Government of the Islamic Republic of Afghanistan

The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction

Request:

For an extension of the deadline for completing the destruction of anti-personnel mines in mined areas in accordance with Article 5

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COMMITMENT

This document results from the collaborative effort of the major Mine Action Programme of Afghanistan stakeholders. To the best of our collective knowledge the information contained herein accurately reflects the history of the programme, the considerable progress we have made, and the remaining challenge. We each commit to play our part in the delivery of the enclosed work plan to enable the Government of Afghanistan's vision; a country free from landmines and ERW, where people & communities live in a safe environment conducive to national development, & where landmine and ERW survivors are fully integrated in the society and thus have their rights and needs recognized and fulfilled.

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EXECUTIVE SUMMARY

The Government of the Islamic Republic of Afghanistan is seeking a ten-year extension of its deadline to complete the destruction of anti-personnel mines in mined areas in accordance with Article 5 of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction.

This document explains the nature and extent of the original article 5 challenge, demonstrates progress made, explains the implications of the remaining hazards and clearly sets out the plan and budget needed to complete clearance within a ten year time frame.

Landmines have been used extensively since conflict erupted in 1978. Russian and the Russian-backed Afghan forces used mainly anti-personnel (AP) landmines while the Mujahedeen, in order to disrupt the movement of tanks and vehicles, used anti-tank (AT) landmines. Extensive use of ordnance by Russian and Afghan forces created a significant explosive remnant of war (ERW) problem with large concentrations of both unexploded ordnance (UXO) and stray ammunition left abandoned throughout their area of operations. After the fall of the pro-Soviet regime, extensive and indiscriminate use of AP and AT mines continued as the Taliban, having developed into a significant politico-religious force, clashed with the coalition of anti-Taliban forces called the Northern Alliance. The US-led coalition military action following the 9/11 terrorist attacks resulted in further ERW contamination in the country.

The socio-economic impact of this contamination was significant. The presence of landmines resulted in reducing crop production, increasing transportation costs, and adding obstacles to repatriation and rehabilitation. Furthermore, about 8,300 public buildings such as schools, health facilities and factories were unusable due to the presence of mines, directly affecting about 623,000 people. More than 228 sq km of productive agricultural land had been blocked due to the presence of landmines. The productivity lost due to this blockage was estimated to be valued at US$11.5 million per year. Landmines laid on and around roads – placed by warring factions to disrupt and prevent rival forces from advancing – led to severe restrictions to transportation, making the delivery and movement of goods more difficult and costly; there was an estimated loss of more than US$26 million due to increased transportation costs and extended travel times.

The humanitarian impact in terms of deaths and injuries was considerable. The MACCA database holds records of 16,075 casualties due to mines and ERW from 1979 until Afghanistan ratified the Mine Ban Convention, though it is most probable that the total will be higher than this due to difficulties in accurate reporting in such large country with limited communication infrastructure.

MACCA's records indicate AP mines have claimed the lives of 595 Afghans and injured 4,185, exacting the highest toll between 1997 and 2002.

In response to the impact of mines clearance operations were launched after the withdrawal of Soviet forces in 1989, and were in the main coordinated from Pakistan, with the exception of HALO Trust, a British demining NGO that opened an office in Kabul in 1988. The UN Mine Action Centre for Afghanistan (UNMACA) was first established by the UN Office for the Coordination of Humanitarian Affairs (UNOCHA) in Islamabad, along with five Afghan NGOs (ATC, DAFA, MCPA, MDC, OMAR) the first being ATC. Additional partners were added over time. In 1990, a structure called the High Level Commission for mines and ERW Clearance was established by the Government of Afghanistan, becoming essentially the first mine action coordination centre. This structure later became the Department of Mine Clearance (DMC) and was integrated into the Afghanistan National Disaster Management Authority (ANDMA). DMC is now the lead government agency for mine action and is responsible for overall strategy. After the Taliban regime collapsed in 2001, the UN transferred the responsibility for the coordination of mine action to UNMAS and UNMACA moved from Islamabad to Kabul. In 2008, the UNMACA rebranded itself as the Mine Action Coordination Centre of Afghanistan (MACCA) as a step forward to nationalization and transition of MAPA's coordination responsibility to the Government of Afghanistan.

The Mine Action Programme of Afghanistan (MAPA) - the collective term for all agencies involved in mine action in Afghanistan – has made significant and valiant attempts since 1989 to survey the extent of contamination. Surveys include the National Survey launched in 1993, followed by general survey implemented from 1994 to 2002, and the Afghanistan Landmine Impact Survey (ALIS) which was implemented as an effort to confirm the extent of hazard nationwide shortly after Afghanistan ratified the Mine Ban Convention in 2003. Hindrances to accurate understanding of contamination included lack of information on the size and locations of minefields, lack of access due to insecurity, and ongoing conflict that has continued until the present day. Mine action agencies should be commended – specifically ATC, DAFA, DDG, HALO Trust, MCPA, MDC and OMAR – for their hard work and consistent delivery in difficult circumstances.

Afghanistan considers the results of the ALIS, as of 1 January 2005, to be the most accurate baseline from which progress can be measured. The results of the ALIS indicated that a total of 3,527 suspected AP hazardous areas (SHA) measuring a total of 445.6 sq km of land was impacting 1,914 communities. In addition to this, there were 978 AT/UXO SHAs measuring a total of 270 sq km and impacting 657 communities.

From 1 January 2005 until the end of June 2012[1], implementers have made significant progress, despite an additional 3,503 hazards being added to the original challenge in the period since ratification. This additional contamination results from ongoing survey efforts which discovered previously unknown contamination. None-the-less 1,213.9 sq km[2] of hazard (AP and AT minefield plus battlefield) has been removed, 775,119 AP mines, 31,317 AT mines[3] and 489 IEDs have been destroyed, as well as 6.4 million items of UXO and 3.1 million small arms ammunition. Under the stockpile destruction operations 29,353 tons of unserviceable ammunitions, 450 unknown explosive devices, 245.6 tons ammonium nitrite and 14.74 tons of potassium chloride have also been destroyed.

All land release activities in Afghanistan are based on the standards and principles outlined in Afghanistan Mine Action Standards (AMAS), which is based on the widely-accepted International Mine Action Standards (IMAS). These activities include releasing land through cancellation, survey (non-technical survey and technical survey) and clearance (manual, mechanical, mine detection dogs). In addition, task handover is the final and critical step in releasing contaminated land which has been cleared for the productive and safe use. It To make sure this process is managed well, MACCA has dedicated one specific chapter of the AMAS to this activity.

As well as contributing to the fall in casualty rates from a high of 2,027 per year in 2001 to 409 in 2011 clearance has directly benefitted the socio-economic well being of both rural and urban communities. For example, the contamination of the capital, Kabul, has been addressed to a great extent, with the clearance of Kabul University, the Ministry of Agriculture Irrigation and Livestock, and Aliabad Hospital prominently showing the progress of mine action. Some of the major cities of the country such as Kandahar, Herat, Khost, Jalalabad and Kunduz have also been cleared of all significantly impacting minefields. Land was cleared around Kabul International Airport, and clearance activities enabled a new power transmission line from Uzbekistan to Kabul City, which now meets half the city's electricity needs.

Through its long-running operations, MAPA has gained a wealth of experience and has achieved notable successes. Internal and external evaluations of activities have shown that MAPA has made a significant socio-economic contribution to the people of Afghanistan. Mine action standards have been developed. The concept of quality management has been embedded into the programme, and shows a continuous improvement in the quality of mine action being delivered in Afghanistan, with

[1] Data up to end of June 2012
[2] This figure includes 977.48 sq km area released through clearance or cancellation of whole MFs/BFs ("closed") as well as 236.42 sq km released from partial clearance of MFs/BFs ("worked on")
[3] 517,249 AP and 24,762 AT mines were destroyed during stockpile destruction.

the number of major non-conformity reports reducing despite an increase in the number of operational teams. The programme is well coordinated internally and externally, with solid links to government ministries, and information management has been bolstered. Clearance operations have been supplemented by efforts to exclude civilians from mined areas through clear marking of such areas and delivering Mine Risk Education (MRE) to affected communities. Since Afghanistan signed the Ottawa Convention in 2003, almost 13.5 million people have received MRE. MAPA is now more experienced, mature, and resilient than ever before.

Multiple factors have impeded compliance with the treaty and the requirement of complete removal of all known AP mines within ten years of ratification including the following:

- **Under funding -** The magnitude of landmines and ERW contamination in comparison to the available mine action resources and capacities can be considered as one of the main reasons for this failure. While the international aid community has generously funded this programme for many years, the reality has always been a mismatch between the amount of funding required and the scale of the problem.

- **Security and ongoing conflicts –** Afghanistan has not yet achieved a nation-wide peace and stability since the start of armed conflicts in 1979. Although demining operators have been able to continuously work amidst conflicts insecurity in many mine affected areas has slowed down, and in some areas completely, halted the progress of mine clearance.

- **Anti-Vehicle landmines and ERW** – Due to the presence of many high priority Anti-Vehicle landmine contaminated areas MAPA was not able to focus only on Anti-Personnel landmine clearance. Some of the mine action resources also had to be allocated for addressing the ERW problem.

- **Lack of records and maps of mined areas –** Indiscriminate use of landmines and the lack of records and maps of mined areas have been a major challenge, requiring extensive efforts to identify mined areas. Due to the non-availability of key informants, survey teams had to rely on local people who generally had limited information about mind areas. As a result locating anti-personnel mines and destroying has not been as fast as hoped and often large areas of land have had to be cleared.

- **Nuisance minefields –** The majority of mined areas in Afghanistan contain sub-surface randomly laid mines. This has made the identification of mines in the mined area a challenging and time consuming activity.

- **New minefield reporting –** Despite several national-level survey efforts to identify mined areas many contaminated areas remained hidden due to the lack of information and lack of urgent requirement for land use. As a result of increased access and population movements previously unreported minefields are being reported and added into the national mine action database. Consequently the baseline for clearance has constantly increased.

- **Potential for reduced livelihood generation –** The MAPA has been a significant livelihood provider for many people for over 2 decades. Currently almost 15,000 are employed in the sector. In a country where employment opportunities for rural men and women are very poor, the determination to "finish the job" can be affected. It is in the communities best interest to report suspected minefields if income generation is provided by clearance (jobs, provision of supplies to demining teams such as vehicle rental, fuel, foodstuffs, etc). MACCA has found that in many cases new minefields have been reported by communities which have been surveyed and checked by MACCA later and found to be false.

- **Mine Action Technology -** Mine action technology has evolved since 2003, but there has not been a breakthrough that has substantially increased the productivity of manual mine clearance, which is the main method used in Afghanistan. The available metal detectors are not able to distinguish between landmines and a piece of metal. To find a mine a deminer has to do prodding and excavation on several false alarms received through his metal detector or a mine detection dog. As a result identification and destruction of landmines is slow.

- **Competing priorities –** After 2001 Afghanistan witnessed a considerable increase of international assistance. Several major infrastructure projects were planned and implemented. Main highways of the country and in addition to rehabilitation of the old power lines a new power line from north of the country to capital city was built. Most of these project needed demining support, hence considerable resources had to be deployed to address the landmine contamination in support of reconstruction and development rather than focusing solely on AP minefield removal.

Although significant progress has been made, at present, Afghanistan remains one of the most heavily mined countries in the world. 671,000 Afghans (3% of the total population) live within 500 meters of landmine contaminated areas. During the last two and half years, an average of 41 civilians per month – over 50% boys – died or were injured in mine and ERW accidents. Over 80% of the remaining areas of landmine and ERW contamination obstruct agricultural areas, a major obstacle in a country where some 70% percent of the labour force is involved in agricultural

activities. A significant proportion of contamination is located within 200m of important infrastructure such as irrigation systems, roads, health facilities, camps for the internally displaced, airports, power lines and bridges.

Contamination currently affects a significant number of Afghan communities; AP minefields directly impacting on 1,158 communities, AT minefields on 468 communities and ERW contaminated areas on 69 communities. In sum, 1,537 communities are directly impacted, affecting 4.7% of the total number of communities in Afghanistan. Indirect impact of this contamination on other communities is considerable, affecting travel between communities and development projects that would benefit multiple communities. There are now 43 important development projects planned in Afghanistan which will require some mine action intervention, such as the railway line between Kabul and Mazar provinces, three main dam projects in Kunar, Laghman and Takhar provinces, and several road networks. The projects are vital for the country's economic development and their success can be at risk if the threat of landmines and ERW is not addressed.

The target for Afghanistan to reach Ottawa Convention compliance is clearance of 3,248 AP minefields covering 257.92 sq km. From a humanitarian perspective, Afghanistan cannot focus only on AP removal at the expense of AT and BF removal. There are AT minefields and BF with a higher priority for clearance than some AP minefields. Therefore, 1,097 AT minefields covering 247.07 sq km and 97 ERW contaminated areas (BF) covering 26.88 sq km are also included in the work plan.

The work plan submitted as part of this extension request sets out projects in order of priority, over a 10 year period (2013 to 2023). Hazards (AP and AT minefield, and BF) are ranked in terms of impact on the community and are "projectised" to enable monitoring and evaluation of each project and to help resource mobilize for individual or groups of projects. There are 308 projects spread across Afghanistan, with the greatest number of projects in the Central Region. The work plan takes into account productivity rates, the number of available demining assets, and security. The work plan was developed by a committee composed of representatives from MACCA, DMC and the seven major humanitarian demining agencies, ensuring collective ownership and an agreed national plan.

The table below shows how much anti-personnel minefield, how much anti-tank minefield and how much battlefield will be removed per year for the following ten year period of the extension request. The table also shows the cost for survey, EOD, MRE, coordination, UN support and inflation. As can be seen the cost of the programme will reduce towards the end of the extension request.

Year	AP cost (including annual inflation 4%)	AT and AP/AT mixed cost (including annual inflation 4%)	BF cost (including annual inflation 4%)	Total clearance cost (including annual inflation 4%)	Survey and EOD cost	MRE cost	MACCA coordination cost	UN Project Office cost	4% annual inflation (for Survey, EOD, MACCA and UN)	Sub Total	Total cost
1392 (2013)	35.1	34.1	1.2	70.4	3.5	0.4	6.0	4.0	0.6	14.4	84.8
1393 (2014)	35.2	30.4	0.2	65.7	1.0	0.4	6.0	3.0	0.8	11.2	76.9
1394 (2015)	35.4	25.7	0.2	61.2	1.0	0.4	6.0	3.0	1.2	11.6	72.8
1395 (2016)	48.4	8.8	-	57.2	1.0	0.3	5.0	2.0	1.3	9.6	66.8
1396 (2017)	28.2	25.2	0.2	53.7	1.0	0.3	5.0	2.0	1.7	9.9	63.6
1397 (2018)	20.8	27.6	2.0	50.4	1.0	0.3	4.0	1.0	1.5	7.8	58.2
1398 (2019)	14.4	32.5	0.0	47.0	1.0	0.1	4.0	1.0	1.7	7.8	54.8
1399 (2020)	23.5	20.2	0.3	44.0	1.0	0.1	3.0	1.0	1.6	6.7	50.8
1400 (2021)	23.5	17.7	-	41.2	0.6	0.1	3.0	1.0	1.7	6.4	47.5
1401 (2022)	3.8	33.7	-	37.5	0.4	0.1	2.0	1.0	1.4	4.9	42.5
Total cost	268.3	255.9	4.2	528.3	11.5	2.2	44.0	19.0	13.5	90.3	618.6

In addition to clearance in the first year of the extension request the programme will complete the survey of all 32,448 communities in Afghanistan. The survey, which commenced in April 2012 will enable Afghanistan to confirm areas free of the impact of mines and ERW and also to ensure all hazard is reported and recorded.

The total budget for the 10 year period, which will ensure the clearance of all known AP and AT minefields and BF, along with other activities such as survey, coordination and project management, is $618.6 million. The work plan is fully achievable by the end of the extension period, provided that funds materialize on time and that the security situation allows for implementation in mined areas. To note, the work plan is based on a conservative estimate of clearance outputs, and of future donor contributions. Should funds in excess of the foreseen yearly amounts be secured, clearance could be accomplished within a shorter timeframe.

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List of Acronyms

AP	Anti-Personnel
ALIS	Afghanistan Landmine Impact Survey
AMAC	Area Mine Action Centre
AMAS	Afghanistan Mine Action Standards
ANDMA	Afghanistan National Disaster Management Authority
AT	Anti-Tank
ATC	Afghan Technical Consultants
BF	Battlefield
BSC	Balanced Scorecard
CBMRE	Community Based Mine Risk Education
DAFA	Demining Agency for Afghanistan
DMC	Department of Mine Clearance
ERW	Explosive Remnants of War
GICHD	Geneva International Centre for Humanitarian Demining
IED	Improvised Explosive Device
IMSMA	Information Management System for Mine Action
ISAF	International Security Assistance Force
IMAS	International Mine Action Standards
KAPB	Knowledge, Attitudes, Perceptions and Behaviour
LIAT	Landmine Impact Assessment Team
MACCA	Mine Action Coordination Centre of Afghanistan
MAPA	Mine Action Programme of Afghanistan
MCPA	Mine Clearance and Planning Agency
MDC	Mine Detection Centre
MDD	Mine Detection Dog

MF	Minefield
MoLSAMD	Ministry of Labor, Social Affairs, Martyrs and Disabled
MoPH	Ministry of Public Health
MRE	Mine Risk Education
MoE	Ministry of Education
OMAR	Organisation for Mine clearance and Afghan Rehabilitation
PDIA	Post Demining Impact Assessment
QA	Quality Assurance
QC	Quality Control
QM	Quality Management
SAC	Survey Action Centre
SAA	Small Arms Ammunition
SHA	Suspected Hazard Area
SEIS	Socio-Economic Impact Study of Landmines and Mine Action Operations in Afghanistan
SIMAA	Socio-Economic Impact of Mine Action in Afghanistan
SOP	Standard Operating Procedure
UN	United Nations
UNDP	United Nations Development Programme
UNMAS	United Nations Mine Action Service
UXO	Unexploded Ordnance
VA	Victim Assistance
VTF	Voluntary Trust Fund for Assistance in Mine Action

1. ORIGINS OF THE ARTICLE 5 IMPLEMENTATION CHALLENGE

Landmines have been used extensively in Afghanistan since conflict erupted in 1978. That year, a coup overthrew President Daud Khan and a pro-Soviet communist government was established. It was soon toppled by another coup, which brought Hafizullah Amin to power and triggered the invasion by the Soviet Union in 1979. To support anti-communist forces, Muslim and Western governments channeled arms, including landmines, to Afghanistan. Severe resistance by the Mujahedeen led to the withdrawal of Soviet troops following the 1988 Geneva Accords, and a pro-Soviet government was installed.

This decade-long widespread conflict, in addition to displacing millions of Afghans, made Afghanistan one of the most heavily landmine contaminated countries of the world. Russian and the Russian-backed Afghan forces used mainly anti-personnel (AP) landmines while the Mujahedeen, in order to disrupt the movement of tanks and vehicles, used anti-tank (AT) landmines. Russian and Afghan forces had at their disposal a huge array of ordnance which was distributed from key bases to defensive outposts. Extensive use of this ordnance against the Mujahedeen created a significant ERW problem with large concentrations of both unexploded ordnance (UXO) and stray ammunition left abandoned throughout their area of operations. ERW clearance remains an important humanitarian activity. In addition, by using cluster munitions, both warring sides contributed to making the landmine and explosive remnant of war (ERW) problem in Afghanistan even more complex and challenging.

Despite the signing of the Accords, civil war continued and the pro-Soviet regime survived until 1992. All warring factions continued using landmines as a weapon of choice during this time, leaving behind considerable vital land contaminated by mines. In certain places, only AP mines were laid, in others only AT, and still other areas contained both AP and AT mines as well as unexploded cluster munitions.

After the pro-Soviet regime fell, a power-sharing agreement was introduced and a new government was formed in Kabul. Mujahedeen factions remained in disunity and attacks by factions not included in the power-sharing agreement continued. New battle frontlines demarcated by AP landmines were created in various parts of the country and Kabul city was turned into a ruin littered with mines and unexploded ordnance (UXO).

At this time, the Taliban also developed in Afghanistan as a significant politico-religious force, capturing Kandahar city in late 1994 and Kabul in 1996, and achieving control of some 80 percent of Afghanistan. Anti-Taliban forces formed a coalition called the Northern Alliance, and clashes

between the Alliance and the Taliban continued until 2001. In this conflict, as the others, extensive and indiscriminate use of AP and AT mines was employed.

The 9/11 terrorist attacks on the United States triggered the US-led coalition military action against the Taliban. The military operation helped the Northern Alliance capture Kabul by mid November 2001. To help oust the Taliban, the US-led coalition used BLU 97 cluster munitions to bombard Taliban military installations, resulting in further ERW contamination in the country. Since 2003 the use of Improvised Explosive Devices (IEDs) by insurgents has become increasingly common which is resulting in significant loss of civilian lives and the contamination of vital land. There is no evidence that factory-manufactured AP mines are being used in any organized manner in Afghanistan currently.

2. NATURE AND EXTENT OF THE ORIGINAL ARTICLE 5 CHALLENGE: QUANTATIVE ASPECTS

This section explains how Afghanistan determined the original Article 5 challenge. The section summarizes technical survey activities undertaken during the period 1990 to 1992, the 1993 National Survey of the landmine situation in Afghanistan, general survey undertaken during the period 1994 to 2002 and the quantitative outcome of the Afghanistan Landmine Impact Survey (ALIS) conducted during the period 2002 to 2005. The section concludes by explaining how Afghanistan arrived at a baseline of 3,527 mined areas covering an area of 445.6 square kilometers.

2.1 Technical survey activities undertaken during the period 1990 to 1992

Technical survey and clearance of mined areas commenced in 1990 under the management and coordination functions of the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA), which was located in Pakistan, and fell under a broader humanitarian intervention called Operation Salaam. Technical survey was conducted by the HALO Trust, Afghan Technical Consultants (ATC) and Mine Clearance Planning Agency (MCPA), the latter being a national non-governmental organisation established in 1990 for the purpose of conducting technical survey of mined areas and information management.

The concept of general survey did not exist at the beginning of the programme; demining operations had to be launched as an emergency response. Indeed, it is important to note that many of the concepts now widely accepted as best practice and which form the norms of mine action activity today had not been developed before the early 1990s.

Lack of national level, reliable and appropriate information about landmine contamination was a key gap. Planning of technical survey and demining activities was relatively ad hoc and based on limited information available through media and military sources; sometimes teams would be deployed to areas based solely on information heard on the radio. Once deployed to the anticipated contaminated areas, ATC, HALO Trust, and MCPA technical survey teams' main function was to identify, mark, map and gather the required information about mined areas. To identify, map and record the hazardous areas, the programme relied on the local population of the affected areas for information. Technical Survey teams then passed on the information to the demining teams for clearance operations. At this time, MCPA designed and managed the national demining database.

During the period of 1990 – 1992, about 82.8 sq km of AT and AP mined area, accessible at the time, was technically surveyed and marked. More than 30% of the total surveyed area was in Kandahar

Province, followed by the provinces of Paktia, Kunar, Paktika, Zabul and Nangahar. These provinces are on the south and south-east border areas with Pakistan and were accessible to demining organisations. Other provinces were identified as containing lesser hazards and included Takhar, Herat, Nimroz, Farah, Ghazni, Laghman, Badakhshan, Parwan, Helmand, Logar, Kabul, Kunduz, Wardak, Bamiyan, Badghis, Kapisa, Samangan, Baghlan and Uruzgan.[4] The table below shows the breakdown of surveyed contamination and clearance by province.

Table 1 Contamination and clearance province (1993 National Survey)

Province	Area Surveyed (sq km)	Area Cleared (sq km)
Kandahar	29.90	9.03
Paktia	9.95	3.30
Kunar	7.76	5.24
Paktika	7.09	1.48
Zabul	5.57	2.30
Nanagarhar	4.61	3.55
Takhar	3.45	0.42
Herat	3.25	2.00
Nimroz	1.84	0.66
Farah	1.55	0.08
Ghazni	1.54	1.12
Laghman	0.86	0.94
Badakhshan	0.83	0.55
Parwan	0.74	0.32
Helmand	0.69	0.56
Logar	0.68	0.19
Kabul	0.63	0.33
Kunduz	0.50	0.45
Wardak	0.43	0.12
Bamian	0.35	0.44
Badghis	0.18	0.09
Kapisa	0.17	0.20
Samangan	0.17	0.00
Baghlan	0.07	0.00
Uruzgan	0.00	0.10
TOTAL (Sq Km)	**82.81**	**33.47**

In total, 25 out of 34 provinces showed varying levels of contamination; this did not mean that other provinces were free of mines but at the time these were the only areas accessible to demining organisations for survey and clearance.

[4] Data taken from MCPA 1993 National Survey report page 23

During the same period, of the 82.8 sq km contaminated 15.4 sq km was cancelled following resurvey activities and about 33.4 sq km was cleared. [5] In the process 88,896 mines and other explosive devices were destroyed (63,007 AP mines, 1,117 AT mines and 24,772 items of UXO)[6].

Thus, at the start of 1993, of the 82.8 sq km of minefields technically surveyed, 34 sq km still required clearance. The level of information collected at the time and available more than two decades later does not allow a breakdown of this contamination into the type, or the number of hazards, or the exact location.

2.2 1993 National Survey

To address the lack of national-level, reliable information about mine contamination, the 1993 National Survey project was launched. This non-technical survey, implemented by MCPA, ran from May to November 1993 and was the first survey of its kind in Afghanistan. Previous survey efforts were focused on identification, marking and mapping of mined areas through the application of technical survey procedures specifically for the clearance of individual tasks whereas this survey focused on recording information about landmine and UXO contamination at the national level.

Prior to the 1993 National Survey, estimates of the landmine problem in the country were based on unreliable and inaccurate information. Hence the planning aspect of the demining response was also based on unreliable assumptions. This gap, to a great extent, was addressed by the 1993 National Survey project.

The survey covered 339 districts of 29 provinces of Afghanistan, with 979 villages in 162 districts identified as having a mine problem. Mined areas were not reported in the remaining 177 districts. Due to security reasons, this survey was not conducted in 17 districts.

As published in MCPA's report, the 1993 National Survey resulted in identifying 2,353 mine contaminated areas covering an area of 388.7 sq km. The report did not break the contamination down by AP or AT contamination and almost twenty years later the original records are no longer available[7]. However the report does break the contamination down against land type, as shown in the table below.

[5] Data taken from MCPA 1993 National Survey report page 20
[6] Data taken from MCPA 1993 National Survey report page 24
[7] The data was recorded electronically by MCPA and was later migrated into IMSMA, when it was introduced in 2003. However when the migration took place the date of the original survey was replaced by the date of migration, thus it is not possible to query IMSMA about the type of mines in these specific 2,353 sites because it is not possible to separate them out from other data that was migrated and entered into IMSMA at the same time.

Table 2 Contamination by land type (1993 National Survey)

Land Type	No of Mined Areas	Size in Sq Km	Percentage of total mined area
Agricultural land	595	78.3	20.2
Irrigation system	141	2.4	0.6
Roads	225	9.2	2.4
Residential area	297	4.6	1.2
Grazing land	1,095	294.0	75.6
Total	**2,353**	**388.7**	**100**

As shown in the chart above, most of the contamination affected grazing land. More detail on the findings of the 1993 National Survey in terms extent of contamination, number of districts covered, land type, and other variables, can be found in Annex 1.

