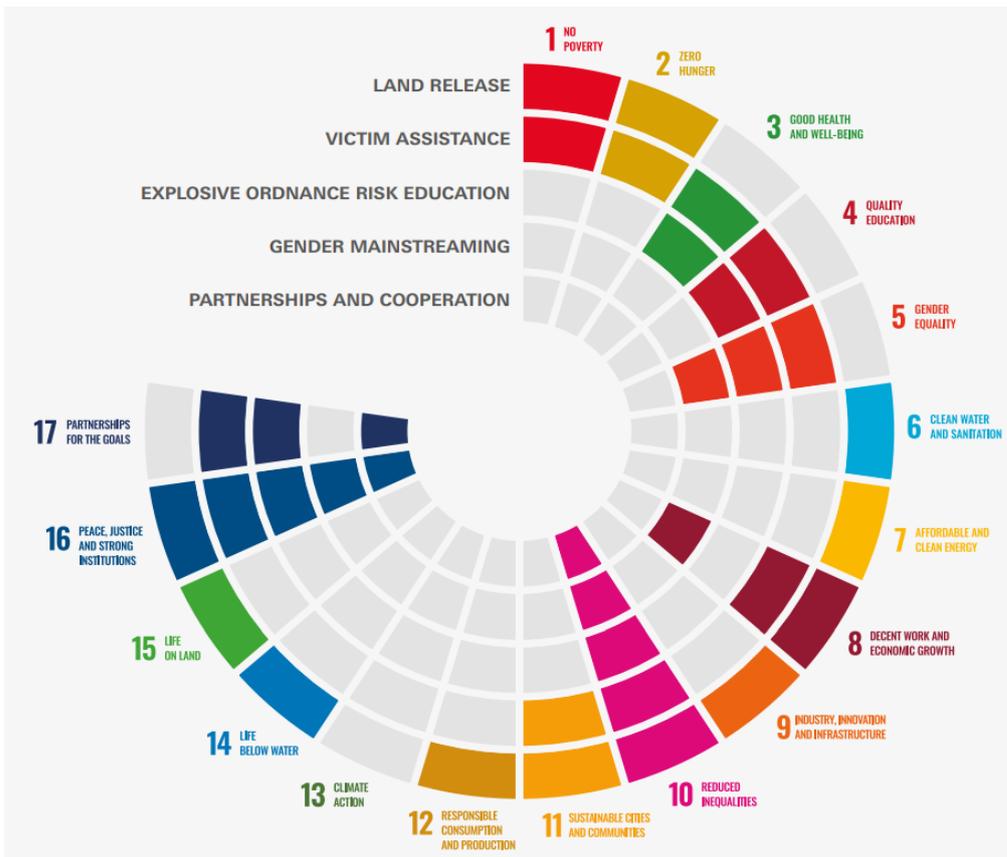


Figure 41 Strong links: Mine action and the sustainable development agenda (GICHD)

Other international treaties and frameworks are of relevance: the former Government of Afghanistan worked with UNMAS to obtain a ten-year extension to complete its clearance obligations under the Anti-Personnel Mine Ban Convention (APMBC) in 2012. A detailed work plan to achieve mine-free status by 2023 was developed, though will likely not be achieved under the current circumstances.

MAPA also works to help the State Ministry for Martyrs and Disabled Affairs to develop and implement the National Disability and Inclusion Strategy (2020-2030), which aims to ensure that the rights of people with disabilities in all sectors in Afghanistan are upheld in line with the Convention on the Rights of

Persons with Disabilities, Victim Assistance under the Mine Ban Treaty, and the Convention on Cluster Munitions and the United Nations Mine Action Strategy 2019 - 2023.

¹³⁸ GICHD (2021). The Sustainable Development Outcomes of Mine Action in Jordan. March 2021.

Global relevance of MAPA: Legal framework and mandate for mine action in Afghanistan¹³⁹

The four 1949 Geneva Conventions and the Additional 1977 Protocols are the core of international humanitarian law. They have been universally ratified and are binding on all conflict parties active in Afghanistan.

Afghanistan is a State Party to the 1997 Anti-Personnel Mine Ban Treaty.

The 2017 Security Council Resolution 2365 is the first stand-alone resolution on mine action. It expresses equal concern about anti-vehicle and anti-personnel (AP) mines, explosive remnants of war (ERW), and improvised explosive devices (IED), and stresses the obligation of states, the international community, and conflict parties to protect civilians and engage in activities to mitigate the threat of these explosive hazards.

The 2017 United Nations General Assembly Resolution on Assistance in Mine Action recognises that AV and AP mines and other explosive hazards impact on humanitarian, peacekeeping, and development interventions including the achievement of the SDGs and pose an ongoing threat to civilian lives and livelihoods and long-term peacebuilding.

Relevance to national priorities

A great strength of MAPA is its neutrality towards the different tendencies and parties of the Afghan political life. As noted in the introduction, the previous Taliban regime (1996-2001) viewed action mining as beneficial to the population and encouraged it as a form of Jihad. More recently, over the period 2001-2021, MAPA has been aligned with the government's humanitarian priorities (saving lives) and across different sectors including security, economic development, and food security. MAPA has coordinated in particular with the Afghanistan National Priority Programmes (NPPs) such as those on security and economic development. As DMAC key informants themselves noted, if indeed demining is what paves the ground for the realisation of all other humanitarian and development targets, and has occurred in every province over the past 30 years, then demining contributes to all 22 NPPs.

Relating to different clusters, these NPPs are grouped into six categories, all relevant to MAPA achievements:

- ✓ Security: the *raison d'être* and most immediate achievement of MAPA is increased security via decreased risk of EO-related death and injury.
- ✓ Human resource development: MAPA contributes here along several dimensions, clearing land allowing education facilities to be built or re-built, facilitating access to schools, and building capacity for its thousands of local staff and collaborators.
- ✓ Infrastructure development: No infrastructure development can occur on land which has not been cleared.
- ✓ Private sector development: Facilitated by clearance of transportation routes and infrastructure.
- ✓ Agriculture and rural development: Facilitated by clearance of transportation routes and infrastructure.
- ✓ Governance: Facilitated via improved access and improved community cohesion.

The Director of Rural Rehabilitation and Development (MRRD) in Nangarhar gave a concrete example: *"Yes, MAPA is closely linked to Afghan national priorities. Let me give you an example. In Nangahar, the government wanted to build a medical complex, but there were risks of mines. Now it has been targeted by mine action, and the construction is ongoing. The Directorate of Rural Rehabilitation and development were asphaltting a road here, but it was mined. A demining organisation came and cleared the mines. Now they have cleared almost all the highways in Afghanistan, which is aligned with our long-term goals. They cleared the airports, and the government and the people get benefits from that. Schools are cleared and our students can get an education."*

In the new political context, the Taliban government will rely on mine action to clear the last remaining districts or communities of mines. This is of course also one of the humanitarian priorities of international donors like UNMAS and

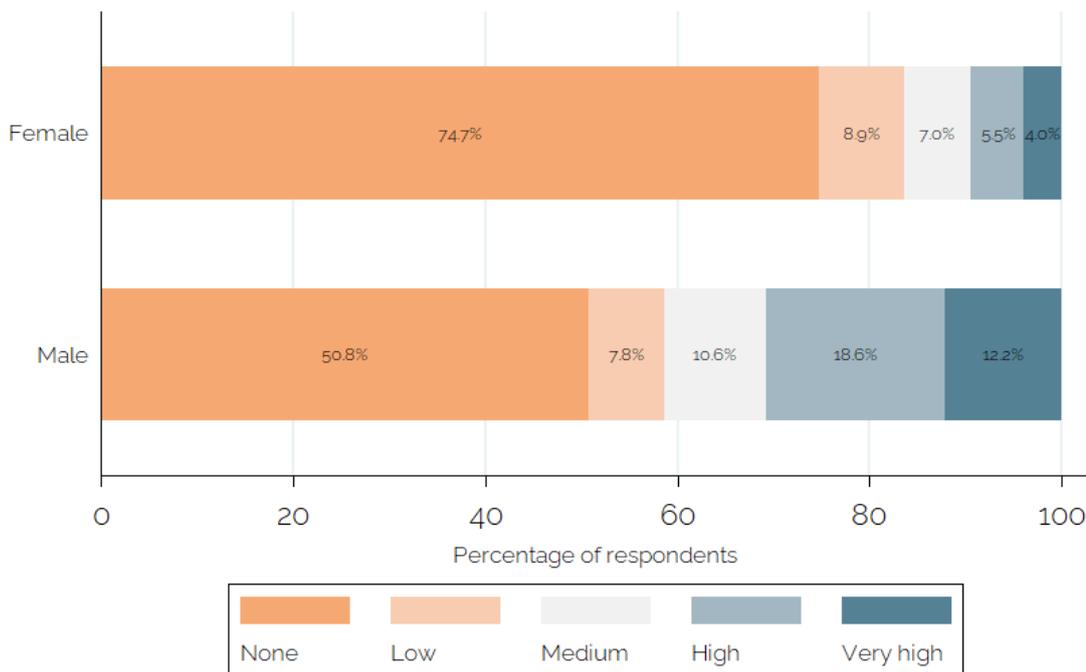
¹³⁹ Adapted from: Roberts, Rebecca (2018). "Anti-Vehicle Mine Contamination in Afghanistan Impact and MAPA Response".

MAPA. The modalities of future coordination are being discussed in order to optimise action on the ground and limit the risks, in a still volatile context. IS-KP's capacity to cause harm (either by laying new mines or by targeting intervention teams as in Baghlan) will have to be carefully considered by the parties involved.

Relevance to local communities

The relevance of mine clearance to local communities is perhaps best proven by the fact that in most instances, respondents noted that local residents themselves had petitioned the government to begin clearance operations in their neighbourhoods. In many of the locations interviewed, local communities were consulted in the early stages of the process to determine the top priorities for demining activities. These consultations were generally held with community leaders and village elders, but were sometimes extended more broadly to local (male) residents.