The contamination identified as part of the 1993 National Survey was in addition to the 34 sq km of contamination remaining to be cleared by the end of 1992. Thus, by the end of 1993, a total of 422.7 sq km land was estimated to be contaminated by mines.

The 1993 National Survey was one of the first attempts of its kind in mine-affected countries across the world and, as such, had its limitations. In many cases survey teams ended up mapping and recording all areas where the local population simply *suspected* the presence of landmines and ERW as SHAs without strong evidence of mines. Also, although this survey was a great step forward from the information management perspective, it lacked some key aspects which were important for successful planning and implementation of mine action operations. The following were in need of further improvement:

- Defining the entire problem in terms of socio-economic impacts experienced by local communities to improve national planning efforts and allow for clear prioritization of resources;
- Improving the accuracy of mapping landmine and UXO contaminated areas;
- Fostering development of national plans with better-defined objectives;
- Enhancing the baseline data for measuring future progress.

2.3 General survey undertaken from 1994 to end of 2002

Throughout the 1990s, up to and beyond the period of the Afghanistan Landmine Impact Survey (see paragraph 2.4 below), HALO Trust survey teams continued to survey ground in direct support of their clearance operations, building up a detailed understanding of mine contamination in the districts where they were operating. In particular this included Baghlan Province from 1992 onwards, the north and south sides of the Salang road pass, West Kabul and north Shamoli.

Using the 1993 National Survey process, information collection about areas not accessible at the time of the survey continued through MCPA's technical survey teams. Between 1994 and 2002, technical survey teams, in addition to conducting technical survey of mined areas identified in the 1993 survey, continuously discovered areas that were not identified during the 1993 National Survey. Mine Risk Education (MRE) organisations were also reporting mined areas as they came across them.

From the beginning of the programme until the end of 2002, the mine action database held by MCPA indicated that 288.5 sq km of minefields and 572.2 sq km of UXO contaminated areas had been cleared culminating in the destruction of 282,699 AP mines, 13,745 AT mines and 296,444 other items of ERW.

At the end of 2002 the database indicated a total of 5,362 contaminated areas remaining to be cleared; 3,514 were contaminated by AP mines, 1,520 by AT mines and the remaining by UXO. The AP contamination covered an area of 404 sq km, the AT contamination was 516 sq km and the remaining UXO contamination was just under 67 sq km.[8] These figures are cumulative totals, comprising the results of all survey and clearance activities undertaken from 1989 to the end of 2002.

2.4 Afghanistan Landmine Impact Survey 2003 - 2004

To address the limitations of the information provided by previous surveys and to speed up the process of addressing landmine problems under the Anti-Personnel Mine Ban Convention, a Landmine Impact Survey (LIS) with its vision of facilitating the improved prioritization of human, material, and financial resources supporting humanitarian mine action at the national, regional, and global levels was extended to Afghanistan. This survey is referred to as the ALIS.

The ALIS was initiated in November 2002 when key stakeholders, the United Nations Development Programme (UNDP) and the European Commission (EC), reached agreement on the survey. In April

[8] Taken from MACCA database Oct 17 2011

2003, the Survey Action Centre (SAC) and UNDP agreed that SAC would serve as the executing agency for the survey. In May, SAC signed a contract with MCPA to conduct the survey, and deployed a four-person advisory team to Kabul to monitor and provide technical guidance to the survey. Field activities of the ALIS took place during November 2003 to November 2004, and the project was completed in January 2005.

MCPA implemented the ALIS with oversight and technical support from SAC. MCPA field supervisors, field editors, data collectors, and support staff who were involved in the ALIS numbered over one hundred. The survey coordination office was located in Kabul, and the database unit was established at the UN Mine Action Centre for Afghanistan (UNMACA). Data collected was entered into the Information Management System for Mine Action (IMSMA) managed at this time by UNMACA. UNMACA provided support during the survey, including coordination and liaison at the provincial and district levels. This survey was funded by the EC through UNDP, the UN Voluntary Trust Fund (VTF) for Mine Action administered by the United Nations Mine Action Service (UNMAS) in New York, and the governments of Germany and Canada.

As well as identifying new contaminated areas, the ALIS drew on the existing recorded landmine and UXO contaminated areas in the national mine action database. Through the ALIS, all the available recorded landmine and UXO contaminated areas were "retrofitted" or validated. Survey teams were given maps of dangerous areas (DA)[9] and technically surveyed minefields based on information dating as far back as 1992 and questioned community representatives on the current validity of the maps and minefields. In addition in all communities suspected of being affected by landmines/UXO MCPA conducted community interviews about socioeconomic blockages, the location of the minefields, and the history of landmine/UXO incidents and victims. Over the course of the 13-month fieldwork period, approximately 50% of the database was discounted as being out of date and no longer valid. This was replaced by an equal volume of new information that could be used for long-term planning, priority setting, and operational tasking. The ALIS successfully linked the individual mine site data in the national database to community data to provide a clearer picture of the true extent of the impact of landmines on Afghan communities.

The ALIS, upon its completion, identified 2,571 landmine/ERW impacted communities. This represented 8 percent of communities in Afghanistan. A total of 4,505 landmine and UXO

[9] The term Dangerous Area (DA) was used for landmine and UXO contaminated areas that were recorded as a result of general survey.

contaminated areas with an overall estimated size of 716 sq km area was recorded. [10] This figure indicates a 15% reduction of total contamination of the 850 sq km contamination which was reported by the ALIS team to exist before the survey.[11] The reduction occurred when some of the previously recorded landmine and UXO contaminated areas were cancelled. In addition to this, while the ALIS was being implemented, demining organisations continued clearance and cancellation of mined areas, further reducing the scope of contamination.

All contamination entered into the database was designated as Suspected Hazardous Area (SHA), whether it was a mined area technically surveyed prior to the ALIS, or a new contaminated area identified through ALIS general survey.

The AP landmine contamination (both with AP only, and AP mixed with AT mines) which constitutes the Article 5 challenge comprised of a total of 3,527 SHAs (78.3% of total SHAs) measuring 445.6 sq km area (62.3% of total contaminated area) and impacting 1,914 communities.

The ALIS, due to security reasons, was not able to cover five districts with 1,017 communities located in the south and south-eastern parts of the country. These five districts were Shah Wali Kot in Kandahar Province, Shahjoy and Arghandab in Zabul Province, Nawi in Ghazni Province and Barmal in Paktika Province. In total, 58 dangerous areas which had previously been reported in these districts were not checked, or '"retrofitted" by ALIS. The area previously reported was 11.7 sq km and 2.3 sq km of this was thought to be contaminated by AP mines. This contamination still remains unchecked though Shah Wali Kot will be surveyed during the period of 2011 to 2012 as part of a large clearance project in Kandahar being funded by the United Arab Emirates and executed by EOD Technology, Inc (EODT). When security allows, the remaining districts will be surveyed, in line with the work plan (see Chapter 17 for details).

Although the ALIS successfully gathered extensive and important information, it too had its limitations, not least the need to embark on a further resurvey process in order to polygon map the ALIS SHAs.

[10] ALIS documentation and literature cites 2,368 communities impacted and 4,514 contaminated areas. However, subsequently there were changes to the gazetteer which served to increase the number of impacted communities because some communities recorded by the ALIS as one were split into more than one. In addition, nine erroneous SHA records were found in the dataset and have now been deleted.

[11] Unfortunately the ALIS report does not state the date when the total recorded hazard was 850 sq km, and this figure is not verifiable through IMSMA unless a back up of the data had been taken on the same day that the ALIS team reported 850 sq km of hazard; which was not done.

The table below summarizes the landmine and ERW contamination by type of munitions identified by the ALIS.

Table 3 Contamination by device type (ALIS)

Type of Contamination	No of SHAs	% of SHA Count	Estimated Area in Sq Km	% of Estimated Area
AP mines	3,073	68.2	326.42	45.6
Mixed AT, AP	454	10.1	119.24	16.7
Subtotal: Article 5 challenge	**3,527**	**78.3**	**445.66**	**62.3**
AT mines	928	20.6	256.44	35.8
UXO Only	50	1.1	13.92	1.9
Grand Total	**4,505**	**100**	**716**	**100**

The table below breaks down AP contamination by region. As shown, over 40% of the SHAs were located in the central region, which had the greatest number of provinces, districts and communities impacted.

Table 4 AP contamination by region (ALIS)

Region	No of AP SHAs	Size of AP SHAs (sq km)	No of impacted Provinces	No of impacted Districts	No of impacted communities
Central	1,479	160.60	7	53	772
East	179	34.54	4	29	111
North	360	31.45	5	43	190
North East	730	68.51	4	45	361
South	233	43.65	4	27	157
South East	285	45.07	4	38	175
West	261	61.84	4	31	148
Total	**3,527**	**445.66**	**32**	**266**	**1,914**

The table below breaks down the AT contamination by region and identifies the south-eastern region as being most contaminated by AT mines in terms of the number of SHAs, the south in terms of sq km contaminated.

Table 5 AT contamination by region (ALIS)

Region	No of AT SHAs	Size of AT SHAs (sq km)	No of impacted Provinces	No of impacted Districts	No of impacted communities
Central	220	41.28	6	23	139
East	49	15.87	3	13	36
North	32	3.08	4	14	26
North East	44	3.06	4	16	35
South	159	93.43	4	29	110
South East	285	46.51	4	35	175
West	139	53.12	4	23	89
Total	**928**	**256.34**	**29**	**153**	**610**

The table below breaks down the UXO contamination by region and shows the central region to be the most contaminated.

Table 6 UXO contamination by region (ALIS)

Region	No of ERW SHAs	Size of ERW SHAs (sq km)	No of impacted Provinces	No of impacted Districts	No of impacted communities
Central	18	3.98	5	13	18
East	3	2.07	1	3	3
North	9	0.52	2	6	8
North East	10	0.39	4	8	9
South	3	0.03	2	3	3
South East	5	6.30	2	3	4
West	2	0.63	2	2	2
Total	**50**	**13.92**	**18**	**38**	**47**

In conclusion, the original Article 5 challenge was **3,527 SHAs covering an estimated area of 445.6 sq km of land impacted by AP mines directly impacting on 1,914 communities.** In addition there were 978 SHAs contaminated by AT mines and/or UXO covering 270.2 sq km, directly impacting on an additional 657 communities. Details of this AP contamination (location, identification number, coordinate, area, device type) can be found in Annex 2.

3. NATURE AND EXTENT OF THE ORIGINAL ARTICLE 5 CHALLENGE: QUALITATIVE ASPECTS

This section outlines the extent of the original article 5 challenge, from a qualitative perspective. The section will first look at the nature of landmine and ERW contamination, followed by the impact of contamination on civilian casualties and finally the socio-economic impact of contamination.

3.1 The nature of landmine and ERW contamination

In Afghanistan, more than 60 different types of AP and AT mines have been used, originating from 10 different countries: the former USSR, China, USA, Britain, Italy, Yugoslavia, Belgium, the former Czechoslovakia, Pakistan, and Iran. The mines that are used in Afghanistan are listed in Annex 3. These mines can be classified by fragmentation, directional fragmentation, bounding fragmentation, and blast type. Some mines cause severe injuries, but do not generally kill, while many are designed to kill and injure many people in one detonation. Eight of the most commonly used mines contain very little metal, making them hard to detect with available mine detectors. In addition, over 800 different types of munitions have been used in Afghanistan, ranging from small arms munitions to highly destructive weapons such as rockets and aircraft bombs.

In Afghanistan, mines were not only used for conventional military purposes but as part of a strategy to depopulate villages to diminish local support to the Soviet and Soviet-backed government forces. Mines were therefore laid, either by hand or dispersed by air, in houses, irrigation systems, agricultural land and grazing areas, as well as for conventional military purposes on roads and around military establishments. The Mujahedeen did not record or map any of the mines they laid. Soviet forces did not consistently map the mines they laid nor was the standard of mapping the same in all cases. Upon withdrawal, maps were provided by the Soviets to the Government of Afghanistan but unfortunately many were destroyed (burned) when Kabul fell to the Mujahedeen. It is regrettable that the MAPA did not take possession of them prior to their destruction; an important source of information was lost. Of the Soviet maps that were passed on to the MAPA some were extremely useful, though in other cases, due to the scale used they were of little value.

Afghanistan is a mountainous country and military posts were generally located on top of mountains or hills. Numerous hazardous areas are therefore located on high slopes. Clearing hazardous areas on high slopes in most cases is only possible through manual extraction, which is slow and expensive. The presence of mines on mountain slopes can also exacerbate the impacts of floods - one of the most frequent natural disasters in the country - by dislodging mines from the high lands to other, previously uncontaminated areas. Flooding and strong winds can also result in increasing

the depth of mines by moving soil from one area to another, necessitating deeper search and excavation of hazardous areas resulting in slower clearance. The effect of wind erosion and shifting soils is most noticeable on minefields situates on flat open ground.

The use of other weapons and ammunition, in addition to causing destruction to residential houses and burying mines deep under layers of soil and other debris, has contaminated minefields with metal fragments. Searching for mines, deminers have to deal with each fragment that is identified by a metal detector, in the same manner as they would with a mine. The detectors now in use cannot differentiate between pieces of metal and a landmine or ERW, making clearance a slow and arduous process. The exception to this is the deployment of a small number (19) of HSTAMIDs in western Afghanistan by the HALO Trust from 2008 onwards. This detector is proving highly successful on large open areas with sandy spoils against a minimum-metal AT mine threat where deployment has resulted in significant productivity gains for manual demining reams.

3.2 Nature and extent of the impact resulting in death and injury

Landmines and ERW have been killing and injuring civilians in Afghanistan since 1979 and are a major obstacle for rehabilitation and development. Over the past decade, several surveys were conducted with a view to determining the numbers of people killed or injured due to mine/ERW contamination.

The 1993 National Survey that was conducted by MCPA indicated that there were 20-25 civilian casualties caused by landmines each day or 8,000 casualties each year. MCPA also reported that, partially due to the lack of medical facilities, half of these victims would die and the remaining half would suffer the loss of a limb or an injury which would leave them with a disability. In the 979 villages which were identified to be contaminated by mines during the 1993 National Survey, a total of 20,316 people were reported as being killed and 15,985 injured by landmines. The survey found that more than 361,000 animals such as sheep, goats, cows, oxen, horses, donkeys and camels were killed by landmines and that more than 9,600 vehicles were destroyed by landmines. [12]

Between November 1997 and February 1998, MCPA conducted a second survey, the Socio-Economic Impact Study of Landmines and Mine Action Operations in Afghanistan (known as SEIS) which reported a reduced daily casualty rate of 14-16 persons leading to an average of about 4,300 persons per year. The highest casualty rate (51.7%) was found to be among the younger population of 20 to 40 years of age. Likewise, 36% of the casualties were among children less than 18 and the

[12] MCPA 1993 National Survey Report pages 1 and 5.

remaining 12.3% of the total casualties were among those who were above 40 years of age. Just 4% of the casualties were female. About 40% of victims were either single or double limb amputees. [13]

In 2001 the World Bank commissioned research into the Socio-Economic Impact of Mine Action in Afghanistan (SIMAA). Part of this research aimed to bring together the accident information recorded by MCPA as described above, ICRC's estimation of 300 to 500 victims a month based on the casualties being treated in their hospitals, and data recorded by the Afghanistan Mine Victim Information System (AMVIS) which estimated a total accumulated number of victims of 60,000 by the year 2000. SIMAA's conclusion is detailed in the table below:[14]

Table 7 Accident data (SIMAA)

	Jan to April 2000	**1999**	**1998**	**1997**	**1996**	**1995**
Total civilian mine victims/ period indicated	2062	7553	6089	5872	5989	3661
Total mine victims/month	515	629	507	489	499	305
Total mine deaths/month	155	189	152	147	150	92

Note that the figure for the year 2000 contains only data from January until April 2000, when SIMAA was conducted. Prorated, this figure is consistent with the average number of victims in previous years.

Upon its completion, the ALIS indicated that as a result of landmines and ERW detonations during 2002- 2004, 2,245 persons were killed and injured – a yearly average of 748 people. The ALIS accident data reveals figures lower than those identified in previous surveys. However, the ALIS data is more accurate; individual accidents were investigated and cross-checked whereas previous surveys reports did not cross-check their information, leading to the likelihood of double or multiple reporting of the same accidents. The ALIS required formal reporting with greater detail into the cause and results of the accident.

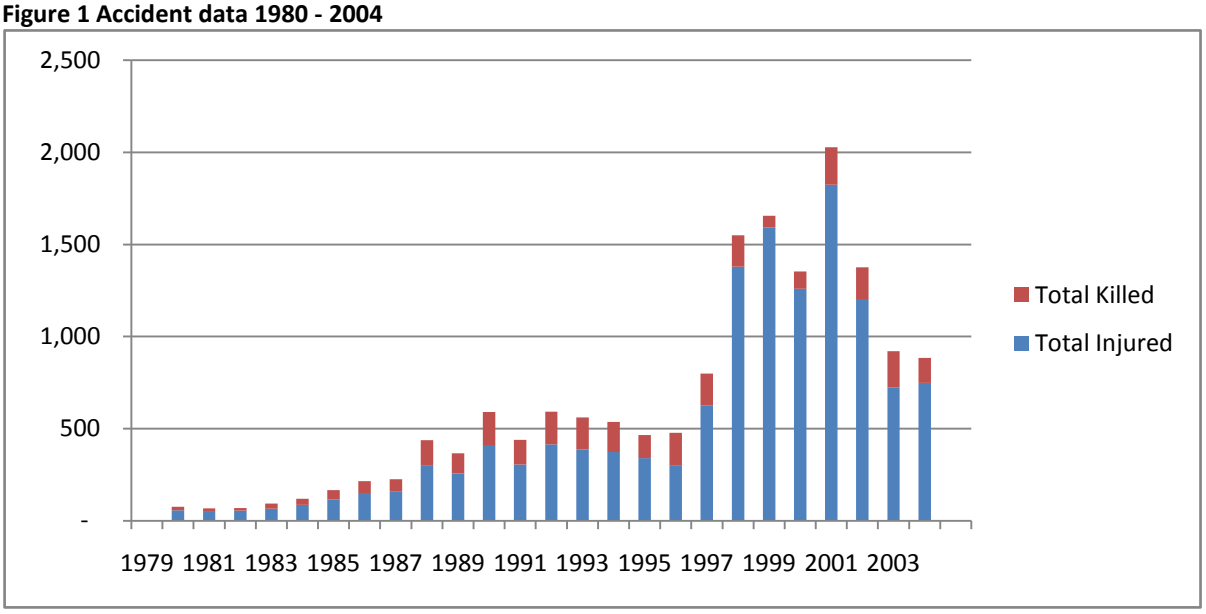
Out of these 2,245 casualties identified by ALIS, 922 (41%) were fatalities. Female victims were 10% while men were 90% of the total recorded casualties. The ALIS showed that 63% of the casualties were between 15 to 44 years of age, and 17% of the victims were between the ages of 5 and 14. Casualties caused by AP mines constituted 66% of the total victims recorded by ALIS.

[13] SEIS 1999, pages, 20 and 21
[14] SIMAA page 12

The recorded casualties indicated that most of the mine and ERW related injuries and deaths took place while the victims were engaged in livelihood related activities such as food, water and wood collection, farming, household related activities, tending animals and travelling. Children were generally herding, playing or collecting firewood when the accidents happened.[15] This sad reality clearly demonstrates the negative impact of landmines and ERW on the social, economical and developmental aspects of the Afghan society.

The chart below illustrates the casualties - killed and injured - due to mines and other ERW recorded in the national mine action database (maintained originally by MCPA and now MACCA) from when data collection began until completion of the ALIS at the end of 2004.

Figure 1 Accident data 1980 - 2004



It is clear that this data reflects significantly lower numbers of accidents than identified by SIMAA for the period 1995 - 2000. This is due to the fact that entry into the national database is only made through a structured reporting system which requires an accident report form to be completed and submitted. SEIS, SIMAA, ICRC and AMVIS did not submit accident reports to UNMACA as part of their surveying activities. Because of poor communication infrastructure and mine affected communities being located in remote parts of the country, which can complicate the reporting of deaths and injuries caused by landmines and ERW, the number of casualties is expected to be higher than shown in the chart, though it is unlikely to be as high as earlier reports indicated. Data recorded by the ALIS is congruent with that in the chart.

[15] ALIS page 30

The chart shows a significant increase in the total number of accidents from 1996 onwards, reflecting increased landmine contamination during the Taliban era where new frontlines were established between Taliban and their oppositions. Though there was fighting in some places, in others security during the Taliban regime was good which allowed more freedom of movement for the local population. This freedom of movement is also one of the reasons for increased mines and ERW related casualties from 1996 onwards. The peak in 2001 coincides with increased conflict between the Taliban and Northern Alliance, which resulted in significant people movement and accidents resulting from ERW.

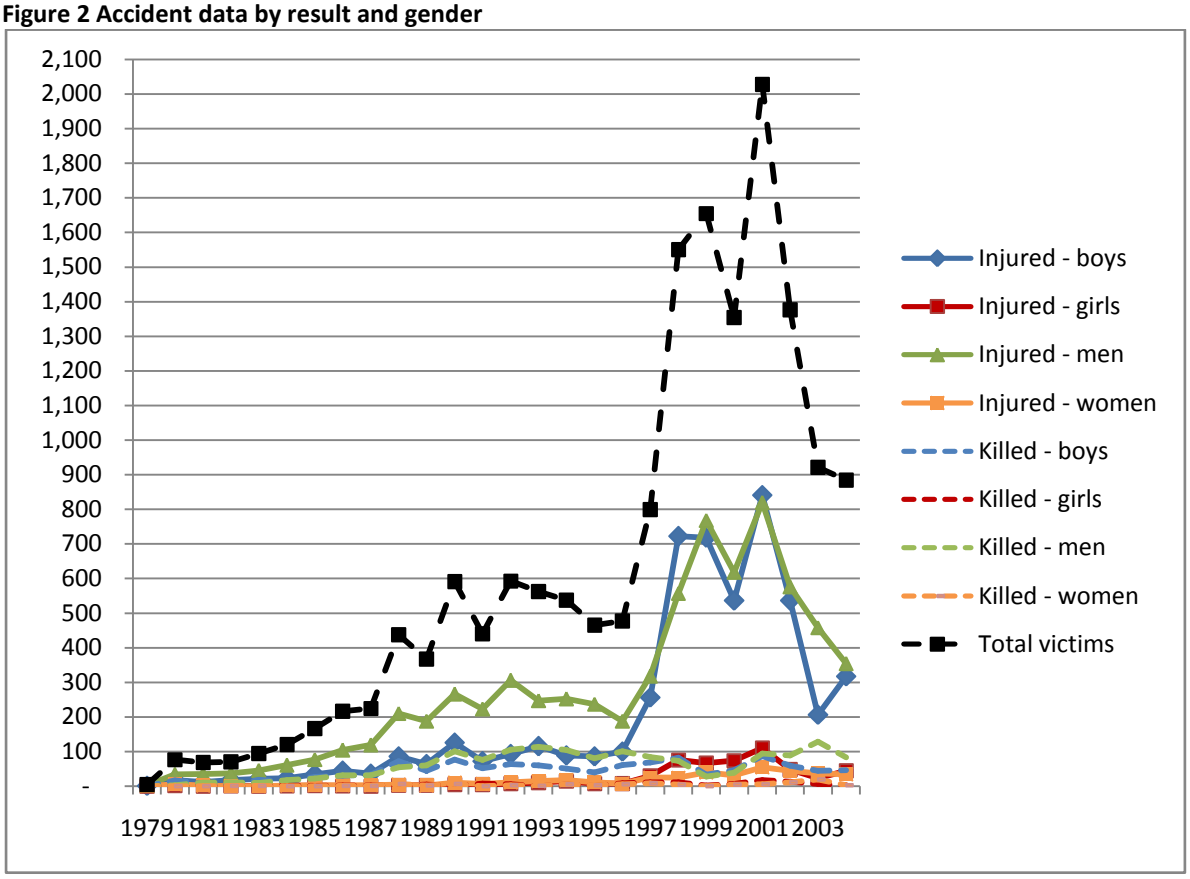
The data in the table and graph below shows the same accident data defined into the results of those accidents (either death or injury) and a demographic breakdown of those who were affected.

Table 8 Accident data by result and gender

	INJURED					KILLED					GRAND TOTAL
YEAR	Boys	Girls	Men	Women	Total Injured	Boys	Girls	Men	Women	Total Killed	
1979	1	-	3	-	**4**	-	-	-	-	**-**	**4**
1980	17	2	34	5	**58**	16	-	3	-	**19**	**77**
1981	12	-	35	2	**49**	8	1	10	-	**19**	**68**
1982	17	1	37	-	**55**	3	-	11	1	**15**	**70**
1983	21	-	45	-	**66**	18	-	9	1	**28**	**94**
1984	23	1	61	2	**87**	13	3	17	-	**33**	**120**
1985	34	2	77	3	**116**	27	1	22	-	**50**	**166**
1986	44	1	104	3	**152**	30	2	31	1	**64**	**216**
1987	36	-	119	3	**158**	33	2	31	1	**67**	**225**
1988	86	3	210	4	**303**	72	2	54	6	**134**	**437**
1989	64	3	188	2	**257**	44	4	60	2	**110**	**367**
1990	126	4	266	10	**406**	77	1	101	6	**185**	**591**
1991	72	4	223	6	**305**	52	7	76	-	**135**	**440**
1992	92	7	306	11	**416**	64	5	105	3	**177**	**593**
1993	115	10	247	15	**387**	60	-	114	1	**175**	**562**
1994	89	15	252	17	**373**	51	4	104	5	**164**	**537**
1995	86	7	237	11	**341**	40	1	80	3	**124**	**465**
1996	100	7	188	7	**302**	61	8	101	5	**175**	**477**
1997	256	29	318	25	**628**	68	11	84	8	**171**	**799**
1998	722	76	557	25	**1,380**	82	11	73	4	**170**	**1,550**
1999	718	66	768	40	**1,592**	33	2	28	-	**63**	**1,655**
2000	536	74	618	31	**1,259**	46	6	39	4	**95**	**1,354**
2001	841	110	819	54	**1,824**	87	17	94	5	**203**	**2,027**
2002	536	48	576	44	**1,204**	59	13	89	11	**172**	**1,376**
2003	206	23	458	37	**724**	44	6	128	19	**197**	**921**
2004	317	44	354	34	**749**	46	3	83	3	**135**	**884**
GRAND TOTAL	**5,167**	**537**	**7,100**	**391**	**13,195**	**1,134**	**110**	**1,547**	**89**	**2,880**	**16,075**

As shown the vast majority of accidents involve injuries to men (green line) and boys (blue line). It is clear that injuries (unbroken line) rather than deaths (broken line) make up the majority of the statistics. Very few women and girls have been killed or injured compared to men and boys; indeed, the figures for women and girls have not changed substantially throughout the period.