Figure 42 Level of consultations with you personally during land clearance operations? By gender of respondent



This was reflected in the data collected for this study: 60% of respondents considered the inclusion level of communities to be high or very high, even as 70% note their own personal level of involvement had been low to nil. Fewer than 10% of women report high or very high levels of participation, compared to 31% of men.

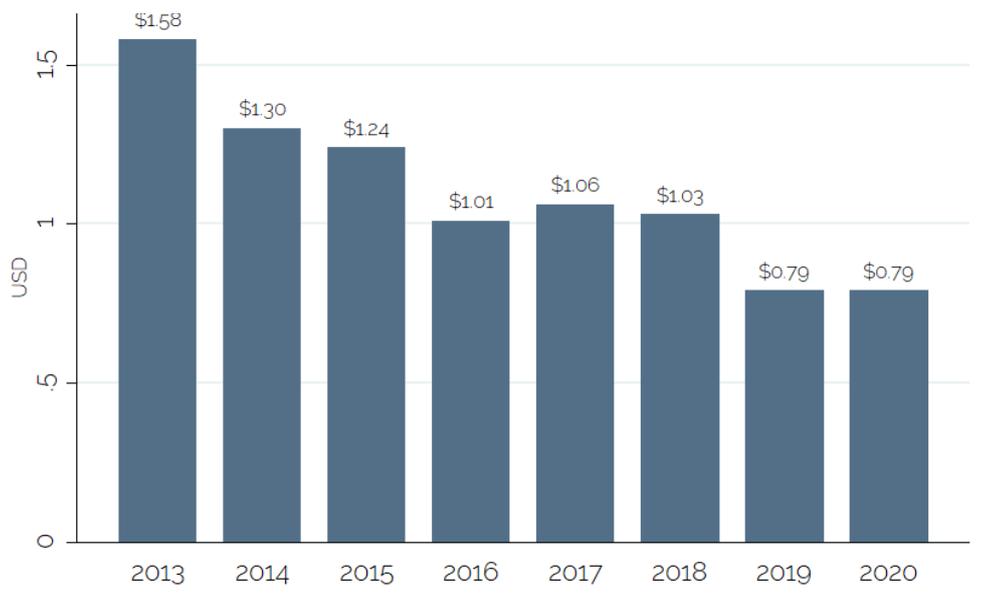
Efficiency

MAPA has significantly increased efficiency over the 30 years of mine action programming in the country. The benchmark measurement in the sector is cost per square metres cleared. Inefficiencies in the 1990s through to the early 2000s saw a higher dollar amount per square metre cleared – with DMAC estimating each square metre cleared cost approximately US\$3.^{140 141} Reasons behind the high dollar amounts include the fact that operations were commencing, equipment and technological capacities were nascent, and clearance included difficult minefields such as dense urban clearance.

¹⁴⁰ KII5 [DMAC], KII4 [UNMAS]

¹⁴¹ KII31 [DMAC]

Figure 43 Average cost per square meter for the clearances of anti-personnel minefields. By year, USD (source: DMAC)



However, the last two decades have seen substantial increases in efficiency, with the approximate price per square metres cleared down to under \$1.¹⁴² This also means that MAPA as a whole and individual teams are able to increase their clearance per month compared to earlier years.¹⁴³ This success is widely acknowledged, including by the industry watchdog "The Monitor" which notes in a 2020 impact assessment that: *"since 2013, improvements (...) have led to a considerable decrease in the cost of clearance per square kilometre for almost all types of contamination"*¹⁴⁴

The evaluation found that the three driving factors behind efficiency gains are:

1. Technological and institutional/capacity advances
2. Strategy and external reporting
3. The coordinated or managed competition of MAPA

There is also an interplay between the three factors, with an example being the coordinated competition helping to support technological changes.

Technological and institutional advances. MAPA resources were used more efficiently over time, with a reduction of costs through a down-sizing of the organisation, increased productivity linked to technological progress, and a more precise knowledge of the state of the problem on the ground. Improved capacity and equipment improved the programme's efficiency. Key informants consulted for this research agreed that demining had become less expensive over time, and more areas were cleared with fewer resources over time. Constant training and capacity-building of staff also improved the efficiency of MAPA, once local staff reached a certain level of technical expertise and coordination capacity.

Our productivity increased by a high margin. Just as an example, we used to use dogs, but they were not so efficient for cleaning anti-tank areas. With dogs, mines were missed, which led to accidents later on. After some time, funding was mobilised allowing partners to re-clear areas like Jebtrail with different equipment.

KII3 [UNMAS]

¹⁴² KII31 [DMAC]

¹⁴³ KII31 [DMAC]; KII3 [UNMAS]

¹⁴⁴ Landmine & Cluster Munition Monitor (2020). Afghanistan. Impact. Accessed at: <http://www.the-monitor.org/en-gb/reports/2020/afghanistan/impact.aspx>

The DMAC Chief of Operations gives another example of efficiency improvements: *"20 years ago, two deminers worked in one line. We studied the matter and found this was a wasteful approach. We then assigned the second deminer to a second line, thus doubling the area we could clear each month. We also improved the machinery used. (...) Mine action is like being in school, we are constantly learning and improving."* In another example of the constant search for improved efficiency, DMAC is currently working on assessing the potential to use drones for demining surveys.