Figure 2 Accident data by result and gender



Of the total victims (16,075 people) only 3% resulted from AT mines whereas 24% resulted from AP mines and the majority 56% resulted from ERW. (Note in 17% of cases the device was either not known or not reported.)

Further analysis of the data indicated between 1979 and the end of 2004, AP mines had claimed the lives of 383 Afghans and injured 3,447, exacting the highest toll between 1997 and 2002.

3.3 Social and economic impact of accidents

The social and economic impact of mine accidents is high. SEIS identified that 12% of the casualties were severely injured, 6% of them lost their eyesight and 31.5% of them lost their lives. The study also shows that 52% of victims of landmines were male adults - the men who are generally the breadwinners in Afghan society. Of the total casualties interviewed, 38% were literate. SEIS considered this a great loss in a country where the literacy rate is extremely low.

In order for the victims to be relatively independent, wheelchairs and prosthesis are needed. Adult victims need this support once every 4 to 5 years while children need to replace their artificial limbs every 6 months. SEIS identified an average cost of US$ 3,500 for a victim of landmines who needs to spend 30 days in hospital and undergo four surgical procedures, which would, on average, require 3

units of blood for all four operations. The daily treatment cost for a victim was reported to be about US$120 excluding the salaries of expatriate doctors. When viewed against the Asian Development Bank estimation that GDP per capita in Afghanistan, at current prices, was $193[16] in 1989, the economic impact of the accident itself is considerable, let alone the long term impact resulting from loss of human capacity. By losing limbs, a survivor is highly likely to feel they are a burden on their families or to a community which has already experienced severe financial suffering. The survey found that 44% of the total victims interviewed had lost their jobs after they were injured in a landmine accident, and 13% of the victims interviewed mentioned that they had to change their jobs due to their landmine-related disabilities. 5% (1,742) interviewed victims said that they were facing difficulties in getting married, an important event in the social fabric of Afghanistan.

Psychological infirmity due to the prevalent fear of falling victim to landmines was also identified by SEIS as a damaging consequence of landmines in Afghanistan. Fearing landmines in an area where mines are laid indiscriminately and are not marked is inevitable for villagers who need to work in the field, travel on roads and tend animals. As revealed from the interviews conducted those living in landmine-impacted areas experienced persistent psychological stress because of potential mine incidents.

3.4 Economic impact of contamination

Part of the research conducted by SEIS attempted to quantify the economic impact of contamination. SEIS concluded that the presence of landmines resulted in reducing crop production, increasing transportation cost, and adding obstacles to repatriation and rehabilitation. The survey findings revealed blockages to roads, irrigation systems, agricultural land, residential areas and grazing lands and that the daily activities of 87% of households in the cities of Herat and Kandahar were affected by landmines and ERW. Furthermore, according to this survey about 8,300 public buildings such as schools, health facilities and factories were unusable due to the presence of mines directly affecting about 623,000 people.[17]

SEIS reported more than 228 sq km of productive agricultural land had been blocked due to the presence of landmines. Based on the calculation of this survey, the direct productivity lost due to this blockage was about 53,440 metric tons of cereal products in a year. The price of each ton was

[16] https://sdbs.adb.org/sdbs/index.jsp
[17] SEIS page 16

estimated to be about US$220, thus the total value of the loss due to the known agriculture blockage was about US$11.5 million per year. [18]

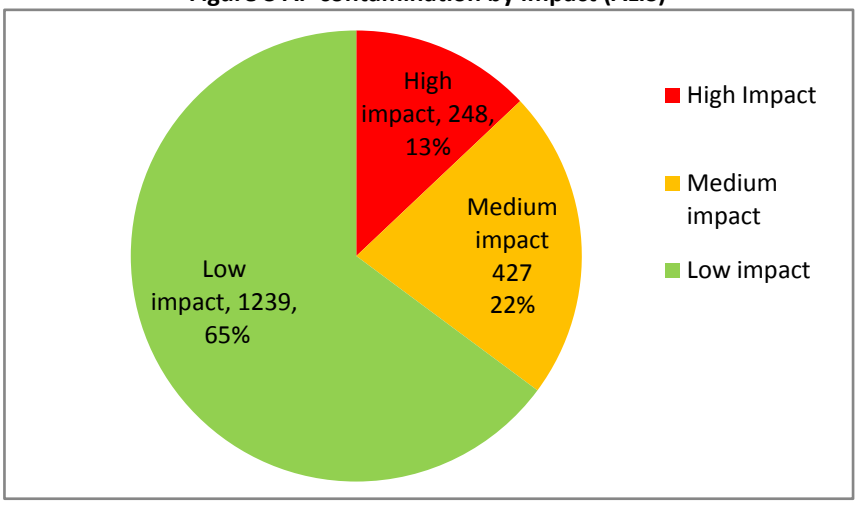
In 772 villages that were covered by SEIS, 3,220 horses, camels and donkeys, 83,500 cows and 155,400 goats and sheep costing about US$23.6 million were reported killed.[19]

During the course of war, various warring factions used landmines on roads in order to disrupt and prevent their rival forces from advancing. The effect of this was the severe restrictions to public transport, thus making the delivery and movement of goods more difficult and costly. SEIS reported 14,000 public and private vehicles had been destroyed by landmines. On average the price of one vehicle was about US$ 15,000; thus, the total value of destroyed vehicles was estimated to be about US$211 million. In addition, this survey identified that the cost of goods and transportation increased due to the road blockages. Each year, there was an estimated loss of more than US$26 million due to increased transportation costs and extended travel times. Mined roads have remained, on average, unusable for about nine years.[20]

The ALIS corroborated the negative impacts identified in the SEIS. ALIS concluded that 4.2 million people, which represented 15% of the entire Afghanistan population, were directly affected by the presence of landmines and other ERW. Of these, 3.4 million people living in 1,914 communities were directly impacted by AP mines. Of these 1,914 communities, 248 were determined to be high impact, 427 medium impact and 1,239 low impact. [21] Impact categorization was made based on the number of victims, blockages due to landmines and ERW preventing access to the facilities and livelihood areas and the nature of the contaminating munitions. The chart below shows the breakdown of AP contaminated community by impact, the number of communities impacted and the percentage of the total (thus for high impact there were 248 communities comprising 13% of the total).

[18] SEIS page 14
[19] SEIS page 17
[20] SEIS page 18
[21] IMSMA Oct 14th 2011

Figure 3 AP contamination by impact (ALIS)



After mapping the migratory routes of nomadic *Kuchis*, the ALIS identified 48 impacted communities where SHAs were located on the migration routes of nomadic population in 32 districts of 12 provinces.[22] Nomads, being largely dependent on animals and grazing land, have been one of the most vulnerable and affected communities in Afghanistan due to the threats caused by landmines and ERW.

Based on the information provided by the key informants in the impacted communities, the ALIS identified four major areas to which landmines and ERW were blocking access. These were pasture land, roads, rain-fed cropland and irrigated crop land. The ALIS also identified 5,280km of planned roads directly overlapping with approximately 8 sq km of SHAs. An estimated 39 sq km of SHAs were lying within 100 m of these roads and 9% of impacted communities reported blockages to development projects, which is deemed fairly low, but may be because at the local level development plans were not known.[23]

Indeed, as a result of prevailing instability due to protracted conflicts during 1979 to 2001, only a few major development projects were planned or implemented in Afghanistan. After the collapse of the Soviet-backed regime, rehabilitation of the power line that was used to provide power for the capital, and extended from the Sorobi district of Kabul city, became a priority project for reconstruction. Due to the presence of mines, however, this project was delayed and the presence of several mined areas very close to the Sorobi dam also caused activities to be halted. Another reconstruction project, a power line of 180km between Kajaki district of Helmand province and Kandahar and Lashkargah cities was also halted due to the presence of mines. After the Taliban era, as a result of dramatic increase in the amount of international aid to Afghanistan, many

[22] ALIS page 39
[23] ALIS page 12

development and reconstruction projects were planned and implemented. The major road network that connected major cities with the capital city and neighbouring countries had to be rehabilitated. Landmine contamination was a major hindrance for the reconstruction process on the road from Kabul to Jalalabad, the road between Kandahar and Kabul, and the road between Kandahar and Herat. The presence of mines in the major airports of the country such as the Kabul International Airport, Jalalabad Airport and Kandahar International Airport were also considered to be a major challenge for reconstruction and rehabilitation activities.

4. METHODS USED TO IDENTIFY AREAS CONTAINING AP MINES

This section sets out the methodologies of technical and non technical survey used for identifying areas containing and suspected to contain AP mines in Afghanistan. The section also describes the reasons for suspecting the presence of AP mines in other areas of the country that have not been surveyed to date, or that may have been re-contaminated. In the vast majority of cases, no maps were available. As mentioned previously, the Mujahedeen did not map or record minefields and though the Soviets provided maps to the Government of Afghanistan, they were not of a consistent quality to have a significant impact on assessment of the contamination country-wide.

In 1989 following the withdrawal of Soviet forces, it was predicted that due to the large and indiscriminate number of mines laid and a possible sudden return of millions of Afghan refugees from neighbouring countries, a humanitarian disaster would occur. To avoid this, demining operations commenced as an emergency response. It was not possible, within the emergency context, to conduct a country-wide non-technical survey to identify the extent of landmine contamination prior to the start of mine clearance; instead technical survey was conducted in areas which were accessible and were *reported by the population as being contaminated*. Later, non-technical survey was implemented including the National Survey of 1993 and the ALIS in 2002-2004.

During the 23 year history of the mine action programme both technical and non-technical survey has been implemented in various parts of the country (depending on access) and at different times.

4.1 Technical survey of mine and ERW contaminated areas

For better and more accurate identification of mine and ERW contaminated areas, technical survey has been an integral part of the demining process since the beginning of demining operations in Afghanistan. This type of survey aims to provide specific information to assist with the overall planning for demining operations. It assists in identifying non-hazardous and hazardous areas and provides clearly marked and established clearance sites to support subsequent clearance efforts and provide warning signs for the people who are at risk of mines and ERW. This work ensures that clearance resources are used efficiently, effectively and safely on priority tasks.

From the beginning of the program until 2007, technical survey was conducted by ATC, MCPA (supported by MDC through the provision of MDDs) and the HALO Trust. HALO Trust conducted technical survey to prepare hazards for follow up clearance by their own demining teams and to better inform internal planning for future deployment. To this end, the longstanding contribution of the teams was invaluable and resulted in the targeted application of HALO Trust clearance on those

hazards identified as having the highest humanitarian priority. MCPA conducted technical survey to provide technical information and technical maps for subsequent demining operations of other demining organisations. Technical survey teams were made up of a team leader, three surveyors, a medic and a driver. The teams, in addition to having demining tools such as metal detectors, mine detection dogs and excavation and prodding equipment, were also equipped with survey tools like compasses, GPS, and laser range finders. In 2006 the HALO Trust stopped stand alone technical survey and integrated it into their clearance operations. In 2007, after a thorough revision other MAPA stakeholders followed suit and the approach of doing stand-alone technical survey was changed in favor of integrating technical survey into the functions of all demining teams, an approach which generally is ongoing to date.[24]

To do this, organisations provided technical survey training for members of the demining teams who would undertake technical survey and the necessary demining training for surveyors who would join the demining teams. The requirements for technical survey training are covered by the Afghanistan Mine Action Standards (AMAS).

Once a minefield is identified, the demining teams use a questionnaire to record the required information. The exact location and geographical features are reflected on a scaled map. In addition, the demining teams photograph the identified minefields. The reports are then subjected to both internal and external quality assurance. Only then is the recorded information entered into IMSMA administered by MACCA.

The technical survey process can be summarized as below:

Step one: Demining team is provided with the non-technical survey information about the targeted mine and ERW contaminated area.

Step two: The team liaises with the impacted community and other key informants in order to confirm and validate the available non-technical survey information.

Step three: The team observes the reported contaminated site.

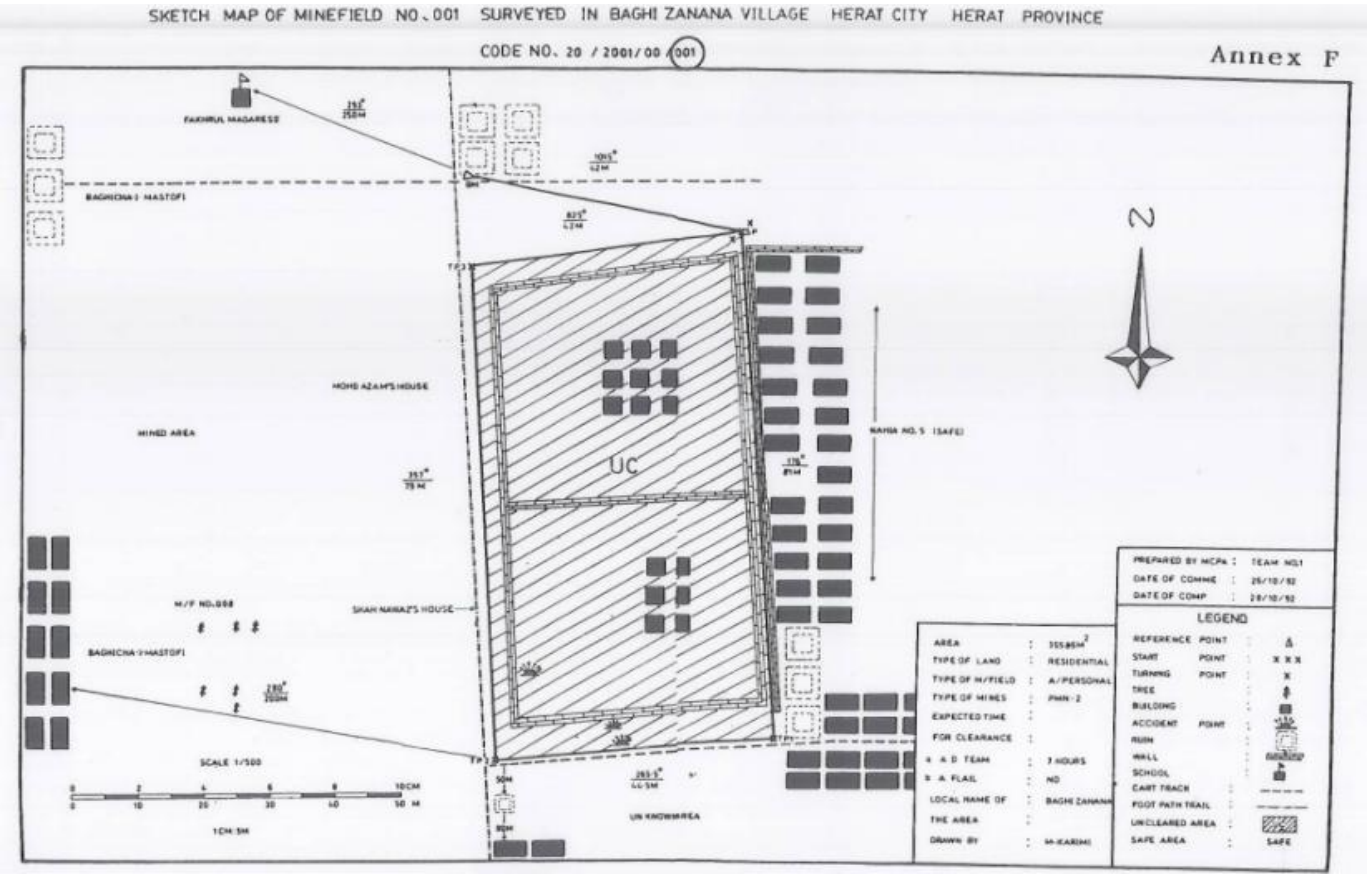
Step four: The team conducts some targeted or systematic investigation of the site by clearing exploratory clearance lanes into the reported mined area.

[24] AMAS allows for stand-alone technical survey as well as combined technical survey and demining operations. However, the latter approach is seen as more efficient and is strongly encouraged in MAPA. The vast majority of organisations use the integrated approach.

Step five: As a result of analyzing the gathered information and the evidences of mines and ERW, the contaminated site is categorized into high threat, medium threat, low threat and no threat areas.

Step six: The actual clearance operations are planned and the most appropriate demining tools are identified.

Figure 4 Technically surveyed area



4.2 Non-technical survey

As well as technical survey, a number of non-technical survey methodologies have been used to identify AP mined areas in Afghanistan, as described below.

4.2.1 1993 National Survey

As described in paragraph 2.2, the first nationwide systematic attempt to identify mined areas in Afghanistan through non-technical survey was made by implementing the 1993 National Survey project. The purpose of this survey was to better quantify the mine problem in Afghanistan in order

to identify priority areas for clearance and make long term planning of mine clearance operations in Afghanistan possible.

The specific objectives of the survey were to:

- Identify the worst mine-affected districts and provinces of Afghanistan;
- Identify social and economic implications of mines; and
- Provide information on incidents caused by mines;
- Provide a better basis for planning and coordination of the mine action program;
- Facilitate the long term rehabilitation of Afghanistan by determining the extent of the mine problem.

For data collection, MCPA, in consultation with the programme's other key stakeholders, developed a relatively detailed and comprehensive survey questionnaire. In addition to this, the survey reporting forms included a freehand map of the mined area and a topographical map to show the location of the mined areas identified during the survey. A photo log of the area was also prepared. The data collected, based on the survey questionnaire, was processed into a central database developed and managed by MCPA.

Figure 5 Sketch map prepared by survey teams 1993

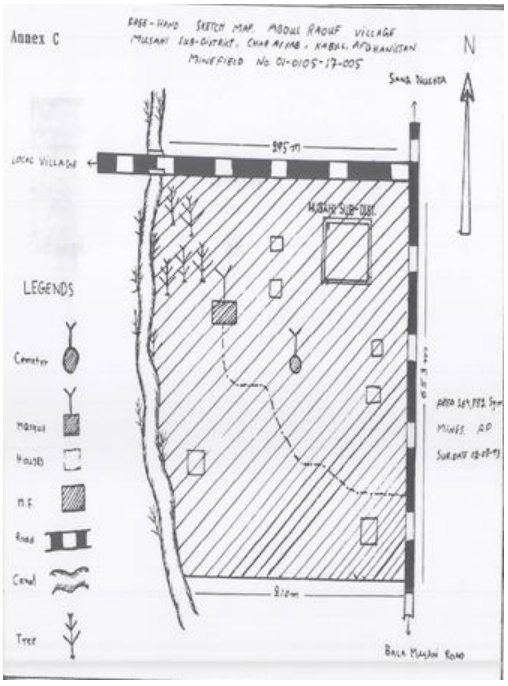


Figure 6 Photo log, non technical survey

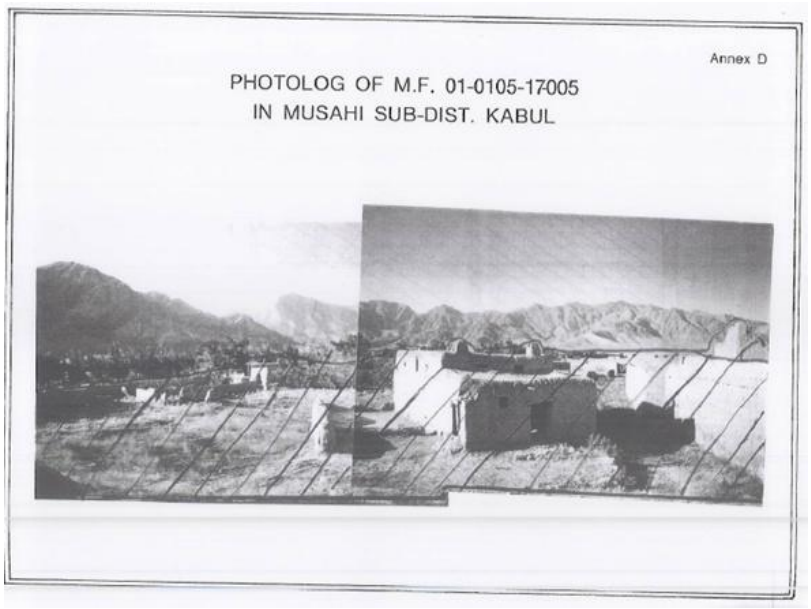
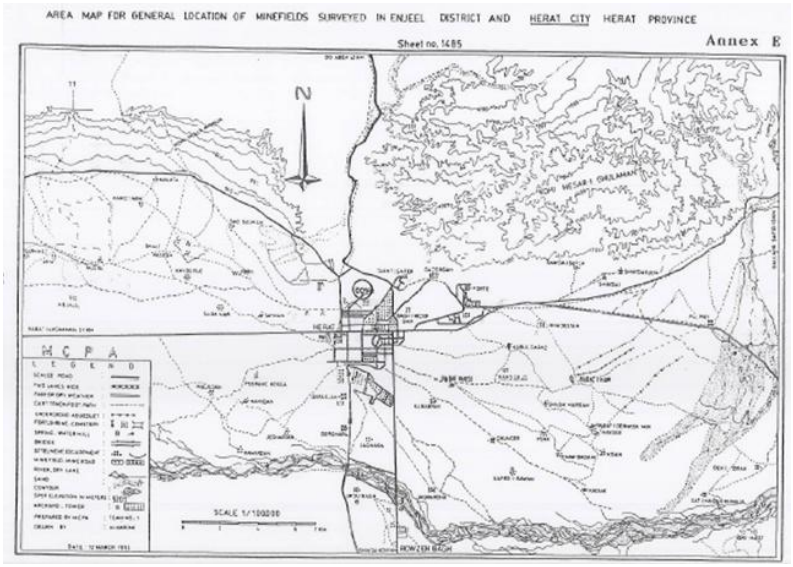


Figure 7 General location map, non technical survey



The survey questionnaire was designed to capture data about the following key areas: general information about the province; districts that were not surveyed and the reasons why; districts and villages not contaminated by mines; identification of the priority areas for clearance; general information about the districts; information sources; names of the villages that were surveyed;

demographic data of the districts and villages visited by surveyors; main obstacles to the return of refugees; human casualty data; details of animals killed by mines; security details and details of the available health facilities in the area. The questionnaire also covered the technical details of the mined areas such as the type of mines, the type of land contaminated and estimated size of mined areas.

The 1993 National Survey was implemented by a data collection team of 75 surveyors. The surveyors were recruited taking into consideration their general education, previous knowledge and experience in survey techniques, familiarity with areas to which the surveyors were to be deployed, their knowledge of the landmine situation and their demining experience. Following recruitment, the surveyors received a two week training programme. Those surveyors who passed the test and evaluation at the end of the training were organized into two to three person survey teams. Teams were then allocated certain provinces of the country. In order to ensure the quality and accuracy of the information gathering and to control and coordinate survey activities, supervisors were also selected from the surveyors. The supervisors were allocated certain geographic areas of the country to oversee.

The teams interviewed a variety of independent sources such as village elders, former military commanders and visually inspected the reported mined areas. At the same time, and whenever possible, an interview was also carried out with key informants, to generate enough discussion among villagers to ensure the accuracy of the data collection.

The 1993 National Survey was implemented in two field missions. When the first mission was completed, all the staff involved in data collection gathered at MCPA regional offices in Peshawar and Quetta cities of Pakistan to conduct a comprehensive and thorough review of the collected information. Debriefing sessions were organized and lessons learned were identified. In light of that, a refresher course was held for the surveyors in order to further improve the survey activities for the second field mission of the National Survey. The collected data was then verified and validated by independent sources such as senior staff and government authorities.

The 1993 National Survey report drew attention to a number of inevitable limitations of the survey. One of the main issues was the identification of the size of the mined areas. The survey was conducted rapidly, and advanced area measuring tools did not exist. As a result, the surveyors were only able to estimate the mine contaminated areas using a very rough area calculation methodology. Consequently the size of the mined areas identified in this survey was only based on rough estimation.

The other issue with the survey was the possibility of failing to capture information about all mined areas due to absence of inhabitants in many regions. When this survey was conducted, the numbers of Afghan refugees living in neighbouring countries were believed to be in the millions. This meant that many areas remained unused; hence some mined areas remained unknown. As a result of population movement, the return of refugees and land use, these previously unknown mined areas started to be reported. To address this, the programme put in place a process of capturing information of newly reported mined areas using the existing technical survey teams of MCPA. The same reporting formats designed for the 1993 National Survey were used. After a checking process all the newly recorded areas were recorded in the MCPA database.

In early 2000, the need for an advanced national level survey to identify mined areas was clear and planning began for the Afghan Landmine Impact Survey (ALIS) which was implemented by the Survey Action Centre (SAC) and MCPA.

4.2.2 Afghanistan Landmine Impact Survey, ALIS (2003 – 2004)

The ALIS followed the methodology of other national Landmine Impact Surveys, which is described as below.

At the onset of the survey, SAC employed a four-person international advisory team to provide technical support and oversight. The positions were Chief Technical Advisor, Operations Advisor, GIS Database Advisor, and Finance Administrative Advisor. After six months, SAC operations were reviewed and the Operations and Finance positions were abolished. With the departure of the original GIS Database Advisor, the final three-person SAC advisory team was composed of a Chief Technical Advisor, a Database Officer, and a GIS Field Monitoring Advisor. MCPA was responsible for recruiting the senior staff and survey teams and selecting the candidates. Thirty-seven candidates were chosen for senior-staff training. In addition, 30 interviewers already employed by MCPA and experienced in surveying and field mapping were selected to complement the survey team.

SAC and MCPA conducted senior-staff training for supervisors and field editors, in both English and Dari, at Qargha, outside of Kabul, in August 2003. The training provided a global picture of the worldwide mine problem, an introduction to the LIS protocols, staffing structure for field operations, data collection, interview techniques, use of global positioning system (GPS) units and compasses, Mine Risk Education, and supervision of field operations.

The questionnaire that had been developed was pre-tested in Kabul and Parwan provinces, from 16 to 22 August 2003. Twenty-one communities in five districts were visited.

MCPA trained 60 survey-team interviewers in Kabul in September 2003. Under the direct supervision of the MCPA Chief of Operations, the senior staff trained the interviewers on completing the questionnaire, interviewing techniques, measuring SHAs, mapping, and the use of GPS units, digital cameras, and compasses.

Following the senior staff training and the training of the interview teams, a pilot test of the entire survey process was conducted to test and analyze management, logistics, communications, administrative systems, and planning assumptions. Conducted in October 2003, the pilot test evaluated the level of competencies, efficiencies, and motivations of the staff, all of which proved to be positive.

A SAC Database Advisor trained ten Data Entry Unit Operators in September 2003. The training topics included data coding, GPS readings, field photos, and administrative and logistics follow–up and reporting. Data coding focused on ensuring that the data fields were compatible with IMSMA. The session on GPS readings used the protocol on visual verification as the basis for the training and included training in how to collect the GPS readings and transfer them to IMSMA.

The ALIS questionnaire was designed to fulfill the minimum data-collection requirements of Survey Working Group Protocol No. 3 – Minimum Data Requirements and Questionnaire. It was designed strictly on the IMSMA database structure and was translated into both Dari and Pashto.

In August 2003, two landmine impact-scoring meetings were held at UNDP and at the Disaster Preparedness Department (DDP) office, where 26 stakeholders—including ministry, UN, and NGO representatives—met to determine the weights for the economic blockages. The process followed the procedures of Survey Working Group Protocol No. 8 – Impact Scoring and Community Classification. As a result, “water source,” “economic development,” and “housing” were accorded more weight than other blockages, in keeping with the importance of the reconstruction needs and access to water in the country.