At the same time, institutional changes also lowered costs incurred. A decrease in funding triggered a general decrease in the size of the MAPA. Between 2008 and 2014, DMAC's predecessor MACCA reduced its workforce from 370 staff members to 150 in April 2014.¹⁴⁵ In parallel, MAPA successfully established national organisations with the capacity to manage demining and mine awareness interventions via a process of 'autonomisation' of implementation organisations. This process has had an impact on the quality of the services IPs deliver, on their productivity on the ground, and on their planning and reporting capacities. The integration between a robust information management system, planning, and the QM department appears efficient. This structure has impacted the effectiveness and performance of MAPA through a tight prioritisation system that allows for a smart and rapid allocation of resources throughout the programme. It guarantees the relevance of mine action activities through the regular revision of the priority system based on changing dynamics on the ground.

Projectisation, transparency and managed competition. The efficiency of MAPA was driven by projectisation and managed competition. This sets it apart from demining operations in other countries, where opaque coordination processes led to disputes and imperfect information sharing. DMAC has played an important role in fostering the culture of MAPA as a platform via active engagement in technical working groups and coordination meetings. Where before there was simply an assignment of tasks, this process became competition-based in 2016. Now, when a project is announced, especially for UN Voluntary Trust Fund (VTF) funding, IPs are asked to submit proposals to be reviewed by an evaluation committee. This increased transparency has contributed to increased efficiency over time. In the same vein, the addition of specific targets to be achieved (2009) added to productivity.

The rise in competition and the drive to secure funding also meant that implementing partners expanded beyond their niches. MCPA, which originally focused exclusively on surveying, now also conduct clearance activities. HALO Trust added EORE and VA activities to their clearance mandates. From 2007 onwards, a more competitive model drove efficiency gains.¹⁴⁶

This is an area where we can see how MAPA has matured. There is competition, but also lots of coordination. Partners compete in different domains. Today it is about more than taking mines out of the ground. Efficiency gains have freed partners to look at a broader impact.

KI13 [UNMAS]

At the same time, this competition must be carefully managed to ensure it does not become a burden. As a key informant from the GICHD noted, there remains an issue in Afghanistan of "funding by the metric of meters cleared". While competition to be allocated zones to de-mine may drive down prices, it may also create bias and suboptimal results.

Finally, strategy formulation and **external reporting** requirements put positive pressure on those involved in MAPA. The 2012 request for extended funding and ten more years to achieve demining targets was very detailed, outlining the challenges faced and the plan to overcome them, with different scenarios in light of funding constraints. This has forced MAPA to distribute resources effectively. Similarly, annual reports to the UN on progress related to the Anti-Personnel Mine Ban Convention and the Cluster Mine Ban Convention call for detailed presentations of productivity gains achieved.

¹⁴⁵ Samuel Hall/UNMAS (2014). An Evaluation of UNMAS in Afghanistan 2008-2014: "A Success Story in Danger".

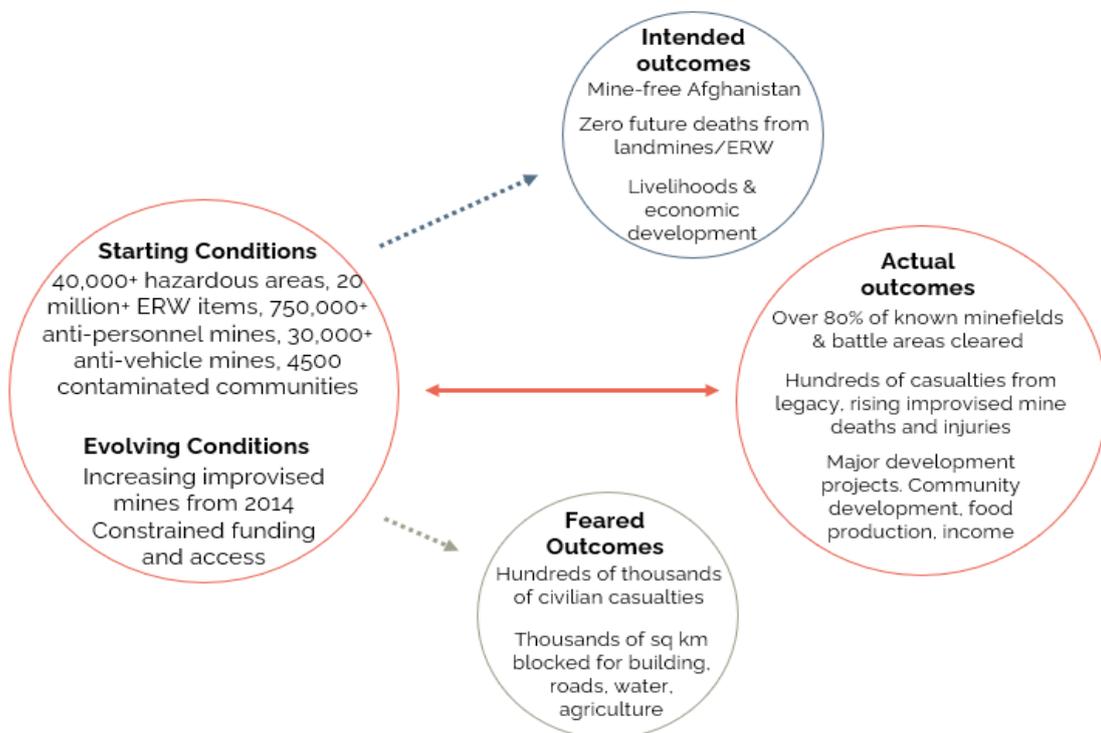
¹⁴⁶ KI14 [UNMAS]