According to the 2001 Afghanistan Information Management Services (AIMS) gazetteer, which is widely used in Afghanistan, Afghanistan had 329 districts and, prior to the ALIS, had approximately 32,000 communities. The gazetteer, however, was not completely up-to-date at the start of the survey, which created occasional difficulties for the survey teams in locating the communities they

wanted to visit. By the end of the survey, the ALIS teams had identified and geo-referenced 1,500 communities that were not in the AIMS database, information that has since been provided to AIMS.

The main sources of opinion on which communities were possibly impacted by landmines were the MAPA database and the local governing councils (shuras). From the MAPA database, 3,000 possibly affected communities were identified in 278 districts out of the 329 districts in Afghanistan. In addition, SAC and MCPA reviewed MAPA Technical Surveys, General Surveys, village request notes, HALO Trust data, and Russian minefield data, where available, altogether totaling 9,620 documents. An important assumption in the planning for the retrofit ALIS was that it would take less time than a normal LIS. It was believed by some that the only real issue with retrofitting the database was the imprecision of the coordinates and that the general background data on the communities was valid. Thus, the ALIS teams would be able to quickly move through each of the 32 provinces in Afghanistan and simply update the existing data. But the retrofitting turned out to be a complicated and time-consuming enterprise.

The ALIS is a census of all impacted communities in Afghanistan. To make sure that no community is missed, False Negative Sampling (FNS) was carried out in areas that were claimed by MAPA, government, and local informants to be mine-free. This served as a check to ensure, with a reasonable degree of certainty, that no community was missed. Communities chosen for FNS were considered to have no impact, i.e., they were negative. A false negative, therefore, is a community believed to be landmine/UXO free that turns out to be contaminated. Wherever a false negative was discovered, all unsuspected communities within five kilometers of it were also visited. Any of these communities that were discovered to be impacted were re-categorized as true positives, i.e., as impacted by landmines/UXO. FNS was conducted at the district level, with the exception of the six southern provinces of Farah, Ghazni, Helmand, Paktika, Uruzgan, and Nimroz, for security reasons.

The three survey groups deployed throughout the survey varied in size according to the number of potentially impacted communities targeted from the preliminary opinion collection phase, security constraints, and terrain constraints. The general flow of the survey was from north and centre to east and west and, finally, south.

The ALIS entailed the collection of data and the visual inspection of reported contaminated areas in mine-suspect communities. The survey plan for a district was outlined at the survey headquarters in Kabul but with further refinement and detail added at the field level.

The field supervisors contacted community representatives to arrange the visits of the survey teams. Two-person survey teams conducted the interviews with representatives of the community, who were interviewed in mosques, schools, community buildings, and, weather permitting, outdoors.

The survey teams gathered as many representatives of the local community, with as many different backgrounds and levels of education, as possible. The survey teams gathered information from men, women and children but seeking input from women proved to be difficult. Having access to women required female staff in the survey teams but it was impossible to recruit female field staff who would accompany a male survey team and travel and stay in camps and hotels. Each survey team completed the questionnaire, sketched a map of the community and marked SHAs and recent victims on it, and visited the SHAs to estimate their boundaries.

Prior to the community interview, the survey teams verified the existing information on contaminated areas from the MACCA database. When matching data, the teams took physical copies of sketch maps to communities and discussed the whereabouts of the hazards. If the community stated that the area was safe for use, then a minimum of six people in the community would sign the sketch map or the data document and state why the site was now safe, and the area was then cancelled.

Nomadic *Kuchi* groups were interviewed whenever the survey teams encountered them, and based on these interviews, the ALIS was able to prepare route maps showing the impact of mines/UXO on these groups.

The SHAs reported by the community representatives were visually verified from a safe viewing point. Each survey team took a GPS reading of the community's latitude and longitude. Each SHA's shape and size was estimated, and a GPS reading at a representative point, and compass bearings and distance estimates to the nearest edge, were recorded. Each team was also responsible for taking photos of the community and of each identified SHA.

Survey teams visited every province and all but five districts in Afghanistan, due to security reasons. These five districts were Shawalikot in Kandahar, Shahjoy and Arghandab in Zabul, Nawi in Ghazni and Barmal in Paktika provinces of Afghanistan. The extensive survey coverage was an extraordinary achievement of the MCPA survey groups in the field, accomplished through patient negotiations with local authorities to guarantee security and the use of local transport, usually taxis with local drivers.

4.2.3 Confirmation Assessment (2005 – 2008)

When the ALIS was completed it was realized that if there is no systematic follow up information can become quickly outdated. To address this, the programme designed a process called Confirmation Assessment and 16, 2-men Landmine Impact Assessment Teams (LIATs) were formed within MCPA. Confirmation Assessment was a process aimed to continuously keep updated the recorded information gathered during ALIS. The LIATs used a slightly revised and improved version of the ALIS questionnaires to record and update information about contaminated areas. The LIATs also recorded information on newly reported contamination as Afghans returned to their communities or when communities expanded beyond the geographical limits at the time the ALIS was conducted.

The LIATs had all the existing data of the community and used it during discussions with community members to update ALIS data and assess changes to the community's situation, such as finding new SHAs, cancelling SHAs, blockage assessments, new victim linkage to the existing SHA and changes to the community's impact scoring.

The frequency of planned Confirmation Assessment was based on the ALIS impact level of the recorded community as below:

- High Impact communities were assessed once every 6-12 months;
- Medium Impact communities were assessed once every 12-18 months;
- Low Impact communities were assessed once every 2-3 years;
- Communities with new victims were assessed as soon as incidents happened.

The Confirmation Assessment process provided the following key benefits:

- Maintained the ALIS as a current and accurate planning tool;
- Provided quantifiable success indicators of mine action activities;
- Recorded new victims;
- Reviewed and revised SHA reports, maps and blockages;
- Recorded the new SHAs that were not covered during ALIS.

Confirmation Assessment teams:

- Arranged meetings with the community;
- Drew updated community map and SHA map;
- Reconfirmed blockages recorded by LIS;
- Linked new victim data to hazards area and then linking to the community;
- Changed the impact score if new victims occurred;
- Reconfirmed the presence of major blockages;
- Reconfirmed the cancelling of major blockages if clearance operations have been conducted;
- Asked communities if new SHAs have been identified;
- Carried out confidence assessment in the cleared land;
- Measured socio economic impact of the cleared land;
- Reconfirmed the coordinates of the Community Reference Point (CRP) and Safe Viewing Point (SVP) showing the location of SHA.

As a result of the Confirmation Assessment process, there were changes to the size and number of mine contaminated areas, as new SHAs not recorded during ALIS were reported, assessed and added to the database.

4.2.4 Polygon Survey (April 2008- October 2009)

In 2006 the HALO Trust had introduced and integrated Polygon Survey into its operations which coincided with the cessation of the deployment of HALO Trust technical survey teams and the merger of technical survey into clearance operations. The key difference between Polygon Survey and other forms of non-technical survey is that it accurately defines the perimeter of a hazard and therefore its size and area. This has a significant advantage over other form of non-technical survey in that the result is a far more accurate measurement of contaminated area. Survey teams conducting polygon survey are trained to observe a suspected hazardous area at close, but safe quarters and to map the area using GPS, compass, tape measure and laser range finder. The laser

range finder assists the survey teams in that it measures distance to a visible point from a safe observation point.

In 2008 it was decided that in order to obtain a more accurate understanding about the size of SHAs and their perimeters, it was necessary to Polygon Survey previously recorded SHAs. It was also decided to use Polygon Survey to identify and record contaminated areas not recorded during ALIS and Confirmation Assessment. The Polygon Survey was started on 1 April 2008 and ended on 30 October 2009 and was conducted by HALO Trust and MCPA. At the time there were 400 districts in Afghanistan of which 39 were not contaminated by mines; landmine contamination therefore existed in 361 districts. Out of the 361 districts the Polygon Survey was planned for 150 districts which seemed to be secure; however due to security issues the survey was only completed in 138 districts. In total 233 districts remain to be Polygon Surveyed. Polygon Survey is now considered the non-technical survey process of choice for the MAPA. Currently MCPA and HALO Trust continue to use Polygon Survey within their areas of operations to conduct non-technical survey and re-survey.

This survey was designed to:

- Diligently examine the previously recorded SHAs to identify, map and record a more accurate mine and ERW contamination picture;
- Record newly found mine and ERW contaminated areas;
- Cancel previously recorded SHAs which were confidently used by communities.

The overall methodology of Polygon Survey is summarized as below:

- Visit district and community authorities to seek more information about the security of the area and any further information about the mine contaminated areas;
- Meet with communities and ask for a familiar guide to show the contaminated areas to the team and also provide required information;
- Visit SHAs from different safe locations;
- Decide on how to convert the SHA into one or more polygons;
- Establish starting point (SP), Benchmark (BM) and Reference Point (RP) for each individual polygon;

- Take the bearing and distance of each polygons' perimeters using a laser range finder;
- Take photos of the created polygons;
- Prepare scaled sketch maps of each polygon.

The findings of the Polygon Survey provided more reliable information about the type and size of mine contaminated areas which helped to better define the actual scope of the problem and improve prioritising, planning and managing of subsequent technical survey and clearance operations.

Below are the added values of the Polygon Survey:

- Identified the boundaries of contaminated areas and displayed hazard polygons on GIS and mapping products;
- Updated information on size and type of contamination;
- Improved reliable demining operations planning tool;
- Avoided wasting time and assets;
- Reduced size of contaminated areas;
- Recorded new hazardous areas not covered by ALIS and the Confirmation Assessment.

Despite great efforts as described above identifying baseline data about the size and scope of landmine contamination has been a key challenge in Afghanistan. Reasons include:

- Accessibility – some areas of Afghanistan have been and continue to be inaccessible due to security reasons;
- Data management - up until 2002 the data was held with MCPA in a FoxPro database and a separate database was held by the HALO Trust. At the end of the ALIS FoxPro was migrated into IMSMA and subsequently data from the HALO Trust has also been added in IMSMA;
- Lack of minefield maps – this has forced survey teams to rely on the local population and in many instances key informants were found to be absent;
- Randomly laid minefields – randomly laid minefields have made it difficult to determine an accurate estimation of the contaminated area;
- Constant reporting of new mined areas – as people have moved around the country newly reported hazard has continued to be identified. In addition the current conflict has resulted in new contamination.

4.3 Reasons for suspecting the presence of AP mines in other areas

4. 3.1 Lack of access/survey

ALIS, due to security reasons, could not cover five districts in the south and south eastern parts of the country. These districts were Shawalikot in Kandahar, Shahjoy and Arghandab in Zabul, Nawur in Ghazni and Barmal in Paktika provinces of Afghanistan. These districts still have not been covered by a systematic non-technical survey, the presence of more mined areas in these districts can therefore be suspected given the previous conflicts that took place in these areas are similar to those that took place in other mine affected areas. In addition to this, during ALIS, False Negative Sampling was not conducted in 6 provinces due to security reasons. These provinces are Farah, Ghazni, Hilmand, Paktika, Uruzgan, and Nimroz; thus it is possible that mined areas exist there as well.

The Polygon Survey was only conducted fully in 138 districts out of 361 districts where the presence of mined areas were confirmed through previous surveys. Discovering more mined areas can be expected in the districts that have not been covered by the Polygon Survey. An example of this is approximately 100 linear km of Northern Alliance/Taliban frontline running from eastern Takhar southwest and into eastern Baghlan province. This frontline requires further investigation and Polygon Survey. A significant number of additional hazardous areas are expected to be identifies but access to conduct Polygon Survey has been thwarted to date due to general insecurity in these areas.

4. 3.2 Conflict

Most of the recent conflicts have taken place in the areas close to the border with Pakistan. Provinces such as Kandahar, Helmand, Zabul, Paktia, Paktika, Nangerhar, Kuner, Nooristan are considered to be most affected by recent conflicts. However, the conflict has also affected other parts of the country away from the border areas, such as Wardak, Logar and Ghazni, located in the central area of the country, Kunduz and Takhar in the north-east, Faryab in the north and some provinces in the western areas of the country. Discovering some remnant IEDs and ERW contaminated areas can be expected in all these provinces once the conflict is over.

For instance, evidence suggests that Marja (Nadali) district located in Helmand province is heavily contaminated by abandoned IEDs. In order to systematically conduct a non-technical survey MACCA deployed a two-man MCPA survey team in September 2010. The team was in the centre of Marja during 2-14 October 2010. Due to ongoing conflicts in the area the team was unable to conduct a full non-technical survey in this area. However during this time they managed to gather information from some key informants in the area. At the end of their mission, the team reported the possibility

of 10 sq km IED contaminated areas around the centre of Marja district. The following map and the table reflect the reported scope of the problem in Marja district. It is suspected that similar experiences in other conflict affected areas are highly likely.

Figure 8 AIED contamination, Marjah

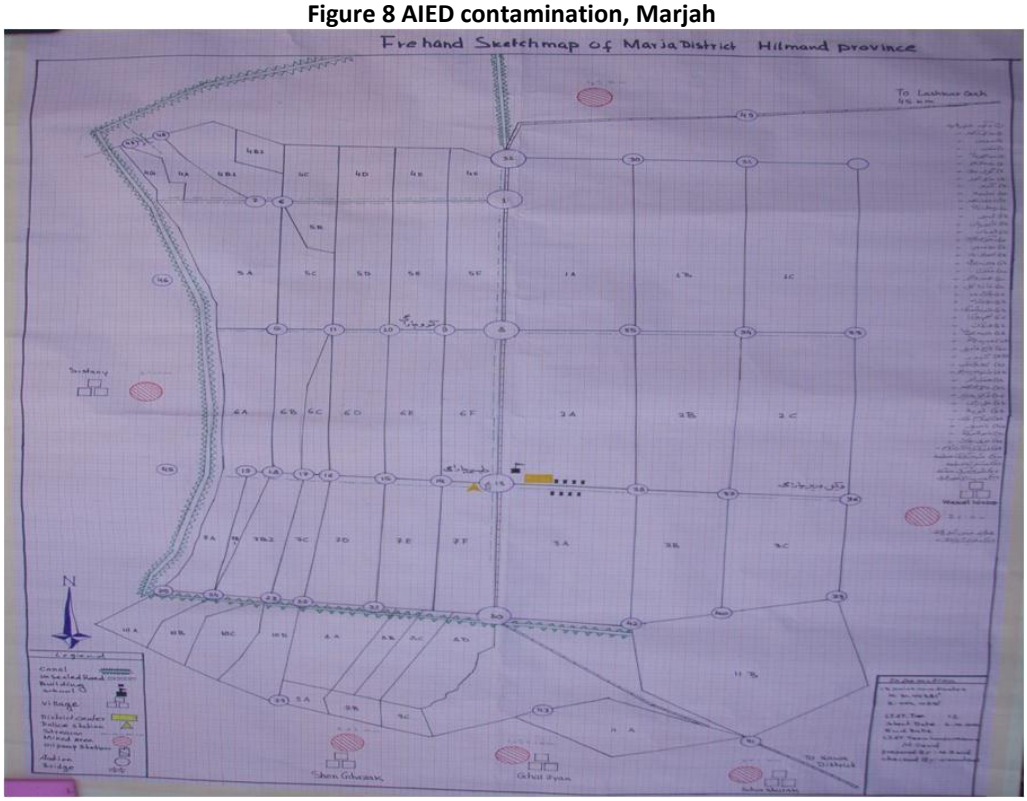


Table 9 AIED contamination, Marjah

Impacted Community	Number of Contaminated Areas	The estimated size of the contamination in sq m
Sestani Dashta	1	2,000,000
Shin Ghazak Kalay	1	2,000,000
Ghaljyanu Kalay	1	1,500,000
Shurshurak Kalay	1	2,000,000
Wakil Mantika	1	2,000,000
Camp Saha	1	500,000
Total	**6**	**10,000,000**

5. NATIONAL DEMINING STRUCTURES

This section first describes how MAPA established itself and grew from 1989 to the present day. This is followed by overview of the role of each significant stakeholder within the MAPA structure. The section concludes with an explanation of how the coordination function is anticipated to change in the coming years as the role of coordination is transitioned from the United Nations to the Government of Afghanistan.

5.1 History

5.1.1 1988 - 1993: Soviet withdrawal and establishment of MAPA

The signing of the Geneva Accords in 1988 led to an optimistic prediction of impending peace and repatriation of millions of Afghan refugees but it was apparent to many groups that landmines represented a major impediment. Initial efforts were initiated in 1988 when British NGO HALO Trust opened an office in Kabul in early 1988 and began operations in Pul-i-Khumri in 1990. In early 1989 UNOCHA (remotely managing from Peshawar, Pakistan) commenced mine action activities by funding MRE for refugees, and using western military personnel to train thousands of Afghan refugees in basic clearance techniques as part of a wider humanitarian and economic assistance programme called Operation Salaam. Unfortunately, despite this initiative those trained were reluctant to undertake mine clearance in Afghanistan. In response UNOCHA approached the Afghan interim government's Ministry of Rehabilitation (MoR) for assistance in implementing demining projects. The ministry introduced an Afghan official, Keyfayatullah Eblagh who was able to develop and implement through the establishment of Afghan Technical Consultants (ATC) the world's first large-scale humanitarian demining organisation a mine action project for Afghanistan. Actual mine clearance funded by the UN inside Afghanistan started in the eastern provinces of Kunar and Paktika. MDC began working in Paktika from late 1989 and ATC in both Paktika and Kunar also from late 1989.

The UNMACA (UN-Mine Action Centre for Afghanistan) was established in 1989 by UNOCHA and was based at the UNOCHA office in Islamabad. UNMACA was a small operation, with only five international personnel supported by a few locally recruited staff. UNOCHA encouraged the establishment of Afghan mine action NGOs, the first of these being Afghan Technical Consultants (ATC) which was created in October 1989 followed by Demining Agency for Afghanistan (DAFA) then Mine Clearance Planning Agency (MCPA) which specialized in minefield survey and mine action information management, Organisation for Mine Clearance and Afghan Rehabilitation (OMAR) and the Mine Dog Detection Centre (MDC) in subsequent years. Additional partners were added over

time, mostly involved in MRE. The collective term for all agencies involved in mine action in Afghanistan, including the coordination centre, became the Mine Action Programme of Afghanistan (MAPA).

Due to the anarchic conditions following the Soviet withdrawal as well as the security situation these organisations, including UNOCHA, were established in Pakistan under special registration provisions for Afghan NGOs. The only exception was HALO Trust who has always worked exclusively from within Afghanistan with all staff and offices based permanently inside the country.

Concurrently to the development of the UN and NGO mine action programme in 1988 the Najibullah Government established the National Commission for Mine/ERW Clearance under the leadership of the Prime Minister. This Commission was inter-ministerial with the participation of 15 interrelated ministries with 4 separate committees established to coordinate a) the training of personnel b) Mine Risk Education, c) fund raising and d) survey and clearance. At this time some limited survey and clearance was being undertaken by the Ministry of Defense who reported to the National Commission, as did the HALO Trust. Other implementers based in Peshawar operated in areas not under the control of the Najibullah Government and thus did not report to the National Commission.

In January 1990, a structure entitled the High Commission for mines and ERW Clearance was approved by the Prime Minister[25] which reported directly to the National Commission. This Commission was essentially the executing agent for coordination, in effect the first mine action coordination centre. At this time the Commission was a purely military structure.

When the Najibullah Government fell in 1992, the National Commission was dismissed. The High Commission for mines and ERW Clearance remained but was staffed by civil servants rather than the military.

5.1.2 1994 - 2001: Relocating to Afghanistan, civil war, the rise and fall of the Taliban

As the situation improved in different regions of Afghanistan, the separation of UNMACA and mine action NGO headquarters in Pakistan from the work in Afghanistan became problematic.

Once security improved with the emergence of the Taliban[26] in 1994 the Afghan NGOs opened offices in Afghanistan and in addition to UNMACA in Islamabad, UNOCHA established UN- Area Mine Action Centres (UN AMACs) within Afghanistan for regional coordination. These offices were staffed

[25] Under degree No 1- 1969 date 15 Jan 1990
[26] In late 1994 the Taliban took Kandahar, followed by Herat in 1995 and Kabul in 1997

entirely by Afghans - the first Afghans filling reasonably senior roles within the UNMACA. By 1995 MAPA had about 2,000 demining personnel.

At the same time as the UN and mine action NGOs were making valiant attempts to coordinate and demine in Afghanistan, the government structure suffered many changes as various governments took power and changed structures put in place by preceding governments. The High Commission for mines and ERW Clearance was created as the Department for Mine Clearance (DMC) in November 1990 and reported to a commission of ministers. In 1995 the DMC structure was integrated into Afghanistan National Disaster Management Authority (ANDMA).[27]

Inevitably, during this time period, the seemingly never-ending conflicts and an increasingly isolated Taliban Government in Afghanistan led to donor fatigue and contributions began to falter. After averaging almost US$20 million during the previous five years, donations fell to below US$13.5 million in 2001, forcing programme cut backs.

The US-led intervention in 2001 had a great impact on the mine action programme, beginning with the temporary cessation of activities and the theft of large amounts of vehicles and equipment. However, following the quick collapse of the Taliban regime, the mine action programme entered a phase of renewed expansion.

5.1.3 2002 – Present, Expanding Mine Action Programme

MAPA's partners faced a daunting agenda once the Taliban regime collapsed in late-2001. First they had to resume operations, requiring extensive re-equipping to replace the looted equipment. They also had to undertake a rapid assessment of the new hazards stemming from coalition bombing-particularly unexploded cluster munitions.

Clearance priorities also needed to be altered, both to deal with the cluster bombs and to address the population movement as displaced persons returned to their home communities. The MRE program had to be overhauled, with women instructors re-engaged and programs put in place to reach refugee camps and transit centres. Large-scale reconstruction projects, particularly roads and airports, also required demining support.

[27] Afghanistan being one of the member countries of United Nations General Assembly on the basis of ordinance 56, dated 27/ 11/1351 (15 Feb 1973) decided to set up the previous Department of Disaster Preparedness (DDP) as ANDMA under the structure of that time Prime Minister.

The installation of the interim government led to the end of the UNOCHA mandate and, in 2001, the UN transferred responsibility for the coordination of mine action to UNMAS. UNMACA moved from Islamabad to Kabul just as hundreds of other aid agencies, embassies, and NGOs were establishing offices in the capital. New units also had to be added to the UNMACA establishment to handle the administrative, finance, and logistics functions previously provided by UNOCHA in Islamabad.

UNMACA and the mine action agencies in Afghanistan responded effectively to the challenges, while donors quickly provided funding to expand operations. Funding in 2002 increased almost fivefold. In addition, MAPA agencies such as ATC and HALO Trust made significant contributions to the destruction of weapons, ammunition, and landmine stockpiles; ATC being the first NGO to deliver an AP mine stockpile destruction programme with the Ministry of Defense and HALO Trust as part of the Afghan New Beginnings Programme (ANBP). HALO was involved in two phases of the ANBP as the lead implementing partner. The first was the Disarmament Demobilisation and Reintegration (DDR) programme which ran between 2003 and 2005 and was aimed at dissolving the assets of former Afghan Military Forces in anticipation of the creation of a new Afghan National Army. The second was the Disarmament of Illegally Armed Groups (DIAG) programme which ran between 2005 and 2009 and was aimed at dissolving the assets of former warlords. Initially the focus was on the destruction of weapons such as SALW, and the cantonment of heavy weapons, but in the latter stages, there was a move towards mine and ammunition destruction. HALO fielded 23 Weapon and Ammunition Disposal (WAD) teams at the height of ANBP operations and conducted a nation-wide survey under the programme. During the ANBP process, HALO WAD teams destroyed 529,790 anti-personnel mines, 10,795 anti-tank mines, over 5.69 million items of ammunition, and over 44.8 million small arms ammunition. In addition, 2,873 heavy weapons were deactivated and 52,935 Small Arms Light Weapons (SALW) were destroyed.

On 28 July 2002, President Karzai announced that Afghanistan would sign the Ottawa Convention and, in March 2003, Afghanistan became a State Party to the Convention. The UN and the Afghan authorities also discussed the eventual need to transfer responsibility for coordinating mine action activities from the UN to the government.

A Consultative Group (CG) mechanism was created in 2002 to manage donor funds and to support the Government of Afghanistan in all areas of humanitarian action and development. The Mine Action Consultative Group (MACG) was formed under the chairmanship of the Ministry of Foreign Affairs (MoFA) when the CG expanded in 2003. Among other things, the MACG developed a consensus on the main features of a nationally-managed program; the national authority should

be a semi-autonomous statutory body under an inter-ministerial committee reporting via the Office of the President.

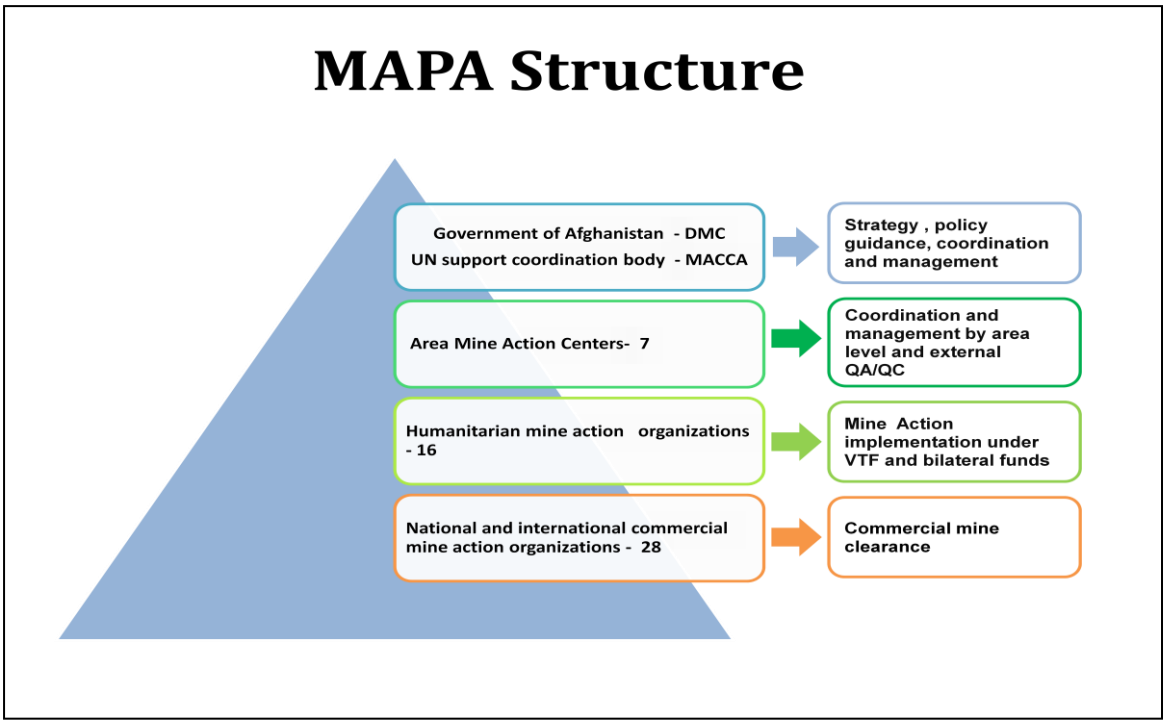
In December 2007 a national mine action symposium was held involving government ministries, donors, implementing partners, UN agencies, and other stakeholders. It was agreed that an Inter-Ministerial Board (IMB) should be established to determine the national structure. On 16 January 2008 the IMB met and selected the DMC under the ANDMA as the lead government agency for mine action to chair the meetings of IMB and act as a secretariat to the IMB. Since April 2008 DMC has been collocated within the UNMACA compound to take practical steps toward a joint coordination mechanism with the UNMACA.

In 2008 the UNMACA rebranded itself as the Mine Action Coordination Centre of Afghanistan (MACCA). The intention for this conversion was a step forward to nationalization and transition of Mine Action Program's coordination responsibility to the Government of Afghanistan. This process has been further improved by developing a National Capacity Development plan and transfer of some coordination responsibilities to DMC under ANDMA.

5.2 MAPA structure today

The diagram below shows how the MAPA is structured, who the stakeholders are and their role in the programme.

Figure 9 MAPA structure



The following text explains the diagram in more detail.

5.2.1 Government of Afghanistan: the Department for Mine Clearance (DMC)

As shown in the diagram the Government of Afghanistan is responsible for the overall strategy of the mine action programme. The most recent government endorsed strategy document for mine action was issued in May 2006. It was based on the Government of Afghanistan's vision of

> "a country free from landmines and ERW, where people and communities live in a safe environment conducive to national development, and where landmine and ERW survivors are fully integrated in the society and thus have their rights and needs recognized and fulfilled."[28]

In order to realize the End-State Vision, the following end goals must be achieved:

Goal 1 -Demining: The End Goal for demining[29] will be achieved when all known mine/ERW contaminated areas are cleared. There will continue to be an effective mines/ERW demining capability to respond to unknown residual risk, and raising of public awareness on how to recognize and report suspicious items for disposal by qualified authorities. Mapping of cleared areas will be complete and accurate; and this data will be made available as needed to the public and designated institutions. All post-clearance documentation will be complete and all cleared land will have been handed over in accordance with national standards.

Goal 2 -Mine/ERW Risk Education (MRE): The End Goal for MRE will be achieved when a comprehensive and sustainable system is in place to educate people and raise awareness throughout communities nationwide about residual mines and ERW threats, including sufficient information to recognize and report these items to the appropriate authorities.

Goal 3 -Stockpile Destruction: The End Goal for mine stockpile destruction will be achieved when illegal, abandoned or otherwise unwanted munitions have been destroyed or otherwise disposed of.

Goal 4 -Mine/ERW Survivor Assistance: The End Goal for Mine/ERW survivor assistance will be achieved when mine/ERW survivors are reintegrated into Afghan society, with support provided through a national system that incorporates the rights and needs of people with disabilities.

[28] Mine Action in Afghanistan: The Way Ahead, Islamic Republic of Afghanistan, Saur 1385 (May 2006).

[29] Demining is defined as comprising: technical survey, mapping, clearance, marking, post-clearance documentation, Community Mine Action Liaison and handover of cleared land.

Goal 5 -Advocacy and Coordination: The End Goal for advocacy and coordination will be achieved when relevant institutions and civil society cooperate and support the fulfilment of Afghan commitments to the eradication of mines/ERW, and the importance of mine action for communities and for national development in general.

All mine action activities undertaken in Afghanistan fall within this strategy and aim towards the achievement of these goals.

As well as endorsing the strategy, the government plays an important role through ANDMA and DMC and is supported by the MACCA in policy guidance, coordination and management. DMC currently contains 14 civil servant positions, each of whom is linked to the core business of coordinating mine action through partnerships with relevant MACCA departments as shown in the table below.

Figure 10 DMC/MACCA partnering

DMC Position	MACCA Department/section
DMC Director	MACCA Director
Chief of Quality Management and Deputy Director	Overview with all departments - Operations, Information Management, Programme
Chief of Operations	Operations Department
Planning Manager	Plans Section
Standards Manager	Quality Management Section
Database Manager	Information Management Section
Assessment and Evaluation Manager	Quality Management Section
Manual Operation Manager	Operations Section
Mechanical Operation Manager	Operations Section
EOD (Explosive Ordnance Disposal) operation Manager	Operations Section
MRE Manager	MRE and Victim Assistance (VA) sections

Through this structure of shadowing MACCA departments, DMC are aware of all, and directly involved in most, aspects of coordination as described in paragraph 5.2.2 below. As well as this strategy of building capacity through day-to-day involvement in the business of coordination (planning, stakeholder meetings, representation to government, presentations, field visits, and workshops) DMC have also benefited from direct capacity building which has included training in management skills, IMSMA, quality management, International Standards Organisation (ISO)

management standards, monitoring and evaluation (M&E), English language and exchange visits to the mine action programme in Azerbaijan.

In addition to being involved in general coordination of the programme, DMC plays the key role in facilitation of Government processes relevant to the mine action programme. The DMC:

- Processes the importation of demining equipment (see Annex 4 for flow chart of responsibilities);
- Facilitates the transportation of explosives;
- Endorses mine action agency reports to donors and Ministry of Economy (see Annex 5 for flow chart of responsibilities);
- Reports on Afghanistan's treaties and obligations (see Annex 6 for flow chart of responsibilities);
- Reports the programme's progress to the Presidential Office;
- Identifies the Government of Afghanistan's priorities for the mine action annual national work plan to meet the requirements of Afghanistan National Development Strategy (ANDS)[30] goals;
- Starts the accreditation process for new demining organisations (see Annex 7 for flow chart of responsibilities);
- Organizes and chairs demining coordination meetings with Government of Afghanistan;
- Facilitates the outreach process of mine action program progress to Government of Afghanistan and Afghan parliament houses;
- Negotiates problems.

5.2.2 The Mine Action Coordination Centre of Afghanistan (MACCA)

Located in Kabul, the MACCA currently employs 141 national and 10 international staff to coordinate multilateral, bilateral and commercial sector mine action operations. The MACCA works directly with government representatives, implementing partners, other UN offices, and relevant aid organisations.

The roles and responsibilities of MACCA in coordination of mine action activities are as follows:

[30] The Afghanistan National Development Strategy, formally approved by President Hamid Karzai on April 21, 2008, is the document that outlines the Government of Afghanistan's strategies for security, governance, economic growth and poverty reduction

- **Management of the national database (IMSMA)**

MACCA is the custodian of the national database for mine action and the record keeper of what has taken place. MACCA is responsible for maintaining the national database for mine action, using data provided by mine action agencies. IMSMA forms the primary basis for planning of field operations ranging from MRE to demining to post-clearance developmental concerns, as well as its decision-support capability for decisions made at higher levels on the overall national mine-action plan for the future.

It is critical that this data is up to date and correct. The information management systems developed and used in Afghanistan are arguably the most sophisticated of any mine action programme used in the sector globally. In 2010 MACCA transitioned to IMSMA New Generation and is the first country to use all applications of this most recent version of IMSMA. Furthermore MACCA's information management section has developed a number of add-on databases which provide MACCA with additional data and a means through which to monitor and evaluate activities in depth. The IMSMA database contains data concerning hazard and clearance progress. Add-on databases include:

- Planning database which enables MACCA to ensure that there is no overlap in Implementing Partner plans and to anticipate the expected outputs in any given period;
- Donor database which enables MACCA to link every team operational on the ground with the donor funding the activity. Information can be provided to the donor on the outputs and outcomes of these activities and provides the donor with a means of verification of Implementing Partner reporting;
- Quality Management (QM) database which contains information about the number of external QA visits undertaken and the number and type of non-conformities observed. This information is used to identify and make known to Implementing Partners areas of weakness to be addressed. As of November 2011, the QM database also includes information concerning internal QA visits as a result of implementers reporting their findings to IMSMA. This enables MACCA to assess quality-related activities in their entirety.

Implementing Partners report progress on a weekly and monthly basis to MACCA in Kabul. The data is checked for quality and then entered into IMSMA. Every month IMSMA is synchronized and issued to interested and relevant stakeholders, hence all stakeholders have access to the same data at all times.

HALO Trust manages its own set of databases and geographical information systems in order to have adequate representation over data generated through its extensive survey and clearance operations. As the largest implementing partner with a very strong focus on survey, the data generated is voluminous but is carefully checked and stored at HALO Trust, fed into IMSMA, and made readily available to members of the MAPA. This second source has proved immensely useful in support of the MACCA's information management systems including IMSMA and implementing partners for cross-referencing survey and clearance data.

- **Coordination of survey, clearance and ERW removal**

Coordinating the achievement of the government of Afghanistan's first goal to is address the landmine and ERW problem, is one of the primary functions of MACCA. This is coordinated through planning and priority setting of mine and ERW contaminated areas in accordance to the agreed impact and priority setting factors. Each year once the priority areas for clearance, survey and ERW removal are identified, the implementers of mine action develop specific project proposals. The project proposals are subjected to a thorough review by an expert group made up of individuals from different sections within MACCA.

Once projects have begun, implementers provide MACCA with quarterly clearance plans which the MACCA Plans Section reviews and uses to update the planning database with details such as start/end date and duration of each clearance task. In addition, implementers provide the MACCA MIS section with progress reports and MACCA updates IMSMA. Throughout the year, implementers submit project reports and, at the end of each year, DMC/MACCA prepare the annual report and DMC prepares the Article 7 Report.

- **Coordination of MRE**

MACCA coordinates not only clearance operations but also the plan for MRE delivery. MACCA provides continual analysis of data on accident trends and new risks that will impact the prioritization of resource allocations and assists in the development of MRE plans in support of the national mine action strategic plans. MACCA ensures the participation of implementing partners and ministry counterparts, in particular the Ministry of Education (MoE) in the planning processes and provides inputs to donors and stakeholders, ensuring asset and resource allocation provides the best possible MRE outreach to impacted communities within budget.

- **Victim Assistance**

MACCA supports the Government of Afghanistan in its legal obligations towards people with disabilities, whether the disability results from mines/ERW or any other reason. [31] MACCA has staff located in the relevant ministries; Ministry of Labour, Social Affairs, Martyred and Disabled (MoLSAMD), Ministry of Public Health (MoPH), Ministry of Education (MoE).

- **Quality management (QM), Monitoring and Evaluation (M&E)**

Section 10 explains in detail the quality management and M&E activities delivered by DMC and/or MACCA on behalf of the Government of Afghanistan and donors. In summary DMC/MACCA:

- Maintain the Afghan National Mine Action Standards (AMAS); currently negotiations are in progress with Afghanistan National Standards Authority (ANSA) to process AMAS as a registered and accepted document for mine action in Afghanistan. A MACCA staff member sits inside the ANSA office and is completely integrated into this important government authority (MACCA);
- Manage accreditation of national and international humanitarian and commercial implementers (MACCA and DMC);
- Conduct external QA and Quality Control (QC) of operations implemented by national and international humanitarian and commercial implementers (MACCA);
- Record in IMSMA the results of internal QA and QC undertaken by national and international humanitarian and commercial implementers (MACCA);
- Conduct Board of Inquiries when required (MACCA and DMC);
- Certify clearance/cancellation and land release documentation (MACCA and DMC);
- Attend handover ceremonies (MACCA and DMC);
- Implement Quality Circles (MACCA and DMC);
- Implement the Project Monitoring Tool (MACCA);
- Draft and issue Balanced Score Cards (MACCA);
- Implement end of project monitoring (MACCA);
- Review multilateral and bilateral project proposals in Proposal Review Team (MACCA and DMC);
- Evaluate the results of clearance (DMC audit).

[31] In line with obligations within the Ottawa Convention, the Convention on Certain Conventional Weapons, the Convention on Rights of People with Disabilities, the Cartagena Action Plan, Vientiane Action Plan and the Nairobi Action Plan and also the ANDAP – Afghanistan National Disability Action Plan

- **Coordination; outreach, information sharing, best practice**

As the coordination centre, MACCA provides significant amounts of information and expertise on mine action across all sectors of government, humanitarian and development agencies, mine action implementers, donors, and the security sector, among others. These are briefly summarised below.

Government liaison: In line with the ANDS and National Priority Programmes, DMC and MACCA ensure mine action activities are planned to support these strategic goals. A link between DMC/MACCA and relevant government ministries is in place so that government plans are well known in advance and the potential impact of mined areas on such plans can be smoothly managed. DMC/MACCA provide information to stakeholder government departments. DMC/MACCA attends the Ammunition Working Group chaired by the Ministry of Defense; DMC/MACCA supports the Ministry of Interior in explosives management, laws related to the transportation of explosives, and similar endeavors; DMC/MACCA support relevant government departments in national and international mine action related meetings/conferences/workshops.

Afghanistan has signed a letter to support "Central Asian Mine Action Coordination Council," which will assist in addressing of the landmine and related problems in the region by exchanging experts, assets and experiences. DMC/MACCA supports and attends meetings and missions to these countries.

Humanitarian & Development agencies: DMC/MACCA provides mine contamination information to humanitarian and development agencies to enable implementation of the projects without mine/ERW threats; DMC/MACCA attend relevant coordination meetings including the Humanitarian Country Team meetings and the Protection Cluster.

Mine action implementers: DMC/MACCA chair monthly Mine Action Stakeholders Meetings and operational coordination meetings for government, donors and directors of mine action agencies to ensure timely communication of recent issues affecting the programme; DMC/MACCA chair monthly operational coordination meetings at operations staff level to ensure good coordination, attention to relevant issues and problem solving; DMC/MACCA host and manage workshops, meetings, training for Implementing Partners to benefit the programme as a whole.

Donors: MACCA resource mobilizes on behalf of the whole programme to encourage donors to contribute to the VTF for mine action or to contract implementers directly; DMC/MACCA provide donors with information on the best use of their funds through the Project and Implementing Partner Selection (PIPS) process whereby a panel of MACCA and DMC personnel consider the size of

the donor contribution, donor preference for mine action sector or geographical area, priorities of the programme, implementers with the best experience, and suggest funds allocation accordingly;

Communications: DMC/MACCA distribute the annual report, monthly newsletters, MACCA Fast Facts, and other relevant publications to interested donors, and hold donor visits to minefields, MRE classes or other venues showcasing project work.

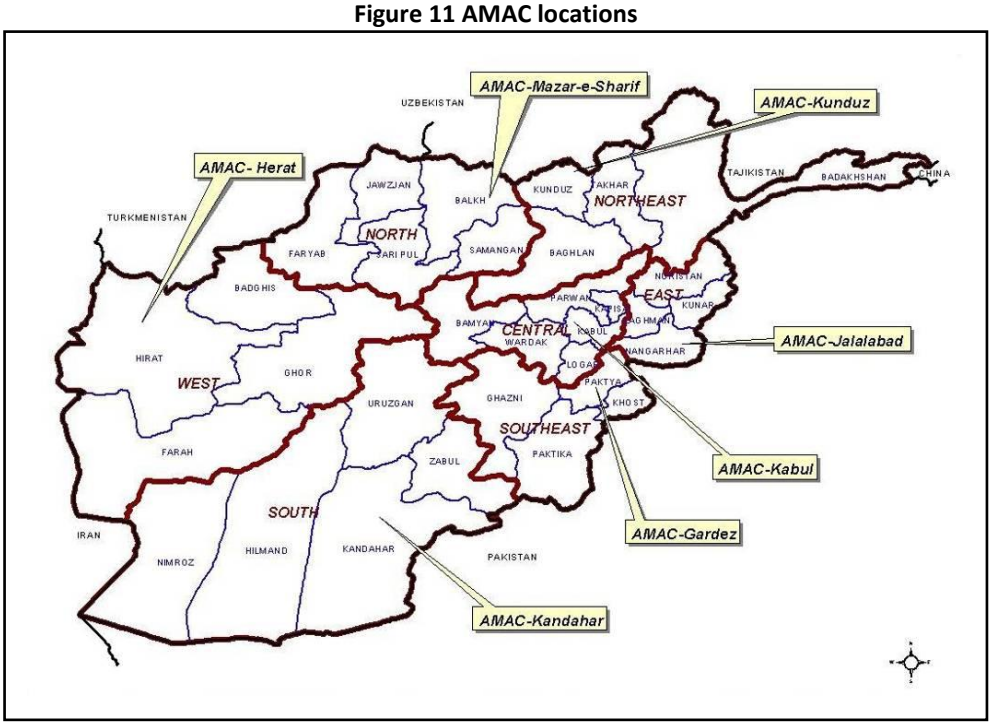
Security sector: MACCA and implementers participate in regular security related meetings, briefings about mine action activities and share information regarding team locations at the national and local level; MACCA attends UN Security Management Team meetings on a weekly basis and uses information for managing security in the field. Road mission security clearance is required from UNDSS for MACCA HQ and field staff movements; Information about security levels across the country is used to inform planning of asset deployment.

Best practice: MACCA holds a seat on the International Mine Action Standards (IMAS) review board ensuring lessons learned and experiences gained in Afghanistan feed into international standards and Afghanistan's standards remain in line with and up to date with IMAS; MACCA is also a member of the Geneva International Centre for Humanitarian Demining (GICHD) advisory board which enables Afghanistan to benefit as much as possible from research undertaken by GICHD. Examples of this include research into Land Release, the use of Mine Detection Dogs, quality management issues, and others; MACCA staff attend relevant workshops in Kabul and in other regions related to monitoring and evaluation, livelihoods, and resource management to ensure best practice in other sectors can feed into the mine action programme where appropriate;

5.2.3 Area Mine Action Centres (AMACs)

There are seven Area Mine Action Centres supporting regional coordination as shown in the map below.

Figure 11 AMAC locations



At time of writing, 196 Afghans are employed in the AMACs which contribute to many of the activities undertaken by MACCA as described above. In addition, and specifically at local level, AMACs:

- Coordinate the mine action program with government, local shura, impacted communities, UN, Provincial Reconstruction Teams, Coalition Forces, INGOs, NGOs and mine action organisations at the regional level;
- Review and analyze reports received from mine action organisations to support the integrity of the data held in the national database;
- Monitor the implementation of mine/ERW survey clearance, MRE, Victim Assistance and EOD operations in the field to ensure that the objectives of the annual work plan are being met;
- Conduct regular QA and QC of mine action operations and report to MACCA HQ;
- Conduct monitoring and evaluation activities to assess any problems related to mines/ERW in order to provide MACCA with improved technical overview and to assist in providing solutions to identified problems when required;

- Facilitate field visits of all stakeholders.

5.2.4 Implementers of mine action activities

Mine action activities are implemented by national and international NGOs and national and international commercial companies. NGOs and international commercial companies engaged in demining have been operational in Afghanistan since 1989. The national commercial sector has grown significantly since 2006 when the first Afghan commercial demining organisation was established. The activities of all organisations are coordinated by DMC/MACCA.

The table below shows the breakdown of the type and number of organisations accredited to work in Afghanistan.

Table 10 Types of organisations accredited as of 8th Jan 2012

Type of organisation	Number	Mine action pillar	No of teams	No of employees
Afghan NGOs	7	Survey/Clearance, MRE, VA.	328	5,308
International NGOs	11	Survey/Clearance, MRE, VA.	312	5,204
Afghan commercial companies	22	Survey/ Clearance	40	740
International commercial companies	6	Survey/ Clearance	72	1,451
Total	**44**		**752**	**12,703**

The vast majority of the work being undertaken in support of humanitarian mine clearance focusing on removal of AP minefields is undertaken by the following national and international NGOs:

- Association for Aid and Relief, Japan (AAR Japan) - MRE
- Afghan Red Crescent Society (ARCS) - MRE
- Afghan Technical Consultants (ATC) – clearance
- Demining Agency For Afghanistan (DAFA) – clearance
- Development & Ability Organisation (DAO) – VA
- Danish Demining Group (DDG) – clearance
- Swiss Foundation for Mine Action (FSD) – clearance
- Handicap International Belgium (HI) - MRE
- HALO Trust (HT) - clearance
- Mine Clearance Planning Agency (MCPA) – clearance
- Mine Detection and Dog Centre (MDC) – clearance
- Mobile Mini Circus for Children (MMCC) - MRE

- Organisation for Mine Clearance and Afghan Rehabilitation (OMAR) – clearance and MRE

These organisations have different profiles and team components to perform a range of mine action activities including general survey, technical survey, mine clearance, Battle Area Clearance (BAC), EOD, MRE, and VA. At time of writing, 768 different team/assets and 12,687 people were deployed by these implementers working in 91 districts of 25 provinces of Afghanistan.

It should be noted that in most cases the commercial actors deliver what can best be described as a verification service, whereby construction companies working on large projects such as security, road, canal, rail and other infrastructure development projects ensure sufficient duty of care for their workers by checking that mines or ERW will not be uncovered during project delivery. In many cases these projects are not occurring on mine/ERW contaminated land. Service providers are hence confirming that unlikely-to-be-contaminated land is indeed not contaminated. Though these companies report to the IMSMA database "clearance" in the majority of instances they are not actually clearing contaminated areas recorded in the database. To date, only 2% of recorded contamination has been removed through this process.

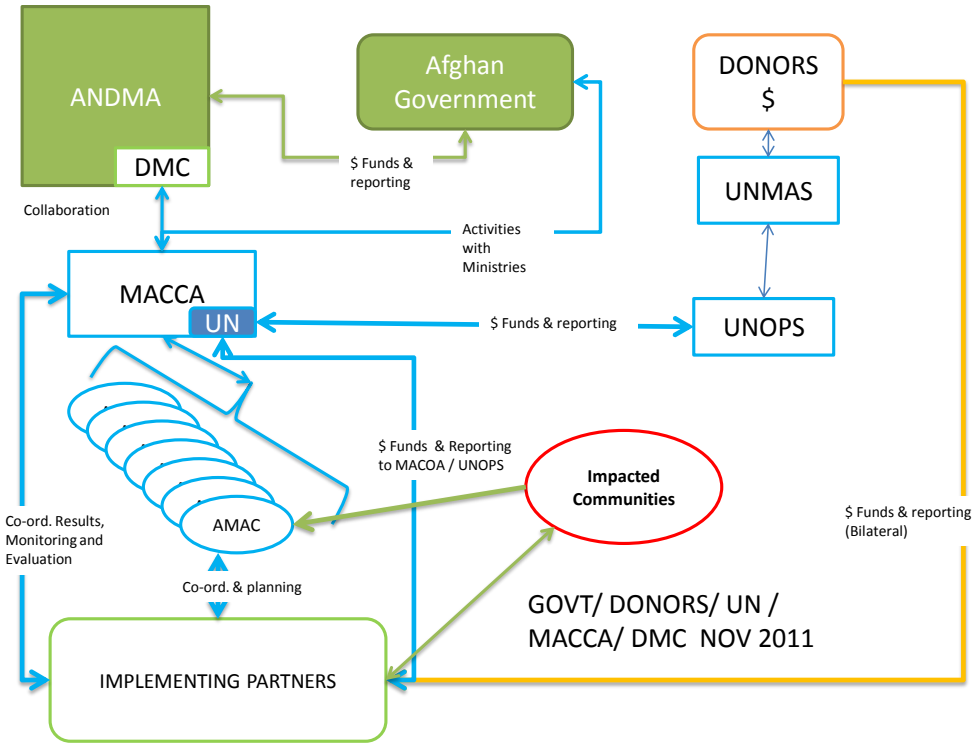
Annex 8 provides a breakdown of organisation, type, activity, date of establishment, number of assets, and total workforce.

5.3 Plans for transition of coordination to the Afghan Government

Transition of mine action coordination to an Afghan Government lead has been under discussion since 2003. The major unresolved issue has been how to develop and match the skills and knowledge of a limited number of Afghan civil servants within the DMC with the professional skill level of a larger Afghan MACCA staff that has been developed over a 20 year period. It has gradually been accepted by the government, the UN and other stakeholders that this is not possible and a better way forward would be to find modalities to absorb a reduced MACCA structure into the civil service or to create a new structure within the government for the specific management of mine action.

The diagram below shows how government, UN, funds, implementing partners and impacted communities related to each other in 2011.

Figure 12 MACCA / DMC coordination of Mine Action in 2011

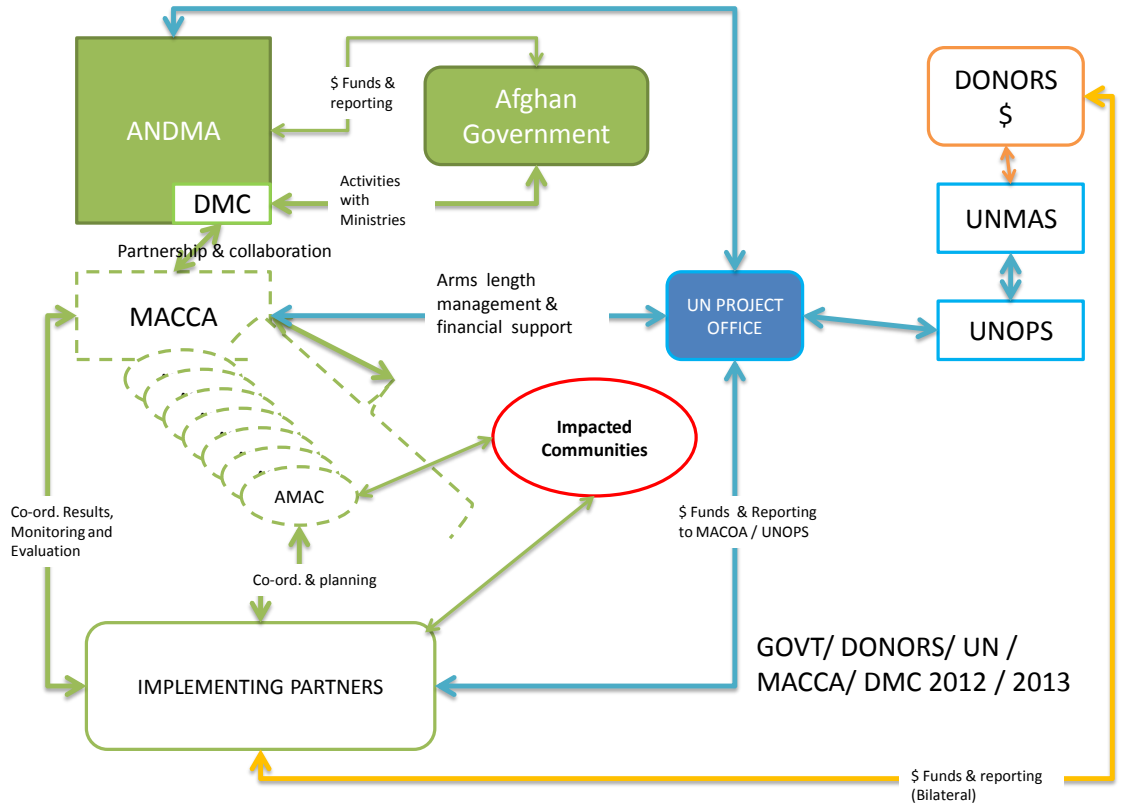


The MACCA / AMAC process is shown in UN blue, with the chain of UN funding support through UNMAS who use UNOPS as a contracting agency also in blue. The small segment in the MACCA box labeled "UN" is the contracting office for mine action services using UN funds. This office currently sits within the larger coordination structure of MACCA.