Effectiveness

MAPA effectiveness as the gap between actual outcomes, intended outcomes, and feared outcomes

Using the ALNAP effectiveness framework, effectiveness of MAPA can be understood as the gap between the actual outcomes of MAPA, and both the intended outcomes (best-case scenario), and the feared outcomes (if nothing were to occur).¹⁴⁷ An adaptation from the ALNAP conceptualisation of effectiveness is adding in the **evolving conditions** and evolving objectives. The situational context for MAPA has experienced significant changes across its three decades of existence. This includes the political context in which MAPA operates. Two more contextual changes that pose major challenges for MAPA are the rise of improvised mines and their many casualties, as well as the twin impediments of constricted access and constricted funding. These have implications for not just the reformulation of objectives (for instance, responding to improvised mines and the increasing number of casualties they cause), but also the intended outcomes, actual outcomes, and worst-case outcomes.

When taken in its entirety, the main objectives of MAPA are to make Afghanistan a country that is eventually free from all explosive ordnance; a reduction in civilian casualties of landmines/ERW, eventually to zero; and for mine action to foster sustainable development. These are considered overarching objectives, while noting that MAPA objectives change over time and, because of the diversity of MAPA stakeholders, are not homogenous. In analysing effectiveness using this model, **the actual outcomes are much closer to the intended, best-case scenario outcomes than the feared outcomes that would certainly have occurred had MAPA not existed or if its coordination and programming over three decades had been poorer.** If minefields had not been cleared to the same extent, and millions of people not educated in the risks of explosive ordnance, hundreds of thousands of Afghans would have been injured or killed, with consideration to the pairing of the extensive contamination Afghanistan faced and the large increases in population and returning refugees.



¹⁴⁷ Darcy, J. and Dillon, N. (2020). Missing the point? Reflections on current practice in evaluating humanitarian action. ALNAP. Discussion Paper. 17 Dec 2020.

The ALNAP effectiveness framework also puts forward the idea of effectiveness as mitigating risks. On top of the mitigated risks of casualties, it is a high risk that a MAPA decreased in scope, capacity, and performance would lead to curtailed economic and livelihood opportunities. Indeed, all the evaluation primary data collection communities were inhibited in one or multiple facets of their livelihoods and economies: their agriculture, livestock, resources, construction, infrastructure, development initiatives, and/or transport.

Effectiveness using the 2016-2020 National Mine Action Strategic Plan (NMASP)

According to the 2016-2020 National Mine Action Strategic Plan (NMASP)¹⁴⁸, Afghanistan’s demining community has four goals (along with 33 objectives and 108 associated action plans).

<p>Facilitating development: all operations informed by and assessed against the development requirements of the people of Afghanistan</p>	<p>GOOD RESULTS: Operations have been planned with an eye to the development needs of Afghanistan – deminers are generally supported via information sharing, access, priority setting, and support on the ground. However, the assessment component could be improved upon, and for the moment it focuses on contribution rather than attribution. Post-demining impact assessments (PDIAs) document the changes that occur after MAPA interventions.¹⁴⁹ However, they do not constitute a randomised controlled trial scenario which would allow to state that a new road or an irrigation system was built <i>only</i> as a result of MAPA actions. Key informants for this study were keenly aware of this, stating that mine action was likely not the driver of all development occurring in its wake – rather, a shura, CDC, or powerful actor lobbying for development to occur was a needed catalyst.</p>
<p>Engagement with other sectors: Government, national, and international stakeholders take into account MAPA in their strategies and priorities.</p>	<p>MIXED RESULTS: While MAPA coordinates increasingly well internally, and the handover to its Afghan counterparts was completed, there remains a lack of clarity on the links between mine action and other sectors (humanitarian/development). The extent to which MAPA is taken into account in the strategies and priorities of sectors is mainly as an independent condition to have been achieved before others’ plans, independently developed, can start to be implemented. As MAPA is increasingly concerned with understanding, even fostering, impact beyond areas cleared, synergies are yet to be developed.</p>
<p>Five pillars of mine action: clearance, risk education, victim assistance, advocacy and stockpile destruction: fulfil obligations under Article V of the APMBT by March 2023</p>	<p>NOT ON TRACK: Mine action activities have shown critical successes but achieving a mine free Afghanistan by 2023 remains an unrealistic target. Since MAPA was initiated in 1989, almost 80% of recorded contaminations have been cleared or otherwise cancelled.^{150,151}</p>
<p>Gender and diversity mainstreaming: ensure all genders and diversity groups participate in and benefit from the work of MAPA.</p>	<p>MIXED RESULTS: Everyone in Afghanistan indirectly benefits from mine action, but some are less immediate beneficiaries than others. As discussed in the impact section of this report, women are less likely to be consulted in preparation for mine action, involved in mine action, and benefit from mine action in terms of increased mobility. MAPA has however made some efforts of symbolic importance in the inclusion of women, such as the highly publicised all female-demining team in Bamiyan. Gender was taken into account through the fourth goal of the National Mine Action Strategic Plan. A Gender Associate was recruited in UNMAS/DMAC in March 2017 to coordinate gender issues, including in victim assistance and disability contexts.¹⁵² MAPA also evaluates proposals for mine action based on their technical approach, budget, and consideration of gender. Still, broadly, gender mainstreaming issues remain both institutional and deeply cultural, and thus success in this</p>