Note should be taken of the collaborative relationship between the MACCA and DMC (shown as part of ANDMA). Note should also be taken of the relationship between impacted communities (the beneficiaries of mine action) and the implementing partners and coordination AMACs. Other arrows in the diagram show money flows, reporting and monitoring and evaluation.

The first step in the transition process will be to create an Afghan-only partnership between Afghan nationals in the MACCA and DMC and to remove the UN international presence from the coordination centre. The UN will continue to administer donor funds channelled through the VTF for mine action and will have a small UN Project Office to oversee UN funds used for clearance and UN funds used for coordination. Model 1 below shows how this is proposed to work in 2012 and 2013.

Figure 13 Model 1 ANDMA/ DMC / MACCA coordination of mine action 2012 / 2013



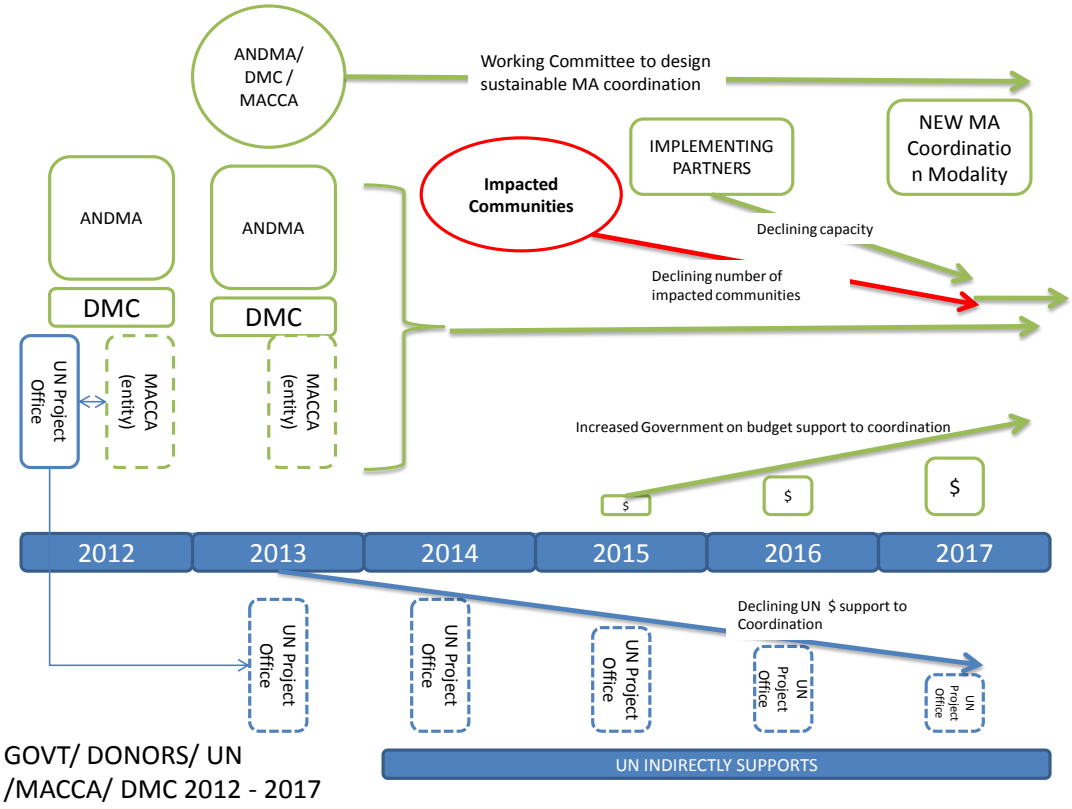
The coordination process is conceptually shown in green representing Afghan rather than UN ownership. The MACCA / AMAC structure is shown as hashed green to symbolize change. The UN is shown centre right of the model as a UN project support office. Other lines and relationships remain the same. The relationship between the MACCA and DMC is shown to have changed from collaboration to partnership and collaboration, indicating a closer relationship.

Points to note in the model are that although the UN will service financial support to the changing MACCA/ AMAC structure there will be no international staff members in the coordination process. Equally the change in the MACCA/AMAC structure will involve the formation of a new entity in which staffs are not directly employed by the UN but which can be funded by the UN. It is also important to note that this is a model for dialogue at this stage, to be agreed with stakeholders.

Model 2 below shows how the size of the UN project office and funds provided by international donors through the UN will decrease over time and how the role of the government and funds provided either by the government or by the international community but through government channels should increase. This represents a transition of ownership from the UN to government and is in line with the Kabul Conference of 2010 whereby the Afghan Government seeks donors to

move most of their funding for implementation of all humanitarian and development activities into the government budget.

Figure 14 Model 2 Transition of mine action coordination over time



Note that the number of impacted communities is also shown in decline. The significance of this is that the coordination structures of 2011 will not be required in 2017 and beyond. Note also the model shows a declining implementing partner capacity over time; fewer hazards will require less capacity. Eventually a balance of capacity and capability will be achieved that can respond to and manage the removal of residual contamination over the long term. This is shown as a green horizontal arrow leading on from the red arrow denoting decline. As with other conflict-affected countries post World War I and II, Afghanistan will require a capacity and capability to deal with the remnants of war for decades to come.

In 2013, the model shows a distinct shift that moves the UN project office out from beside the DMC/MACCA/ANDMA collaborative partnership. The model shows a working committee of ANDMA/DMC/MACCA designing a sustainable mine action coordination modality which will bring the currently separate entities of ANDMA, DMC and MACCA into one body. MACCA is shown in the diagram as a hashed line to indicate that change will be required.

The MACCA / DMC partnership would continue to advise on project targets using the work plan set out in Chapter 17. In addition, MACCA / DMC would continue to monitor and evaluate results. The UN project office would continue to service implementation contracting through the VTF for mine action. It is again important to note that this is a model for dialogue; it is not a blueprint for change.

6. NATURE AND EXTENT OF PROGRESS MADE; QUANTITATIVE ASPECTS

This section explains in detail the progress made in the implementation of Article 5 in the period from 1 January 2005 to 30 June 2012. 1 January 2005 is the date at which Afghanistan considers the ALIS complete and is using as the date for setting the original challenge. 30 June 2012 is the date at which the database was queried in the preparation of this extension request.

The data used for the following analysis can be found in its entirety at Annex 9. The dataset is made up of the following:

- SHAs thought to contain AP mines reported by the ALIS;
- SHAs thought to contain AP mines reported by the Confirmation Assessment/Polygon process;
- Minefields (MFs) thought to contain AP mines reported in addition to the ALIS and Confirmation Assessment/Polygon processes.

The dataset also includes areas contaminated by IEDs. The terms of the Ottawa Convention define an AP mine as "designed to be exploded by the presence, proximity or contact of a person and will incapacitate, injure or kill one or more persons." [32] Pressure-plate initiated IEDs act in exactly the same way and as such Afghanistan considers clearance of this type of contamination to be part of the Ottawa challenge.

First the procedures undertaken to process ALIS and Confirmation Assessment/Polygon SHAs are explained, followed by a summary of AP MFs reported in addition to the ALIS Confirmation Assessment/Polygon processes.

Next the progress against the overall Ottawa challenge (SHAs and MFs combined) is explained. Additional information about clearance progress made before Afghanistan became a party to the convention is provided as is information about progress made against AT and ERW contamination.

6.1 Procedures for ALIS and Confirmation Assessment/Polygon SHAs and information about additional AP MFs reported.

The ALIS gave each impacted community an ID number. Associated with each impacted community were a number of SHAs, which were given individual reference numbers. In addition to SHAs identified by the ALIS, the team "retrofitted" other known mined area information, including areas which had been technically surveyed. However, every area thought to be contaminated as of 1

[32] http://www.un.org/Depts/mine/UNDocs/ban_trty.htm

January 2005 was entered into IMSMA as an SHA regardless of whether it had been technically surveyed previously. This approach was taken since many of the "retrofitted" records were old and the accuracy of the data was questionable. Each SHA was given a prefix of "HQ" followed by a number in the SHA ID identification system, as seen in Annex 9.

The original challenge totaled 3,527 SHAs thought to contain AP mines covering an estimated area of 445.6 sq km directly impacting on 1, 914 communities. See Annex 2 for full details.

As well as ALIS-identified SHAs, additional SHAs were reported by the Landmine Impact Assessment Teams (LIATs) and recorded in IMSMA as part of the Confirmation Assessment[33]which continued after the ALIS. It should be noted that as part of the Confirmation Assessment of ALIS SHAs, the number of communities directly impacted fell by 19, as some ALIS SHAs were "reallocated" to more geographically logical communities, thus the number of ALIS SHA impacted communities fell from 1,914 to 1,895. New SHAs identified by the Confirmation Assessment were given prefixes relative to the area (CA for Central, WA for West, EA for East, NA for North, NE for North East, SE for South East, SA for South) in which they were identified. A total of 297 new SHAs thought to contain AP mines were identified covering an area of 52.8sq km and affecting 97 communities. See Annex 10 for details.

The total increased to 3,824 SHAs covering an estimated area of 498.4 sq km directly impacting on 1,992 communities.

Since 2007 the MACCA management team has given the highest possible consideration to information management. Significant changes to data management have been introduced in the last 5 years, with the main aim of enhancing knowledge and understanding of the dataset.

In early 2008 the decision was taken to cease using the SHA level of IMSMA; by reopening all records in the MF level of IMSMA detailed mapping of suspected contamination would be possible. MACCA began coordinating the resurveying of SHAs already recorded in IMSMA and the reentry of the resulting data into IMSMA at the MF level. In addition all newly reported suspected contamination and known contamination was entered into IMSMA as MF (or BF if the area was only suspected/known to be contaminated by ERW only). Please note that this decision was taken to enable accurate mapping; many areas are still only *suspected* minefields but IMSMA requires them to be called MFs, even though they are still suspected areas, if MACCA wants to utilise the most accurate mapping function within IMSMA. Indeed without many minefield maps the vast majority

[33] See Chapter 4 for more details

of contaminated areas are suspected, there is very little actual *known* contamination in Afghanistan. So, although all records are entered into IMSMA as MFs much is still only suspected. Detailed survey, when the teams commence reconnaissance for clearance, confirms or denies the presence of mines.

Between 2005 and the end of March 2008, 809 SHAs thought to be contaminated by AP mines, which covered an area of 65.1 sq km, were cancelled through non-technical survey activities as part of the Confirmation Assessment and Polygon Survey or through database clean-up. (Note that the MACCA holds paper and electronic records of all cancelled SHAs). See Annex 11 for full details.

582 SHAs thought to contain AP mines covering a suspected area of 108.2 sq km were in insecure areas and inaccessible to the Confirmation Assessment and Polygon Survey teams. A desk top exercise took place whereby records were checked and sketch maps associated with these SHAs were "polygon-ed" and entered into IMSMA. This "polygoning" process was undertaken in the office by the IMSMA team, who took the ALIS SHA maps (hand drawn sketch maps of the SHAs drawn on graph paper to scale which included the scale used and coordinates of the SHA reference point) and using a ruler and protractor worked out the length and breadth of the SHA and the bearings associated with the shape of the SHA. Using these bearings, distances and coordinates of the benchmark the IMSMA team was able to enter the shape of the SHA into IMSMA (at the MF level of IMSMA). At the same time the SHA was closed and reopened as a MF. This activity did not change the number of contaminated areas but reduced slightly (by 0.4 sq km) the area contaminated. (It is possible that when security allows access to these areas the type and extent of hazard may be found to be different to what is recorded in IMSMA). See Annex 12 for full details.

Of the SHAs suspected to contain AP mines that were accessible to technical teams, some were found to be large and were therefore broken down into smaller areas. The original SHA was closed and each smaller area was entered into IMSMA as a new MF. In some cases the original SHA was broken down into as many as 70 separate MFs. This had the net effect of increasing the number of contaminated areas by 4,387 and increasing the contaminated area by 15.2 sq km. During this process some MFs were linked with different communities which resulted in a reduction of the number of communities directly impacted by 37.

The following table shows how the process of changing SHAs to MFs described above impacted on the number of contaminated sites and the area.

Table 11 Result of converting SHAs to MFs

	No of SHAs	Area of SHA	No of MF/SHA	Area of MF	Change in no of sites	Change in area
Desk top polygon sites	582	108.2	582	107.8	0	-0.4
Cancelled sites	809	65.1	809	65.1	0	0
Remaining accessible sites	2433	325.1	6820	309.9	4387	15.2
Total	**3824**	**498.4**	**8211**	**482.8**	**4387**	**14.8**

During the survey process, out of these 8,211 MFs (see Annex 13 for full list), 809 were cancelled SHAs (covering an area of 65.1 sq km, see Annex 11), 154 (covering an area of 28.1 sq km) were found to be battlefields (see Annex 14), contaminated only by UXO. In addition, 432 (covering an area of 33.4sq km) were found to be AT minefields (see Annex 15).

Thus a total of 3,824 SHAs covering an area of 495.8sq km became 7,625 AP records (809 are cancelled AP SHAs area 65.1 sq km, and 6,816 are AP MF records area 421.3 sq km) covering an area of 486.4 sq km directly impacting on 1,955 communities.

Annex 9 also includes records of 3,438 AP MFs (see Annex 16) and 65 IED contaminated areas (see Annex 17) covering an area of 154.2 sq km and 7.8 sq km respectively which were recorded directly into IMSMA as MFs between 1st January 2005 and 30th June 2012. This contamination directly impacted an additional 499 communities.

The final challenge was 11,128 AP contaminated areas covering an area of 648.4 sq km impacting on 2,454 communities.

6.2 Progress made against the original article 5 challenge

The table below shows the status of progress made against 11,128 AP MFs.

Table 12 Progress made against 11,128 AP MFs

	No of MF/SHA	Area of MF/SHA	% of MF/SHA	% of area
Cancelled[34]	1,519	105.4	13.6	16.3
Cleared	5,442	234.6	48.9	36.2
Worked on	320	19.0	2.9	2.9
Open	3,847	289.4	34.6	44.6
Total	**11,128**	**648.4**	**100**	**100**

[34] This includes 809 SHAs covering 65.1 sq km which were cancelled plus 710 MFs covering 40.3 sq km which were cancelled

Out of a total AP contamination covering 648.4 sq km 52.4% has been released (16.3% through cancellation, 36.2% through clearance), 2.9% is being worked on and 44.6% remains to be addressed.

The following tables provide information regarding AP minefields which have been released since January 2005[35]. In addition, the tables show a summary of the progress made in previous years, from the programme's start in 1989 to the time of the original Article 5 Challenge. The first seven tables show achievements in each region followed by a table which sums the total achievement.

Table 13 Central Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	976	41.29	11	0.12	41.41
2005	210	5.40	70	3.27	8.68
2006	102	2.66	111	8.41	11.08
2007	187	5.54	31	1.30	6.85
2008	353	13.50	202	16.33	29.83
2009	418	26.36	141	10.87	37.23
2010	455	20.61	45	3.05	23.66
2011	311	15.05	73	5.26	20.31
To end June 2012	350	16.65	107	5.27	21.93
Sub Total	**2,386**	**105.81**	**780**	**53.79**	**159.61**
Total	**3,362**	**147.10**	**791**	**53.92**	**201.03**

[35] Statistics do not include data from partially cleared , or "worked" on MFs – only those that have been fully cancelled or fully cleared.

Table 14 Eastern Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	545	21.85	18	0.84	22.69
2005	16	0.507	2	0.004	0.51
2006	24	1.08	18	3.07	4.15
2007	22	1.17	14	1.05	2.22
2008	59	4.03	6	0.91	4.95
2009	63	4.55	9	1.68	6.24
2010	102	8.41	8	1.33	9.75
2011	84	5.87	8	0.49	6.37
To end June 2012	47	2.84	4	0.23	3.12
Sub Total	**417**	**28.54**	**69**	**8.79**	**37.33**
Total	**962**	**50.39**	**87**	**9.63**	**60.02**

Table 15 Northern Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	81	21.85	0	0	21.85
2005	48	0.73	8	0.22	0.95
2006	34	1.20	7	0.03	1.24
2007	74	2.98	7	0.02	3.25
2008	94	2.73	38	1.90	4.63
2009	107	2.54	36	3.68	6.23
2010	75	2.58	9	0.28	2.87
2011	45	1.66	5	0.12	1.79
To end June 2012	83	1.89	6	0.10	2.00
Sub Total	**560**	**16.35**	**116**	**6.64**	**22.99**
Total	**641**	**38.20**	**116**	**6.64**	**44.85**

Table 16 North-Eastern Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	134	1.03	0	0	1.03
2005	87	1.51	21	0.99	2.51
2006	100	1.33	20	1.14	2.47
2007	99	3.11	23	1.86	4.98
2008	197	6.17	33	1.07	7.24
2009	171	4.79	62	1.97	6.77
2010	249	6.04	46	1.63	7.68
2011	148	4.10	30	1.71	5.82
To end June 2012	90	2.65	11	0.86	3.51
Sub Total	**1,141**	**29.75**	**246**	**11.27**	**41.02**
Total	**1,275**	**30.78**	**246**	**11.27**	**42.05**

Table 17 Southern Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	826	50.47	10	1.10	51.57
2005	35	1.00	3	0.20	1.21
2006	9	0.34	0	0.00	0.34
2007	24	1.50	6	0.28	1.78
2008	9	0.40	4	0.05	0.45
2009	67	1.74	14	1.11	2.86
2010	64	3.98	11	0.45	4.44
2011	69	4.23	22	0.63	4.86
To end June 2012	57	4.49	25	2.74	7.24
Sub Total	**334**	**17.70**	**85**	**5.50**	**23.21**
Total	**1,160**	**68.18**	**95**	**6.61**	**74.79**

Table 18 South-eastern Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	711	34,.56	4	0	34.56
2005	14	0.74	1	0.01	0.75
2006	20	1.00	25	1.97	2.98
2007	24	1.07	3	0.45	1.52
2008	41	1.80	33	3.14	4.95
2009	58	3.39	22	3.64	7.04
2010	73	5.38	15	2.18	7.56
2011	40	2.72	14	1.01	3.74
To end June 2012	29	2.80	0	0	2.80
Sub Total	**299**	**18.95**	**113**	**12.43**	**31.38**
Total	**1,010**	**53.52**	**117**	**12.43**	**65.95**

Table 19 Western Region Achievements

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	696	18.65	25	0.87	19.53
2005	38	1.23	2	0.20	1.43
2006	23	0.99	14	0.85	1.84
2007	43	2.45	8	0.74	3.20
2008	54	2.88	47	2.36	5.25
2009	55	4.44	16	0.62	5.07
2010	41	2.83	2	0.14	2.98
2011	27	1.67	12	0.75	2.42
To end June 2012	24	0.91	9	1.29	2.21
Sub Total	**305**	**17.45**	**110**	**6.98**	**24.44**
Total	**1,001**	**36.11**	**135**	**7.86**	**43.97**

The tables show that most land has been released in the Central region, followed almost equally by the East, South and South East, corresponding to population centers, access, and prioritisation.

The table below sums the regional information provided above into one table.

Table 20 Total AP MF removal

Year	No of AP minefields cleared	Area of AP minefields cleared (sq km)	No of AP minefields cancelled	Area of AP minefields cancelled (sq km)	Total area AP minefields released (sq km)
1989 - 2004	3,969	189.73	68	2.94	192.67
2005	448	11.15	107	4.93	16.08
2006	312	8.63	195	15.50	24.13
2007	473	17.85	92	5.99	23.84
2008	807	31.54	363	25.79	57.34
2009	939	47.85	300	23.61	71.46
2010	1,059	49.86	136	9.10	58.96
2011	724	35.34	164	9.99	45.34
To end June 2012	680	32.32	162	10.51	42.83
Sub Total	**5,442**	**234.57**	**1,519**	**105.44**	**340.01**
Total	**9,411**	**424.30**	**1,587**	**108.38**	**532.69**

It is clear that since January 2005, significant progress has been made. Almost twice as much AP contaminated land has been released in the period 2005 – 2011 as was released in the preceding 15 years; a significant proportion of these results from cancellation and demonstrating improved data management and survey activities. The relatively high number of AP MF cleared in 2009 and 2010 result from file and database clean-up which was undertaken to enable closure of a high number of MFs which had been cleared but which had outstanding paperwork.

The annual fluctuation of achievement in the period 2005 – 2011 is related to funds available to the programme and the amount of AT and ERW contaminated land which was cleared in the same years. As can be seen in Chapter 11 there was a dip in funding in 2006 and a steady increase in funding year on year from then onwards. This is reflected in the increasing amount of AP MF released each year.

In keeping with action point 17 of the Cartagena Action Plan the table below shows information on the areas already released in 2009, 2010 and 2011[36], disaggregated by release through clearance, technical survey and non-technical survey.

[36] Carteghena meeting was December 2009

Table 21 Breakdown of how AP contaminated land was released 2009 - 2011

Year	Release through cancellation (sq km)	Release through clearance (sq km)	Release through technical survey (sq km)
2009	23.6	39.63	8.21
2010	9.1	45.32	4.55
2011	10.0	32.14	3.2
To end June 2012	10.5	29.42	2.9
Total	53.2	146.51	18.86

In the last three and a half years 24% of the total AP contamination was released as a result of cancellation, 9% through technical survey and 67% through clearance.

The table below shows the non-AP MF [37] and ERW contaminated land (battlefield BF) released in the same period.[38] It is important to understand that the MAPA has not focused only on the clearance of AP MF since 2005; AT and ERW contaminated land impacts equally significantly on Afghan communities as AP contaminated land and requires removal. Annex 18 shows the breakdown of this data regionally.

Table 22 Clearance of non-AP and ERW contamination

Year	No of non-AP MF cleared	Area of non-AP MF cleared (sq km)	No of non-AP MF cancelled	Area of non-AP MF cancelled (sq km)	Total area non-AP MF released (sq km)	No of BF cleared	Area of BF cleared (sq km)	No of BF cancelled	Area of BF cancelled (sq km)	Total area non AP MF released (sq km)
1989 - 2004	2,652	121.41	73	5.01	126.38	2,206	537.93	25	4.47	543
2005	450	19.99	42	0.87	20.68	151	36.40	1	0.00	39
2006	290	16.31	51	2.16	18.17	93	26.73	11	3.41	40
2007	501	20.19	153	10.56	29.56	151	37.48	17	2.63	45
2008	690	32.24	365	21.42	47.01	191	66.27	73	13.98	79
2009	331	19.42	149	8.71	23.70	122	30.23	15	23.29	31
2010	250	17.27	16	1.03	19.46	118	37.84	6	5.87	45
2011	186	13.98	39	2.48	11.46	127	55.16	78	47.65	94
2012	224	17.99	31	1.87	4.58	77	20.16	37	23.90	1
Sub Total	**2,922**	**157.39**	**846**	**49.10**	**174.62**	**1,030**	**310.27**	**238**	**120.71**	**374**
Total	**5,574**	**278.80**	**919**	**54.11**	**301.00**	**3,236**	**848.20**	**263**	**125.18**	**918**

[37] When survey teams report an MF, they indicate the expected device type. In some cases the survey teams are unable to anticipate the device type so the device type field in IMSMA is left blank. The term non-AP MFs is used here to include MFs which were known to be AT MFs and MFs where the device type was not known prior to clearance. It is possible that some of these MFs turned out to be AP MF, however the number is not significant when viewed against the large dataset and does not impact in any meaningful way on the analysis in this document.

[38] Statistics do not include data from partially cleared , or "worked" on MF/BFs – only those that have been fully cancelled or fully cleared.

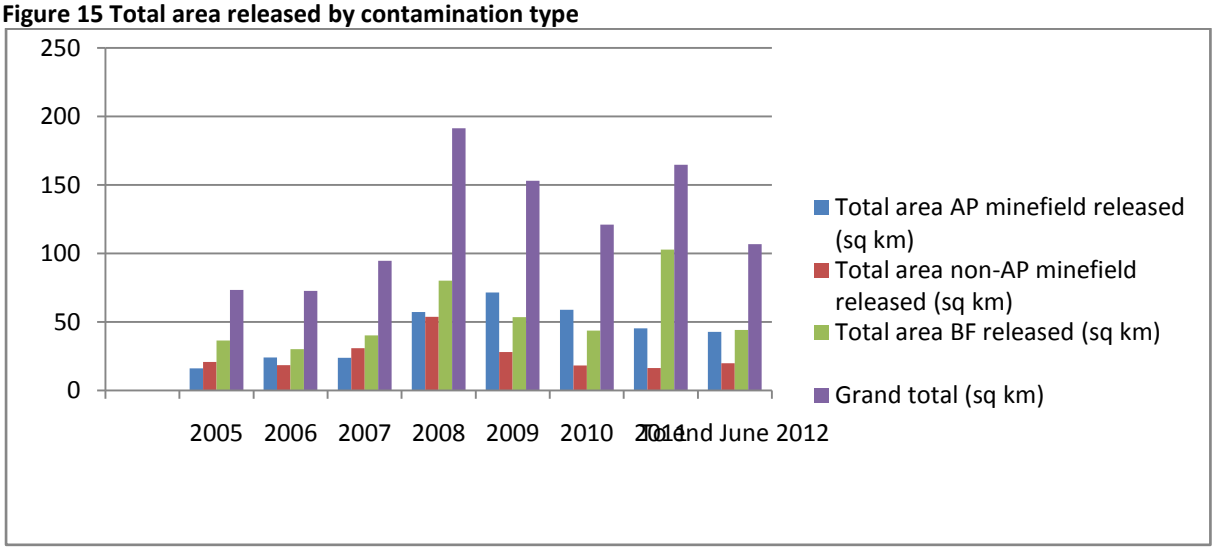
As the table shows, the total area of non-AP MF released since the beginning of the programme is 332.9 sq km and total area of BF released is 974.04 sq km. When this is compared with 532.69 sq km of AP MF released in the same period, it is clear that had the programme only had AP MF to clear significantly more progress would have been made.

As can be seen in the following table and chart, since January 2005 MAPA has consistently cleared a mixture of contamination. In all but two years (2005 and 2007) the majority of mined area cleared has been AP MF. Note that BF clearance can be up to 10 times faster than MF clearance and thus has the effect of implying a lot of effort has been allocated to BF, which is not necessarily the case.