¹⁴⁸ DMAC (2017). National Mine Action Strategic Plan 1395-1399 / 2016-2020. <https://dmac.gov.af/wp-content/uploads/2017/03/National-Mine-Action-Strategic-Plan-1395-99-2016-20.pdf>

¹⁴⁹ DMAC (various). Post-Demining Impact Assessments (PDIA).

¹⁵⁰ UNMAS (2019). Afghanistan Impact.

¹⁵¹ DMAC (2018). Mine Action Programme of Afghanistan (MAPA) Annual Report, 1396/2017.

¹⁵² Landmine & Cluster Munition Monitor (2020). Afghanistan. Impact. Accessed at: <http://www.the-monitor.org/en-gb/reports/2020/afghanistan/impact.aspx>

	particular domain remains elusive. It will likely cease to be a priority in the immediate future under Taliban rule.
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The MAPA, along with global mine action, is increasingly focusing on outcomes instead of a sole focus on outputs. This means that instead of success being measured solely by m² cleared, EO devices destroyed, and number of people participating in EORE, donors, IPs, and MAPA as a whole are placing greater emphasis on what changes occur after mine action. This is a positive and important trend in effectiveness and should be encouraged, while maintaining MAPA and IP strengths in operations and "getting the job done". This can include innovations such as some funding being tied to meeting outcomes, which will have flow-on effects to the type of work conducted, as well as increasing the importance of outcomes and impact in monitoring, evaluation, accountability, and learning (MEAL).

Sustainability

Sustainability is often assessed simply in terms of reliance on external financing, answering the question of whether a given action would continue if donor funding were to dwindle (c/f section 1 methodology). By these standards, the sustainability of MAPA is not guaranteed:

We have not yet reached the stage of becoming self-sufficient and continuing the operation without foreign financial support. There is still a lot of work to be done! If financial resources are cut, we face a serious problem. We will not be in a position to continue our work without foreign assistance.

KII29 [DMAC]

But the OECD, the origin of the DAC criteria, acknowledged that sustainability was "too donor centric and focused only on external funding" and in 2019 revised the definition to: "The extent to which the net benefits of the intervention continue, or are likely to continue."¹⁵³ From this perspective, **it is indisputable that MAPA has made a sustainable difference to thousands of communities across Afghanistan over the past decades.** An explosive hazard, once eliminated, represents a sustainably neutralised danger benefiting everyone in the community. Humanitarian mine action partners in Afghanistan have destroyed more than 18.8 million items of ERW, some 745,750 Anti-personnel (AP) mines, and some 30,790 Anti-vehicle (AV) mines since 1989.¹⁵⁴ Every one of these represents a sustainable contribution to the well-being of Afghans. Benefits derived from the clearance will continue or even improve as productive land use accelerates.

Under the new regime, due to wide popular support, efforts will be able to continue, as aptly put by a focus group participant consulted in Nangarhar:

There is the possibility that our area will be kept clear of landmines in the future, because we ourselves want this area to be cleared of mines so that our children can continue their education here. (...) Everyone wants the area cleared of mines!

FGD6 [Adult Man, Nangarhar]

In another example of sustainable impact, MAPA represents a model study on localisation which could serve as an example for other contexts. After a Mine Action Centre for Afghanistan was established in 1989 by UNOCHA, a Department of Mine Clearance was created as a coordinating body for MAPA. In 2005, this became the Directorate of Mine Action Coordination (DMAC), a department of the Afghan National Disaster Management Authority (ANDMA). The transition of responsibilities from UNMAS to DMAC was not rushed. As early as 2004, the UNDP and national partners launched a mine action transition project to transfer ownership from the UN to GoA. This endeavour was halted in 2006 as conditions for a successful transition were deemed absent. Regardless, efforts continued and the

¹⁵³ OECD DAC (2019). Revised evaluation criteria. Accessed at: <https://www.oecd.org/dac/evaluation/revised-evaluation-criteria-dec-2019.pdf>

¹⁵⁴ UNMAS (2021). Afghanistan. Accessed at: <https://www.unmas.org/en/programmes/afghanistan>

role of DMAC was strengthened while government ministries, while remaining important partners, took an advisory role.

The transition to national ownership by the DMAC in November 2016 was completed by May 2018, when DMAC absorbed all Afghan technical mine action personnel previously employed by UNMAS. Up to September 2021, DMAC was the undisputed lead on mine action in Afghanistan, and all key informants consulted for this study agreed that skillset and focus were impressive. All this speaks to the creation of a sustainable pool of expertise which will benefit the country in the long term, and, indeed, further afield. **UN-EMACCA, established in September 2021 as a temporary stand-in for the DMAC that is fully independent from the de-facto Government, has absorbed former DMAC staff, ensuring continuity of operations.**

There are not that many people in the world who have 30 years of mine action experience. Other programmes globally will want to bring in Afghan expertise to strengthen their programmes.

KII3 [UNMAS]

Yet this very capacity is also a threat to the sustainability of the institution – indeed, key informants noted that turnover at DMAC had accelerated in recent years and months. Continued capacity building as technology evolves, further recruitment, and maintaining institutional memory will be key going forward. This will be especially important given the rise in the use of improvised explosive devices.

CONCLUSION AND RECOMMENDATIONS

The GICHD has noted in the past that *"raising awareness at international and national level on the role mine action can play in achieving the SDGs is important, including through capturing country-level evidence that can put a 'human face' on the work and impact of mine action."*¹⁵⁵ This report is an effort to contribute to this awareness and tell the story of a remarkable programme which has had great achievements and should further be supported in the pursuit of its mission even in a challenging context. In 30 years, MAPA has established itself as a humanitarian mine action system capable of operating non-stop, no matter the political context and political leadership.

MAPA's success extended far beyond outputs of metres squared cleared and explosive devices removed. Indeed, the findings showed that **the programme created multifaceted positive outcomes and impacts in the lives of beneficiaries across humanitarian, economic, and social spheres.** Mine action released contaminated lands for agriculture and livestock grazing, as well as other essential activities such as fuel and natural resource collection. Community members felt far safer, and the psychosocial relief from the decreased chances of injury or death were particularly prevalent amongst women.

We found evidence that MAPA had significant positive impact on:



Lives saved



Income



Sustenance



Infrastructure / mobility



Community cohesion / mental health

In comparison, negative externalities were reported to be minor, including some community tension over cleared land and damaged infrastructure. MAPA is actively working towards mitigating these negative externalities.

The MAPA has an extensive list of achievements over more than 30 years of mine action in Afghanistan. The gains made across various spheres – humanitarian, economic, and social – were at once immediately beneficial to people and are also set to persist beyond political changes in the country. Afghanistan is characterised by uncertainty after the Taliban takeover in August 2021. Despite this uncertainty, the MAPA has carried on its humanitarian work and is

¹⁵⁵ GICHD and UNDP (2017). Leaving no one behind: Mine action and the Sustainable Development Goals, GICHD – UNDP, Geneva, June 2017

set to continue towards the goal that all parties agree to be paramount for the Afghan people: a mine-free Afghanistan.

What is next for MAPA?

In the changed context of 2021, the MAPA is continuing its work, with implementing partners conducting a range of mine action activities including explosive ordnance clearance and EORE. **Certain challenges appear set to ease if the conflict abates: the absence of shifting frontlines of fighting means that security, access, and expanding explosive ordnance use are no longer as problematic.**

The MAPA evaluation assessed the history of MAPA with one goal to support looking forward. The results hold up in the face of the change in government. The following forward-looking recommendations are recommendations for MAPA as a whole through 2021 and beyond.

Donors and mine action organisations should expand mine clearance, given its lifesaving imperatives and multifaceted positive impacts...

Donors can see the results of their support: mine clearance in Afghanistan has saved countless lives, improved mental well-being and community cohesion, and has given Afghans the ability to move around in safety. It has allowed children to go to school and play outside without fear. It has opened pathways to markets, made areas available to build shelter, graze animals, and grow crops. It has paved the way for massive-scale development projects. Not many donor-funded endeavours in the Afghan context can tell a similarly unequivocal success story.

... especially in the current context, which constitutes a window of opportunity for substantial progress towards a mine-free Afghanistan.

Rather than a threat to this success story, the Taliban takeover of Afghanistan opens a window of opportunity in terms of access. Donors should not consider the Taliban surge a reason to decrease support to MAPA, but, on the contrary, consider that MAPA, as a respected and decades-old structure with humanitarian goals, is likely one of the few actors which will be able to continue operating in the current context. As the DMAC National Mine Action Strategic Plan notes, *"it is a sad fact that Afghanistan has suffered circumstances of insecurity for almost the entire lifetime of MAPA. The nature of that insecurity has varied from time to time, as have the government, non-state actors, and anti-government elements involved. Despite those circumstances, MAPA has managed to continue operations throughout the last 27 years."*¹⁵⁶ It is understood that this means that donors must clarify their humanitarian spending and parameters regarding mine action, adding safeguards to prevent terrorism financing while simultaneously enabling MAPA stakeholders to negotiate access within the bounds of the possible. Mine action as an imperative recognised by all parties to a conflict can be a point of agreement and pave the ground towards peacebuilding.

A special focus should lie on the removal of abandoned improvised mines, which will require investment in capacity building.