Table 23 Total area released by contamination type

Year	Total area AP minefield released (sq km)	Total area non-AP minefield released (sq km)	Total area BF released (sq km)	Grand total (sq km)
1989 - 2004	192.68	126.41	543.06	862.15
2005	16.08	20.85	36.40	73.33
2006	24.13	18.48	30.14	72.75
2007	23.85	30.75	40.10	94.7
2008	57.34	53.65	80.25	191.24
2009	71.46	28.13	53.51	153.1
2010	58.96	18.30	43.71	120.97
2011	45.34	16.46	102.81	164.61
To end June 2012	42.84	19.86	44.06	106.76
Sub Total	**340.01**	**206.49**	**430.98**	**977.46**
Total	**532.69**	**332.90**	**974.04**	**1839.61**

Figure 15 Total area released by contamination type



As a result of this clearance activity a massive number of AP mines, AT mines and other ERW have been located and destroyed as shown in the table below:

Table 24 Devices destroyed

Device Type	1989-2004	AP MF 2005-end June 2012	Non-AP MF and BF 2005-end June 2012	Total
AP	378,428	198,863	59,007	636,298
AT	18,898	1,653	4,902	25,453
IED	0	489	0	489
SAA	809,707	377,049	2,749,303	3,936,059
UXO	4,593,934	831,634	5,553,621	10,979,189
Total	**5,800,967**	**1,409,688**	**8,366,833**	**15,577,488**

In total, over half 600,000 AP mines, 25,000 AT mines, 489 IEDs, almost 4 million small arms ammunition (SAA) and almost 11 million items of UXO have been destroyed. The table breaks down these statistics into items which were found in the years preceding the original Ottawa challenge, items found in AP minefields since January 2005 and items found in non-AP MF and BF since January 2005. It is interesting to note that more than half of the AP mines destroyed to date were destroyed before Afghanistan became a party to the Ottawa Convention. Similarly, most of the AT mines destroyed in Afghanistan were destroyed before 2005. It is also significant that almost 23% of the AP mines destroyed since January 2005 were located in non-AP MF or BF. It is also clear from the table that clearance of AP MF have also yielded a significant number of AT mines, SAA and UXO. These facts show the mixed and varied contamination found in Afghanistan. Annex 19 shows the breakdown of devices destroyed by region.

The vast majority of the work conducted in Afghanistan has been done by the five Afghan NGOs set up at the beginning of the programme (ATC, DAFA, MCPA, MDC, OMAR) and the HALO Trust, which established operations in the country in 1989. The table below shows the achievement of these organisations since 1989. The HALO Trust has destroyed the largest number of mines (AP and AT combined) and removed the largest area of BF; MDC, one of the five Afghan NGOs has cleared the largest area of minefields (AP and AT MFs combined) and has destroyed the highest number of IEDs; and ATC (Afghan NGO) has cleared the largest number of AP minefields.

Table 25 Achievements of the 6 main implementers

Agency		ATC	DAFA	HALO Trust	MCPA	MDC	OMAR	Total
No of AP minefields cleared		2,884	1,032	2,316	439	1,041	1,263	**8,975**
Area of AP minefields cleared (sq km)		118.92	57.78	65.37	25.93	58.44	55.35	**381.79**
No of non-AP minefields cleared		557	538	1,116	536	2,275	427	**5,449**
Area of non-AP minefields cleared (sq km)		20.81	23.70	35.13	21.86	144.75	25.98	**272.24**
Total No of minefields cleared		3,441	1,570	3,432	975	3,316	1,690	**14,424**
Total Area of minefields cleared (sq km)		139.73	81.47	100.50	47.79	203.20	81.34	**654.03**
No of battlefields cleared		946	322	1,622	47	26	95	**3,058**
Area of battlefields cleared (sq km)		211.61	61.73	492.91	11.50	4.95	26.39	**809.10**
Devices Destroyed	AP	176,242	19,653	209,884	10,048	17,858	48,192	**481,877**
	AT	4,392	3,744	5,634	550	5,167	957	**20,444**
	IED	0	81	0	0	407	1	**489**
	SAA	33,365	32,435	1,635,276	7,460	359,889	354,350	**2,422,775**
	UXO	3,155,334	1,133,467	4,037,866	58,219	122,641	799,922	**9,307,449**

In addition to these organisations there are over 25 other organisations which have contributed to clearance in Afghanistan; their achievements are shown in Annex 20.

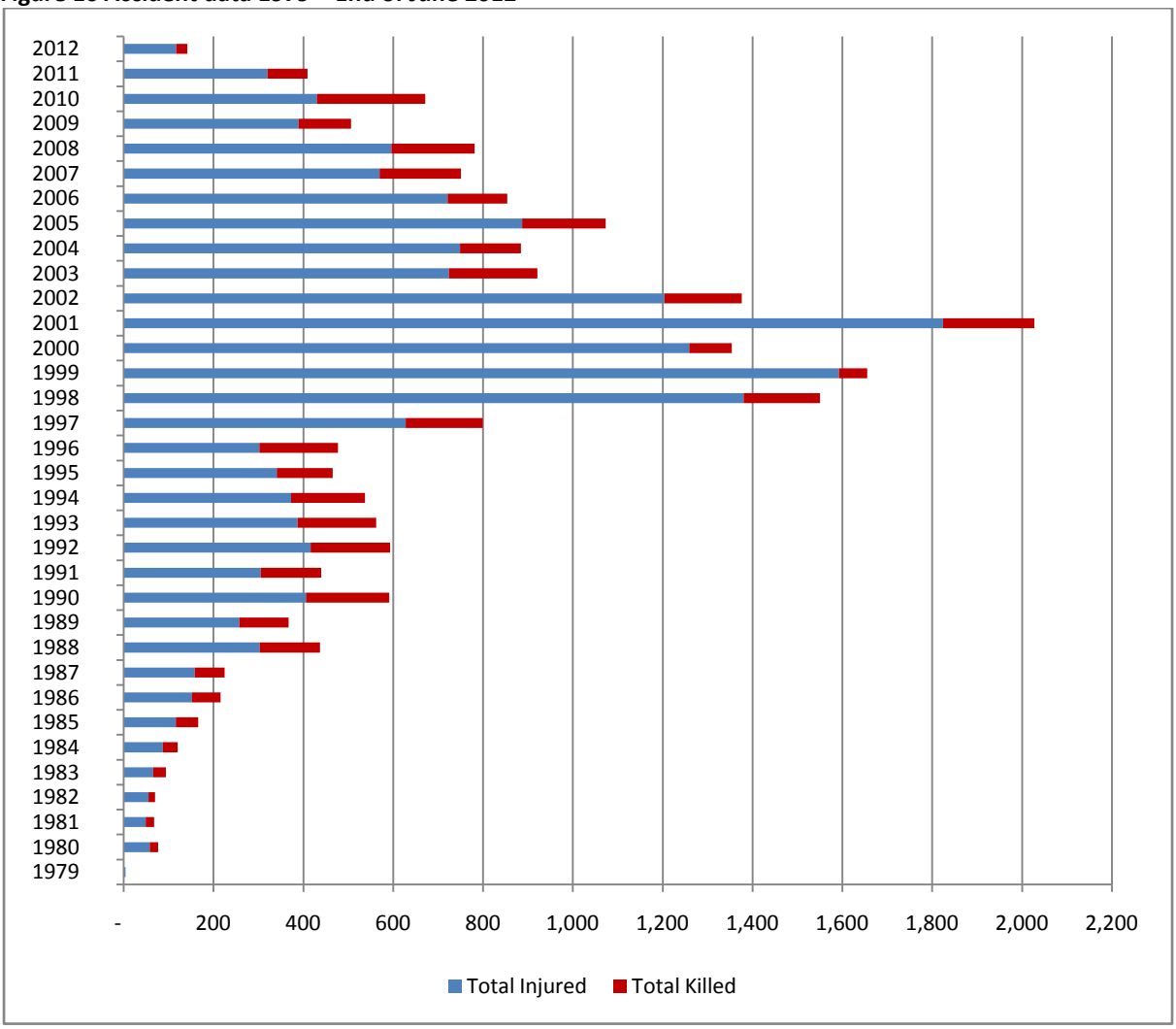
7. NATURE AND EXTENT OF PROGRESS MADE: QUALITATIVE ASPECTS

This section sets out the extent of progress made by Afghanistan towards meeting its obligations against the Mine Ban Convention's Article 5 challenge from a qualitative perspective. Following a brief overview of progress, this section first examines advancements made in terms of reducing landmine and ERW casualties and then assesses progress made in terms of socio-economic impact. In order to illustrate the validity of the programme's progress, the results of a number of external and internal evaluations have been highlighted.

7.1 Progress made towards reduction in landmine and ERW related casualties

Between 1979 and 2011 there have been 21,262 casualties of mines and ERW (17,225 people injured, 4,037 killed). The graph below shows the number of people killed and injured by landmines and other ERW by year since 1979. Annex 21 shows the number of deaths and injuries disaggregated by girls, boys, women and men.

Figure 16 Accident data 1979 – End of June 2012



As can be seen, the numbers of people affected annually since 2001 have been in steady decline demonstrating progress in hazard identification, marking, clearance and the provision of MRE.

In 2001 2,027 people were killed or injured by mines and ERW. By 2011, this figure dropped to 409[39]; just under one fifth of the 2001 figure. In terms of AP mines only, 713 people were killed or injured in 2001; by 2011 this figure fell to 39, demonstrating a drop of 94.5%. Although this is encouraging it should be noted that after periods of reduction in casualty rates increases have occurred in the past, for example in 1996, 2005, 2008 and 2010. None-the-less the general trend in the last decade has been downwards.

Landmines and ERW regularly kill and injure the civilian population in Afghanistan. During the last seven and half years (2005 to end of June 2012) MACCA has recorded 5,045 casualties due to mines and ERW. Data analysis shows:

- 1,132 (22%) were fatalities
- Male victims were 88.6%, female victims were 11.4%
- 2,816 casualties (55.8%) were children, 2,418 (92.2%) were boys and 398 (7.8%) were girls
- 32.2 % were mine-related casualties, 67.8% related to ERW
- 34.1% of the total recorded casualties were killed or injured while collecting, food, water and wood or farming, hunting, fishing and tending animals.
- 17% of casualties were travelling and 16.2% were playing at the time of accidents.

The table below shows the accident data defined into the results of those accidents (either death or injury) and a demographic breakdown of those who were affected.

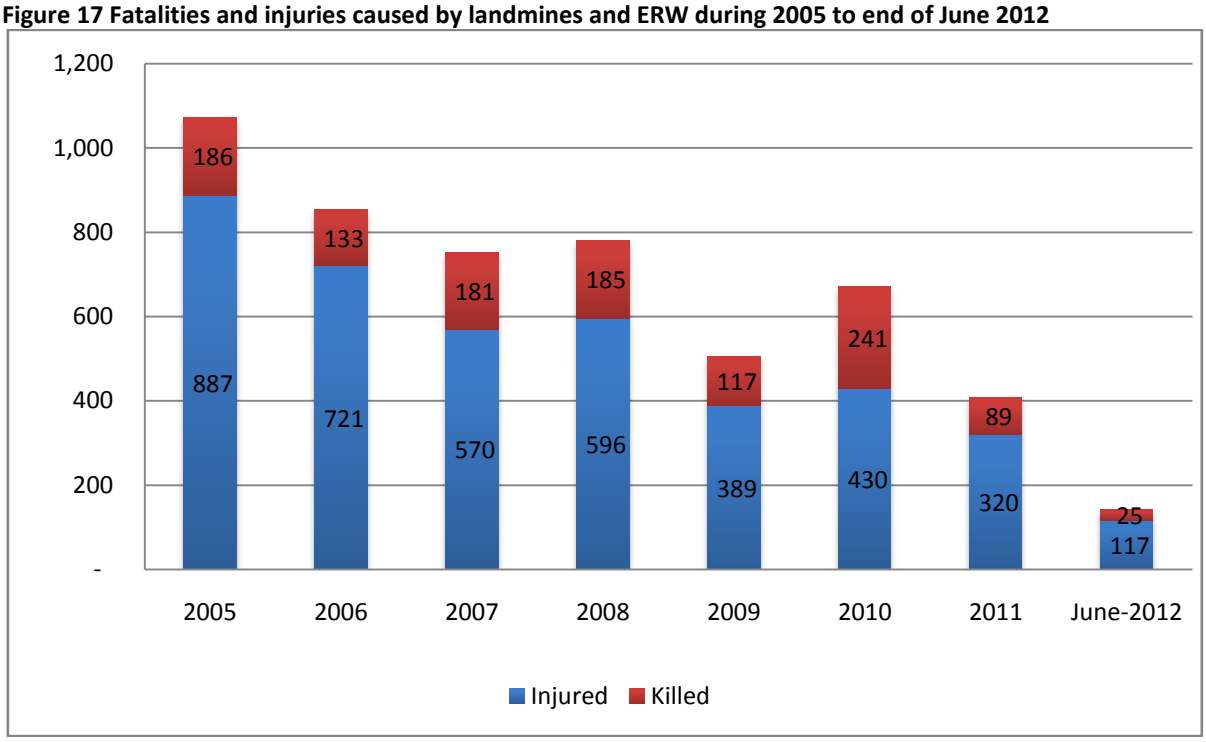
Table 26 Mine/ERW victims during 2005 to end of June 2012

Year	Killed					Injured					G Total
	Girls	Boys	Men	Women	Total	Girls	Boys	Men	Women	Total	
2005	7	70	102	7	186	52	400	413	22	887	1,073
2006	11	58	63	1	133	59	377	269	16	721	854
2007	11	86	75	9	181	41	241	269	19	570	751
2008	8	76	91	10	185	48	304	227	17	596	781
2009	12	50	48	7	117	29	179	152	29	389	506
2010	19	108	105	9	241	54	226	134	16	430	671
2011	8	59	19	3	89	40	185	82	13	320	409
June-2012	2	14	9	-	25	14	74	23	6	117	142
Total	**78**	**521**	**512**	**46**	**1,157**	**337**	**1,986**	**1,569**	**138**	**4,030**	**5,187**

[39] Data as of End of June 2012

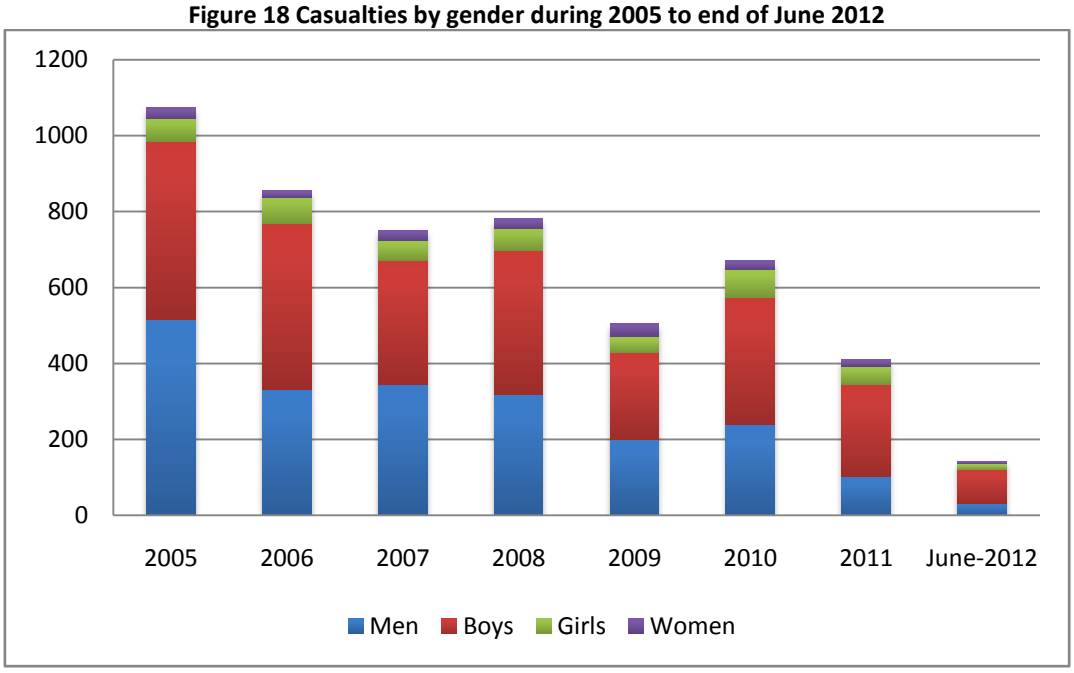
The graph below indicates fatalities and injuries caused by ERW and landmines combined during the years 2005 to end of June 2012 and shows an overall steady decline. The total recorded casualties in 2011 are 62% lower than the total recorded casualties in 2005.

Figure 17 Fatalities and injuries caused by landmines and ERW during 2005 to end of June 2012



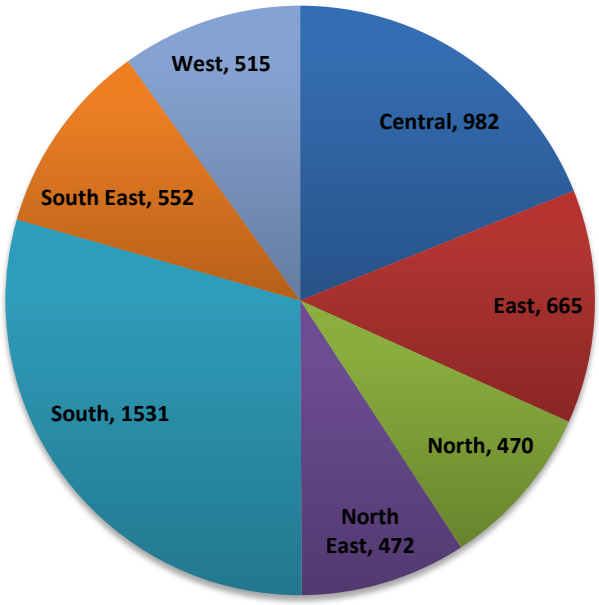
The graph below shows the recorded casualties of ERW and landmines by gender. As can be seen the number of male casualties are significantly higher compared to female casualties.

Figure 18 Casualties by gender during 2005 to end of June 2012



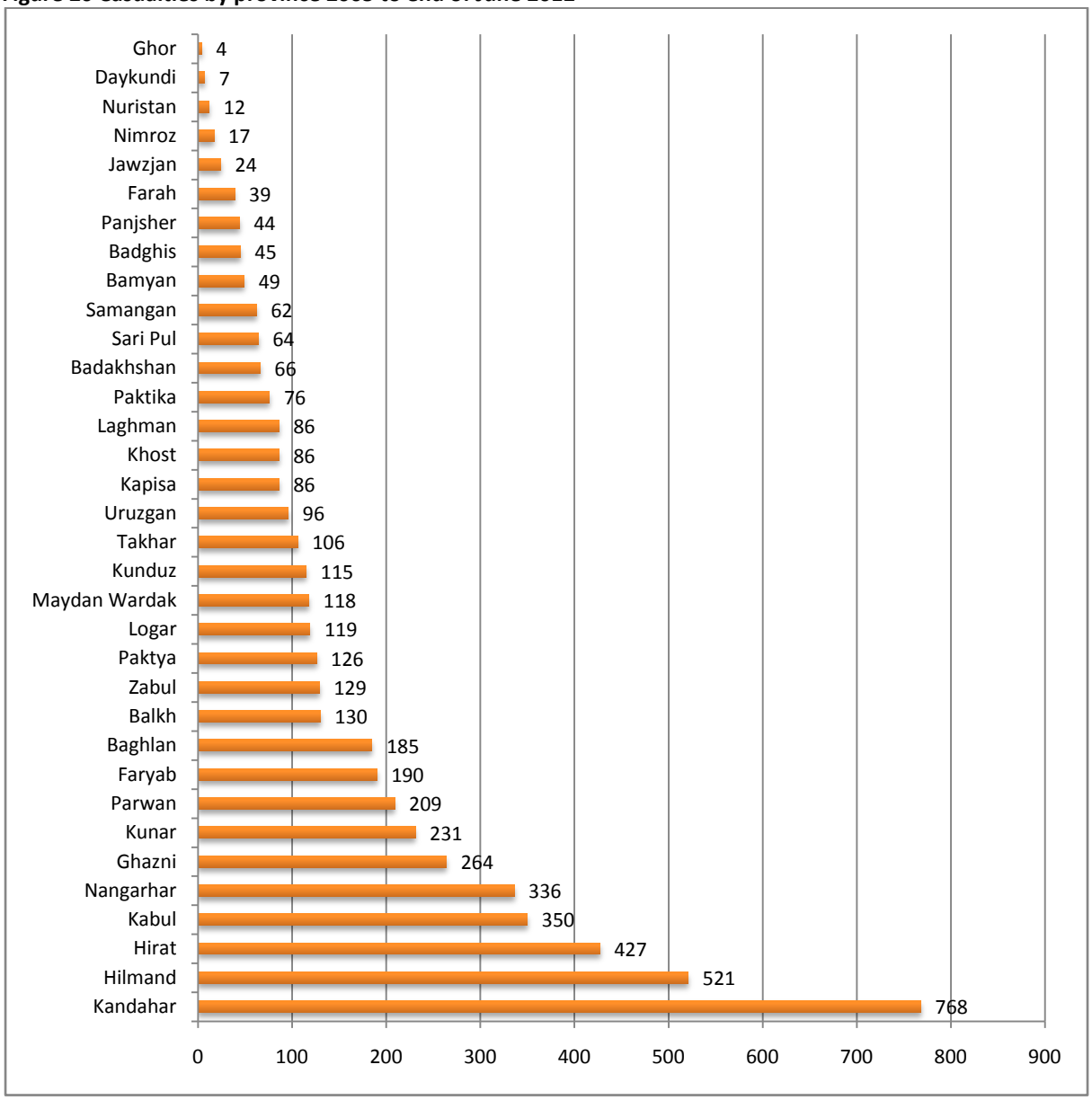
The graph below shows the total victims recorded during 2005 to end of June 2012 by region. As can be seen the number of casualties in southern and central regions are higher than those in other regions.

Figure 19 Casualties by region 2005 to end of June 2012



The graph below shows the total recorded casualties by province. As can be seen casualties have been reported from all 34 provinces of the country. Over one hundred casualties have been reported from 15 provinces, Kandahar being the most badly affected province from the casualty perspective.

Figure 20 Casualties by province 2005 to end of June 2012



7.2 Progress made to reduce the socio-economic impact of landmines and ERW

The following pie charts below show the sq km of AP contaminated land cleared to date, broken down by type of blockage, and the number of AP minefields cleared to date, also shown by type of blockage.

Figure 21 sq km cleared against blockage type

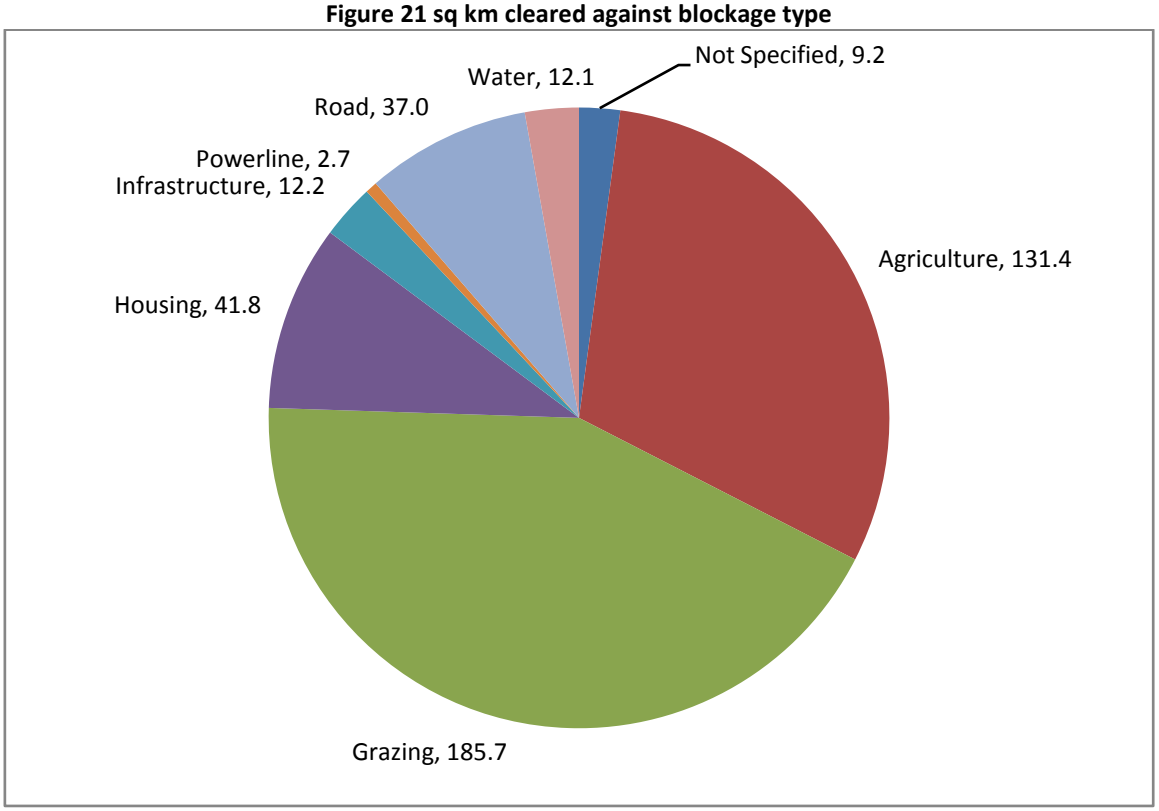
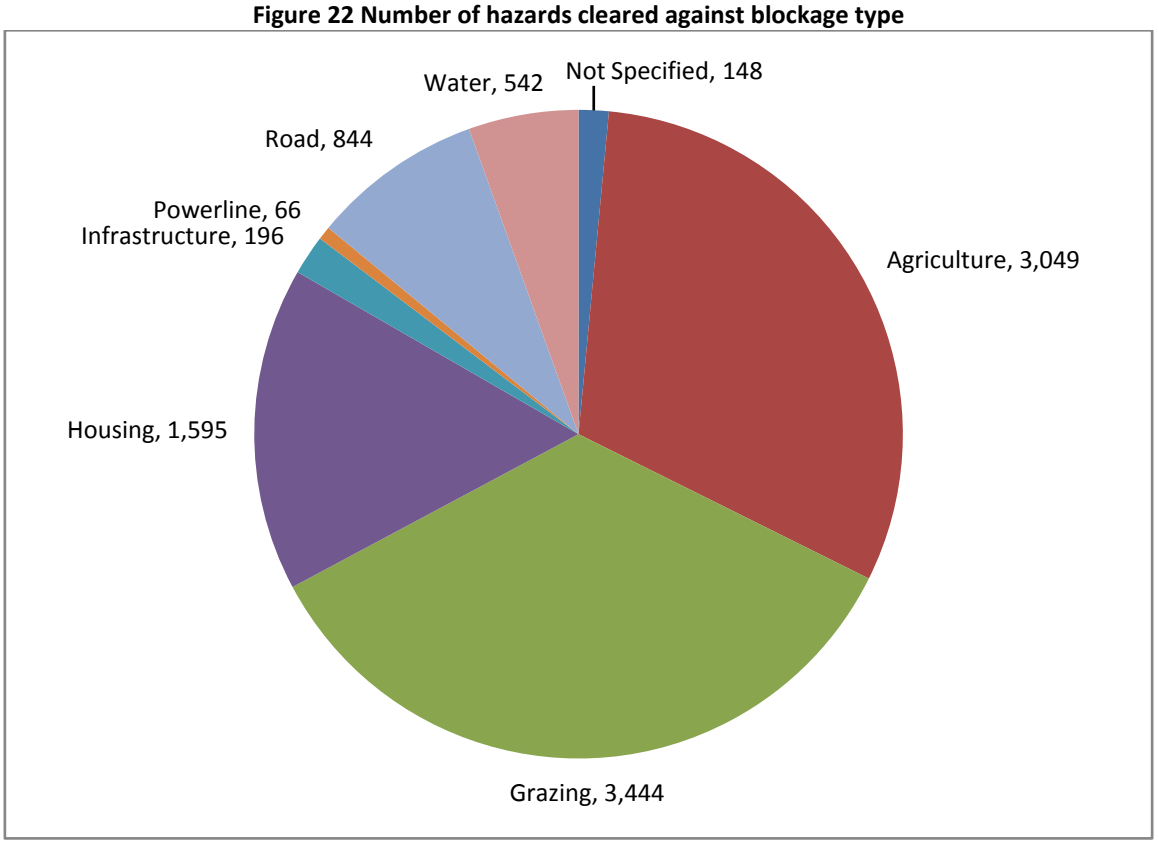


Figure 22 Number of hazards cleared against blockage type



As shown, 9,884 minefields, covering 432.2 sq km of AP contaminated land, have been released for agricultural and grazing activities, significantly improving the opportunities for income generation for the large Afghan population who rely on agriculture and grazing activities for their livelihoods. In addition, 844 AP minefields contaminating 37 sq km of land and blocking access to roads have been cleared, providing socio-economic benefits related to market access and transportation of goods. The removal of the threats of landmines from many road networks has enabled the transportation of people and other vital goods across Afghanistan and to neighbouring countries. In total, 41.8 sq km of land has been made available for housing and 12.1 sq km of water point blockages have been cleared, enabling improved living conditions for the local population. To enable power line construction, 66 AP minefields have been cleared, and the power lines from the borders with Uzbekistan and Tajikistan in the north of the country to Kabul have gone through the process of mine and UXO removal prior to the construction activities. Clearance has also been performed in AP-contaminated areas around almost all the power poles located between Sorobi and Naghlu hydroelectric power plants in the east of Kabul city, as well as around power lines between Kajaki District of Helmand Province and Kandahar City. In terms of infrastructure, 196 AP mined areas covering 12.2 sq km have been cleared to enable infrastructure projects to proceed; the first railway project of the country, located between the Afghan border with Uzbekistan and the city of Mazar-e-Sharif was successfully completed after the removal of minefields.