Anti-personnel mines of improvised nature (APM/IN) or victim-operated improvised explosive devices have caused over half of all EO civilian casualties in Afghanistan over the past half-decade. Humanitarian clearance of APM/IN is still in its early stages in Afghanistan, after their recent rise in prominence and the issues around the politics of clearance, access, and operations or capacity. It is recommended that there be continued engagement and action on

¹⁵⁶ DMAC (2016). National Mine Action Strategic Plan 1395-1399 (2015-2020).

APM/IN. This will need to include investment in capacity building for MAPA stakeholders at different levels, as the programme evolves from focusing on factory-made mines towards clearing improvised explosive devices.

MAPA should revisit its priority-setting criteria.

In Afghanistan, determining priority hazardous areas for clearance is based on specified impact indicators. The impact scoring is determined based on blocked water sources, housing areas, agriculture, pastureland, roads, canals, and infrastructure, as well as the size of contaminated areas and their distance from the communities, IDP camps, and health centres. Types of devices are also an impact indicator with certain scores. For each type of blockage, based on its value and importance, a specific scoring weight is assigned. A greater emphasis on outcomes may lead to changes in land prioritisation – assessing not only where the most devices are located and the most metres can be cleared, but also which areas and categories of threats might create the greatest positive changes for the largest numbers of people. DMAC with technical support from the GICHD developed a five-year National Mine Action Strategic Plan (NMA SP) in 2016 and one of the main objectives of this strategic plan is to facilitate development projects and engage with other sectors for better priority setting of mine action operations. In light of the new situation as of the summer of 2021, MAPA will likely revisit these criteria for a purely humanitarian focus for the time being.

MAPA should continue to carefully document when infrastructure is destroyed and work with community and partners to rebuild.

This evaluation found that communities understand that infrastructure will get damaged over the course of demining operations and still find that the benefits greatly outweigh the costs. Tension ensues mainly where demining actors give the impression that reconstruction is imminent in a context where this cannot be ensured. It is recommended that plans to rebuild be made before mine clearance commences, in full transparency and in collaboration with partners who will be in charge of the process. MAPA organisations should ensure that community liaison addresses issues on land disputes; inadvertent or inherent damages relating to mine action; and remaining explosive ordnance. Enhanced community liaison can include explanations, clear timelines, complaint resolution mechanisms, and referral pathways to address unintended consequences of MAPA activities.

MAPA should continue to show conflict sensitivity to land disputes and land justice.

The evaluation found localised cases of disputes over land cleared of explosive ordnance. MAPA must mitigate potential land disputes by enhancing conflict sensitivity across its operations. Aligned to conflict sensitivity guidelines, this involves recognising that the important humanitarian work of MAPA itself can exacerbate existing conflict or cause new tensions to arise.¹⁵⁷ MAPA must strengthen existing conflict sensitivity practices to analyse the relationship between local contexts, the mine action interventions, and (potential) social conflict dynamics. A split framework of responsibility that includes both coordination bodies and implementing partners should be maintained for conflict sensitivity, using best practice approaches and tools¹⁵⁸ tailored to mine action.

MAPA should increase the focus on mental health

Beyond people's physical lives and limbs, MAPA should further focus on people's mental health and psychosocial wellbeing. People experience deep mental trauma from explosive ordnance, overlaid with mental health concerns from conflict. Explosive ordnance clearance is an important first step in addressing these concerns. MAPA partners should ensure that post-clearance community liaison includes activities around mental health, ensuring for instance that the information on areas cleared reaches women (who often receive only partial information second-hand). All monitoring should include a mental health component. And finally, EO risk education protocols should be adjusted to ensure that the sessions do not inadvertently cause unnecessary stress to children in particular.

¹⁵⁷ This recognition can take place while noting the opposite is often true: That the MAPA outcomes include decreases in social tensions over land, through increased land access after clearance and release. See: Samuel Hall research on HALO Trust programmes funded by the UK CSSF, the Netherlands, and on Abandoned Improvised Mines and Anti-Vehicle Mines.

¹⁵⁸ Oxfam (2021). The Imperative of Conflict Sensitivity in Humanitarian Operations

MAPA should continue to showcase its efficiency and impact, and pursue its advocacy efforts

As this report has shown, the changes that result from mine action extend beyond quantitative statistics and socio-economic data. MAPA is well-known for efficiency in terms of dollar spent per square meter demined, a skill which it has honed over the course of decades of operation. As donors are starting to tie part of their funding to outcomes¹⁵⁹ for 2020-2024 – changes in people’s lives, rather than just their outputs (area cleared, number of information sessions provided, etc) - an experimental model on a small-scale could commence thinking about the important impacts mine action leads to over time, perhaps with a test-control approach over time. This would then link the efficiency conversation to the wider conversation about development objectives and the triple nexus.

Meanwhile, MAPA and associated mine action stakeholders should continue to advocate their positions, supported by evidence, for people affected by landmines in Afghanistan and beyond. MAPA is well-placed to engage in this work alone, and to strategically partner with other organisations that can advocate on these pressing issues – where it is safe to do so, and where it will not compromise MAPA’s important humanitarian mine action work.

¹⁵⁹ Dutch MFA 2020-2024 Mine Action and Cluster Munition (MACM) programming. Interviews with HALO Trust global staff.

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