Clearance has benefitted both rural and urban communities. The contamination of the capital, Kabul, has been addressed to a great extent, with the clearance of Kabul University, the Ministry of Agriculture Irrigation and Livestock, and Aliabad Hospital prominently showing the progress of mine action. Some of the major cities of the country such as Kandahar, Herat, Khost, Jalalabad and Kunduz have also been cleared of all significantly impacting minefields.

The following case studies provide specific examples of the positive socio-economic benefits of mine clearance in Afghanistan:

Kabul International Airport (KIA) Project:

Project Start Date:	November 2003	Project End Date:	December 2006
Funded by:	World Bank	Implemented by:	ATC

The restoration of an efficient transport sector is essential to strengthen the unity of the country and promote economic recovery and development. Domestic civil aviation serves an administrative and social function by providing access to areas with poor or non-existent road connections. Because of the vastness of Afghanistan's terrain, aviation is the most practical means for national and international travel. A total of 4.1 sq km were cleared around the airport, total of 6,795 AP mines and 344,986 ERW were found and destroyed.

Figure 24 Demining Kabul International Airport

Figure 23 Kabul International Airport

Kabul to Hairatan Power Line Project

Project Start Date:	August 2005	Project End Date:	May 2007
Project funded by:	USAID	Implemented by:	ATC, MDC and MCPA

Figure 25 Hairatan power line

For years, residents of the Afghan capital endured shortages of electricity, with power sometimes rationed to only a couple of hours a day. A new 442-kilometer Uzbekistan-Kabul power transmission line, carrying 150 megawatts (MW) of electricity, now meets half of Kabul's electricity needs. Because of the line that was constructed, today in most parts of Kabul electricity is available 24 hours a day, enabling businesses to function smoothly, and locals to heat and light their homes, promoting economic growth and higher living standards. A total of 104 minefields were cleared, covering 2.8 sq km. 1 AT mine, 11 AP mines and 4,924 ERW were destroyed.

Aynak Copper Mine Project:

Start Date:	June 2009	End Date:	expected July 2012
Funded by:	Government of Afghanistan	Implemented by:	MDC

The Aynak Copper deposit in Logar was discovered in 1974 and is estimated to contain 11.3 million tons of copper. Once the landmine clearance is completed and the mine can be developed, it is expected to provide a much-needed boost to the Afghan economy. The Ministry of Mines of the Islamic Republic of Afghanistan has signed a contract with a Chinese company (MCC) for the development and extraction of copper from the mine.

Figure 26 Demining Aynak Coppermine

This mine and other related projects are expected to directly employ 8,000 Afghans and indirectly 30,000 more. Further, MCC is committed to provide much needed infrastructure such as roads, hospitals, schools, mosques and water sources. This project's impact will be felt on a national scale as well, as MCC is expected to pay $350-$400 million in taxes each year to the Afghan government.

So far 93 minefields have been removed covering 6.8 sq km; during the clearance operation 678 AP mines, 11 AT mines, 1,108 ERW and 1,516,323 Small Arm Ammunitions have been found and destroyed.

Mine Action for Peace; Disarmament, Demobilization, Reintegration (DDR) and Mine Action in Afghanistan;

Start date: 2003 End date: 2006

Funded by: Multi donor Implemented by: Multiple partners

As part of the DDR effort in Afghanistan, the Afghan New Beginnings Programme (ANBP) provided ex-combatants with the opportunity to help bolster security in their home communities by becoming involved in Mine Action. The Mine Action for Peace (MAFP) was a joint programme managed by ANBP, supported by MACCA and carried out by Implementing Partners.

Within the Afghan context, mine action was a particularly attractive option from a psychosocial perspective as well. It was not uncommon for Afghans to perceive that working as a deminer was an honourable occupation, working towards reconstruction and peace of Afghanistan. This had a reinforcing psychological element where DDR deminers felt connected to their communities because they were fighting for the peace and security of their country against a ubiquitous enemy in the form of landmines. By the end of July 2006, a total of 617 ex-combatants had been employed in a mine action livelihood option.

Bagram Front Line and Devil's Garden:

Project Start Date: November 2001 Project End Date: Anticipated March 2012

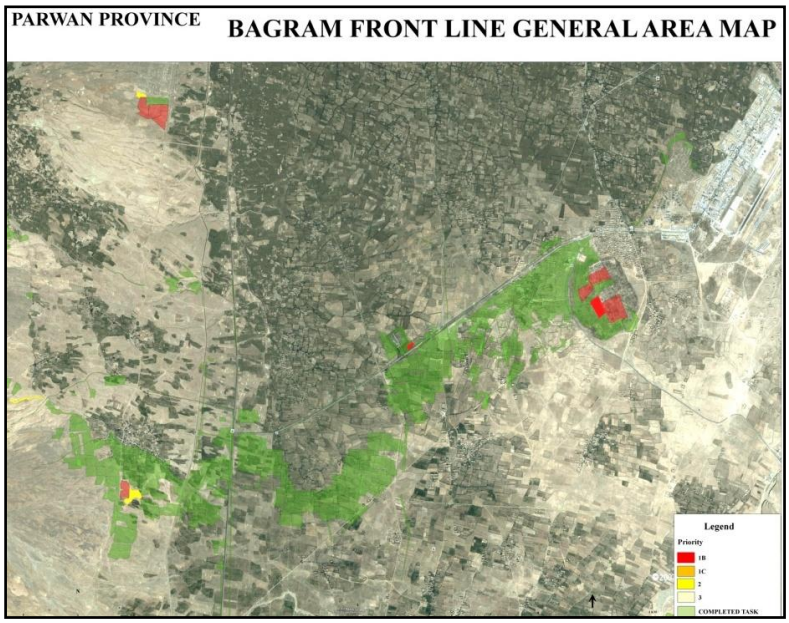
Project funded by: US Department of State, UK Department for International Development, British Foreign and Commonwealth Office, European Commission and ECHO, Royal Netherlands Government, Ireland, Norway, Germany, Czech Republic, AUSTCARE, The John D. and Catherine T. McArthur Foundation, George Begley, Jolie-Pitt Foundation and Roots of Peace.

Implemented by: The HALO Trust

The Devil's Garden, a name given to an infamous portion of the Bagram frontline in the Shomali valley north of Kabul, was one of the world's most dangerous lengths of minefield in the late 1990s. Six and a half kilometres of trench line and strong-points within the eleven kilometre frontline,

defended with mines, booby-traps and littered with abandoned ordnance, was the major point of stand-off in the Central region between the Taliban and North Alliance forces from late 1996 until the coalition invasion in October 2001. During these years of stalemate, the area was devastated - canals, karizes, vineyards, roads, fields and houses were destroyed. After the collapse of the Taliban, returning refugees and IDPs were prevented from using their land or entering their homes due to the presence of mines, ordnance and booby-traps. Many who tried were killed or injured. During the subsequent large scale clearance operations with upwards of 800 deminers deployed at its height, HALO has so far cleared over 29.8sq km of contaminated minefield and battlefield, with over 27,000 mines and 39,000 items of ordnance destroyed, including over 100 booby traps such as mines linked to aircraft bombs. Clearance to date has paved the way for the UNHCR and other key humanitarian organisations to begin the restoration of irrigation systems, vineyards, farming lands, homes, the establishment of a food processing factory and with it, the resettlement of tens of thousands of displaced people. Clearance of the Bagram frontline is expected to be completed in March 2012.

Figure 27 Bagram frontline map



West Kabul

Project Start Date: July 1995 Project End Date: December 1999

Project funded by: The European Union through DG1 and ECHO, the UK Overseas Development Agency, Anti-landmijn Stichting, The British Clockworkers' Guild

Implemented by: The HALO Trust

The Najibullah regime finally collapsed in May 1992 when the capital, Kabul was captured and occupied by the major Mujahedin groups. In the ensuing 24 months fierce inter-factional fighting engulfed large portions of the city as these groups vied for control of Ministries and key districts. After surviving the years of Russian occupation intact, the city was ravaged and whole suburbs reduced to rubble with thousands of civilians killed amid the shooting, rocket cross-fire and artillery exchanges. In west and south Kabul the housing, infrastructure and local livelihoods were completely destroyed, and buildings along the rubble strewn streets were mined, booby-trapped and turned into heavily defended strongpoints along a frontline that separated the warring factions. Mines were laid across streets, in compounds, on ground and upper floors of houses, and even in the cellars. The areas around the University of Kabul, Kabul Medical University, Kabul Teacher Training Institute, Kabul Zoo, Aliabad Hospital, and the large suburb of Koti Sangi were all mined, fought over, abandoned and effectively ruined. HALO brought demining teams into west Kabul in April 1995 when fighting in the city died out, and with funding from the European Commission and UK Government's ODA, began survey and clearance operations. During the following four years HALO expanded its city clearance as the extent of the minelaying and destruction became obvious, and the civilian casualties mounted alarmingly. At the height of clearance operations HALO was deploying 600 men daily into the west of the city. It was in west Kabul that HALO introduced for the first time armoured construction plant to work in mechanical support of manual mineclearance teams. HALO developed and refined its mechanical operating procedures and by 1999 had imported and deployed armoured shovels, backhoes, bulldozers, a tracked crane and a towed stone crusher in the major suburb of Koti Sangi. HALO's early work in Kabul on use of machinery to assist manual clearance teams was ground breaking and informed much of the subsequent practical development of machines in mine action. Together with the efforts of other demining agencies the clearance operation in west Kabul was the largest of its kind since World War II. By the end of large scale demining work in 1999 HALO had cleared 1.6 Sq Km of suburban minefields, 39.6 Sq Km of battlefields, and destroyed over 4,700 mines and 123,000 items of unexploded ordnance. The impact of this work was lifesaving for the returning home owners, and eventually the entire western districts

Figure 28 Clearance in west Kabul

of the city were rebuilt to allow houses, businesses, educational institutes, medical facilities and even Kabul's famous zoo to be re-born. Such has been the pace and success of redevelopment in west Kabul, that without the records, photos and testimony of those who took part in the clearance, the import of the humanitarian work would be virtually lost from the collective memory of this scarred capital.

7.3 Findings of internal and external evaluations and studies

To ensure that the programme is on target, MAPA has continuously been subjected to both internal and external evaluations. The majority of the evaluations have found multiple positive outcomes of mine action, as well as identifying areas for improvement.

In 1998, after closely examining and analysing data gathered on 3,656 randomly selected minefields cleared from 1990 to the end of 1997, SEIS concluded that the socio-economic impact of demining activities had been substantial. Some of the key findings of the survey were: 86 % of minefields (both AP and AT) cleared by MAPA were found to be used productively by local communities, with another 11% not being used as a result of a land ownership disputes. The remaining amount of land not in use – 3% of the total - was abandoned because end users were not confident the area had been fully cleared, explosive devices were found after clearance, users' requirements had changed, owners of the cleared areas were absent, and finally, beneficiaries had not been properly briefed about the cleared areas[40].

The survey also concluded that employment opportunities for about 9,200 farmers were precipitated by mine action activities. Another key finding was that, following clearance of high priority minefields in 411 communities, about 1.5 million refugees had returned[41].

In 2000, three major donors of MAPA, the Canadian International Development Agency (CIDA), the UK's Department for International Development (DfID) and the Government of Japan commissioned an independent Evaluation of Mine Action in Afghanistan. That evaluation aimed to determine the benefit of mine action in terms of humanitarian and socio-economic impact. It showed that demining in Afghanistan

> "The MAPA has made significant progress in addressing hazards and reducing the risks associated with living and working in one of the world's most severely contaminated countries. In doing so, MAPA has delivered substantial social and economic benefits."
>
> Bill Van Ree, Khan Mohammad, Ted Paterson and Qadeem Tariq, 2001

[40] SEIS page 25
[41] SEIS page 26

had yielded significant economic and humanitarian benefits.

In Afghanistan, Post Demining Impact Assessments (PDIAs) have been undertaken regularly since 2007. PDIAs aim to maximize the quality of projects through assessing the key aspects of the demining processes, such as priority setting and see the level of confidence of the end users on cleared land. The survey also looks at the positive and possible negative effects of demining, for instance, at land rights related issues that may arise after clearance. This survey has been deliberately designed as a simple process to make sure the existing survey teams are able to implement. To do this, MACCA established specialised teams called LIATs (please see section 4.2.3 for more information on LIATs). The teams work under the direct supervision and tasking authority of AMACs and implement PDIAs on an annual basis. Since 2007, a total 562 minefields (both AP and AT), randomly selected and located in over 300 communities, 65 districts, 18 provinces across all seven regions of the country, have been subjected to the PDIA survey. The survey found only two minefields that were not in use following clearance activities and to date there is no single case of detonations due to mines or ERW in the cleared minefields visited as part of the PDIA survey. The findings of this survey indicate that the quality of mine clearance activities is good and the majority of cleared land is productively used. It should be noted here that MACCA holds records of 116 incidents of mines being missed (25 AP, 86 AT and 5 unknown) since 1994 which resulted in the deaths of 26 people and injuries caused to an additional 64 people. This is of great regret to the programme as a whole, though the figure represents only 0.02% when viewed against the number of mines which have been found during clearance (571,300 AP and AT combined). In some cases missed mines result from the wrong clearance technique being used in the first instance; for example one community in western Afghanistan was cleared using MDDs and subsequently accidents have occurred. Following concerns raised by the AMAC West, the HALO Trust and MACCA UNMAS allocated funding to re-clear this area which is ongoing and is being implemented by HALO Trust.

In 2008, CIDA funded GICHD to evaluate the MAPA. GICHD concluded that MAPA made substantial contributions to peace-building, reconstruction and poverty reduction in Afghanistan. GICHD's evaluation also noted the evidence of MAPA's socio-economic benefits by recognizing the two major studies that were conducted in late 1990s; SEIS and SIMAA (please refer to section 3.2 for more information) conducted by MCPA and the

> "MACCA and the MAPA organisations have, collectively, great capacity to address contamination problems but also to make more substantial contributions to peace-building, reconstruction and poverty reduction."
>
> Ted Paterson, Faiz Paktian, and William Fryer, Geneva, August 2008

World Bank respectively. Generally both studies came up with similar results: both found significant net socio-economic benefits in the range of $30+ million in benefits for about $20 million spent (the annual cost of the programme in 1999). SIMAA found that over 60% of total benefits came from clearing crop land, with substantial benefits also accruing from the clearance of irrigation works and roads. SIMAA estimated that the monetary value of net benefits achieved in 1999 was over $90 million, about $4.60 in benefits for each dollar expended. Their evidence suggests demining delivers benefits that substantially exceed expenditures.

Two surveys on "Livelihoods Analysis of Landmine Affected Communities in Afghanistan," one carried out in 2010 (central and northern area) and one in 2011 (east) showed that cleared land was quickly put to use by communities, particularly in cohesive communities and that the overwhelming majority of respondents felt that MAPA prioritized the right areas for clearance. The survey showed multiple ways in which cleared areas were being put to use (grazing land, agriculture, scrub collection, infrastructure development such as telecom masts, building of homes, schools and mosques, and recreation, among others).

The evaluations and surveys that have taken place so far by experts internal to the programme and by independent consultants commissioned by donors reveal that MAPA has made significant progress in terms of socio-economic impact, despite the ongoing conflict and challenging conditions.

Through its long-running operations, MAPA has gained a wealth of experience. Mine action standards have been developed, with the concept of quality management imbedded into the programme. The programme is well coordinated both internally and externally, with solid links to relevant government ministries, and information management has been bolstered. As a result, MAPA is now more experienced, mature and resilient.

8. METHODS AND STANDARDS USED TO RELEASE AREAS KNOWN OR SUSPECTED TO CONTAIN AP MINES

Afghanistan uses three main processes for land release: survey, clearance and cancellation, which are described in the paragraphs below. Note; land release activities in Afghanistan are based on the standards and principles outlined in AMAS, which is based on IMAS.

8.1 Release of land through survey

8.1.1 Non-technical survey

The purpose of non-technical survey is to thoroughly investigate a new or previously recorded mine and ERW contaminated area. It involves community liaison and interviewing informants about the contaminated area as well as visiting the mined area from a safe viewing point. Non-technical survey involves the collection and analysis of both technical and socio-economic impact related information, which is used for planning and priority setting purposes. The findings of non-technical survey are then used for conducting intrusive technical survey to ensure actual mined areas are identified for subsequent clearance and land with no evidence of mines is released without full clearance. Non-technical survey often involves cancellation and subsequent release of previously recorded mined areas. However, land is not always released by a non-technical survey, since this is often the first step in the chain of evidence-based assessment of the problem. Land can, however, be released if the survey replaces a previously recorded hazardous area which had less accurate non-technical survey information with smaller, more accurate or confirmed hazardous area information.

8.1.2 Technical survey

Technical survey is a physical intervention into a landmine hazardous area to confirm the presence of mines, identify the type of hazard and level of contamination, and limit and mark the boundaries if further clearance is required. Technical survey helps implementers decide to release land if no evidence of landmines is found. Clearance and verification assets are used during technical survey which, like non-technical survey, can provide evidence about whether mines are present in the area. The amount and quality of evidence can be used to define levels of confidence in the effectiveness of the survey, and is viewed in conjunction with information provided by non-technical survey or by clearance (if some has occurred in the area). The type and amount of technical survey required depends on how much additional evidence is required after non-technical survey to gain sufficiently high confidence that an area is either mined or is mine-free.

Through technical survey, sufficient information is collected in order to more accurately define the clearance requirement in terms of what area(s) require clearance, what the hazard is, to what depth clearance needs to occur and what asset or combination of assets would clear the area in the most efficient manner. Time spent reviewing the local knowledge and researching historical data is considered time well spent.

Technical survey activities commenced at the beginning of mine clearance operations in Afghanistan in 1989. A technical survey team consisted of a team leader and four surveyors who were trained to carry out clearance as well as survey activities. After a non-technical survey to gather initial information, technical survey teams made investigative clearance lanes in minefields to verify the presence of mines and understand their density. The team then marked a two meter wide cleared boundary lane around the minefield, mapped and categorized the minefield based on the density of mines, and classified it based on the communities' requirements for clearance in accordance with the prioritization system.

During 1993, the technical survey teams were provided with mine detection dogs (MDDs) from the Afghan NGO MDC to support the survey activities. MDDs facilitated land release through a process called area reduction (described in detail in paragraph 8.2.3 below). They were also used to assist survey teams in clearance of minefield boundary lanes. Called Mine Detection Dog Sets, each unit consisted of a set leader, two dog handlers and two dogs. They formed part of the technical survey team and jointly worked in minefields.

In 2006, HALO Trust made the decision to stop deploying technical survey teams which had historically been used in advance of HALO Trust clearance teams. HALO determined that technical survey should be integrated into clearance operations. An evaluation of technical survey was subsequently conducted by MACCA which came to the same conclusion. At the time, minefields were technically surveyed by MCPA, with MCPA doing technical survey for other Afghan demining agencies such as OMAR, DAFA, ATC and MDC. This approach was considered to be ineffective and inefficient because in many cases, the technical survey team would hand over to the demining team a polygon, which the demining team would then fully clear, rather than continually analyzing the results of clearance activities, such as exploratory lanes in order to constantly seek the most defined minefield possible. This approach was therefore abandoned in early 2007. MCPA was restructured and its survey teams were retrained to execute integrated demining (combined clearance and survey activities). In addition to restructuring the survey organisation, all other demining organisations' demining teams were upgraded with the capability of doing both technical survey and clearance as opposed to just clearance.

Any demining team conducting technical survey is now expected to conduct intrusive technical survey into the minefield or suspected mined areas to confirm the presence of mines and to define the actual area for clearance. Manual demining teams have also been introduced to the 'demining tool box approach,' defined as a combination of all types of clearance. Under the 'tool box' approach, all demining teams are trained on the deployment and use of MDDs and mechanical assets (where appropriate) in support of technical survey operations, though not all organizations use MDD[42] or mechanical assets.

Currently AMAS 05.01 is being revised, which covers both non technical and technical survey. This revision will be an improvement on the previous AMAS relevant to survey.

8.2 Clearance

Land release through clearance is based on an operational principle of confirming the existence of hazard, delineating the shape of hazard, eliminating the hazard, then bringing closure to the operation. The phases are cyclic, specific and provide the foundation on which all site planning can be based. During operational planning and task execution, every attempt is made to ensure that:

- Clearance assets deploy into ground that is confirmed to contain hazard, as expeditiously as possible;
- Clearance only occurs in ground that is confirmed to contain landmine hazard;
- The type of clearance asset selected to bring about clearance is chosen on the basis that it will bring about the desired outcome in the quickest manner;
- Measures are taken to identify and address all hazards in a community;
- Quality is not traded for speed.

MAPA uses an integrated demining approach including the use of manual clearance teams, MDDs and mechanical assets, which are applied together to ensure an efficient and cost-effective mine clearance effort.

[42] HALO Trust does not use MDD as it does not believe them to be appropriate for use in mine action.

8.2.1 Manual Clearance

Manual mine clearance is the main demining technique used in Afghanistan and is supported by MDDs and mechanical demining machines, depending on the site requirements. The key elements of manual clearance technique are: a) visual and manual inspection for tripwires, UXO and surface-laid mines; b) cutting vegetation; c) controlled sweeps carried out with a metal detector; d) excavation of earth with hand-trowel or similar tool once potential hazard is found, in order to identify it; and then e) safe destruction of the found item, if verified to be a hazard.

Until 2007, most mine action organisations in Afghanistan (with the exception of HALO Trust) used the "two-man-one-lane" clearance drill with two deminers working in one lane, one using the mine detector and the second observing the deminer's work as a QA measure. Following a revision of the "two-man-one-lane" clearance drill, it was decided to adopt a "one-man-one-lane" clearance drill as this was more cost-effective and efficient. During 2007 and 2008, all the manual clearance teams went through field evaluation and accreditation by MACCA to make sure they were capable of adhering to the new clearance standards. It should be noted that HALO Trust had converted to "one-man-one-lane clearance drill" in 1998.

After a physical assessment of the contaminated area, a comprehensive clearance plan is developed for each site. Clearance organisations operations staff detail how the site is to be cleared, by what assets and the expected duration of the task. Where possible the intention is that the site clearance plan is externally quality assured by AMACs. Minefield clearance is conducted in accordance to the general methodology detailed in AMAS, in conformity with IMAS. All demining organisations have their own Standard Operating Procedures (SOPs) for clearance which are required to be AMAS-compliant.

AMAS 05.03 (Marking of Mine-ERW) describes the minimum requirement for mine and ERW survey and clearance marking systems in Afghanistan.

AMAS 06.01 (Mine Clearance Techniques) provides standard guidance on conducting the basic mine clearance drills and techniques e.g. using metal detector, trip wire feeler and action on locating a mine/ERW.

AMAS 06.04 provides standard guidance on conducting mine and ERW clearance operations in houses or buildings suspected of containing hazards, which is a common problem in Afghanistan.

AMAS 06.07 (Demolitions of Mines and ERW) provides guidance on the disposal of the majority of ERW found during demining operations. (These are usually mines and small items of ERW such as sub-munitions, grenades and mortar ammunition.)

AMAS 07.01 (Site Setup and Demining Worksite Safety) specifies the minimum requirements for site setup, preparation and worksite safety. Consistent arrangements for site work, with correct marking, increases the safety of those involved in the mine clearance operations and the local inhabitants.

8.2.2 Mechanical demining

Mechanical demining plays an important role in releasing mined areas for productive and safe use. They are particularly valuable in areas of high metal contamination (where they can remove soil completely) and collapsed infrastructure, trenches, bunkers, etc where they can remove large obstacles to clearance. Machines, in addition to locating and destroying mines, can also prove the absence of mines and release land with considerably higher speed than manual clearance. The mechanical demining operation is part of an integrated approach allowing interoperability with manual clearance teams and MDD assets. In total, 76 machines work with MAPA, both intrusive machines (rotary, tiller and flail) and non-intrusive machines (bucket backhoe loader, front end loader and excavator). [43]

Mechanical assets are used to release land through verification. Verification occurs during area reduction operations and/or concurrently within clearance operations. Verified ground can be released/cancelled by mechanical means as long as guidelines reflected in the CEN Workshop Agreement “Humanitarian mine action - Follow-on processes after the use of demining machines” (CWA 15832 dated April 2008) are followed.

In addition, mechanical demining machines are used for ground preparation and processing, which speeds up release through clearance. Both activities are conducted using both intrusive and non-intrusive machines to assist in improving productivity for clearance, and require some post-clearance follow-up, either through manual clearance or the deployment of MDDs.

AMAS Chapter 06.05 “Mechanical Assisted Clearance Operations” covers the minimum requirements for the conduct of mechanical assisted mine clearance operations in Afghanistan.

[43] Intrusive machines are those that are capable of working inside the minefield area; non-intrusive machines operate from outside dangerous areas.

8.2.3 Mine Detection Dogs (MDDs)

MDDs are an important element of demining tool box in Afghanistan, though they are not considered a primary clearance tool. MDDs can clear areas which pose problems for machines or manual clearance, for example, areas of high metal contamination. Clearance productivity rate of MDDs is higher than of manual deminers. MDDs are being used to assist manual demining teams in area reduction and verification during both survey and clearance phases of operations. The MDDs are used in many different roles; however, they are best at working in areas where there is a low concentration of mines and ERW and in places where the presence of metal fragmentation, mineralized soils or minimum metal mines limits the use of other clearance assets. MDDs are mainly regarded as a method of confirming the presence of mine contamination rather than identifying the location of every individual mine. There are 204 operational MDDs within the MAPA. All MDDs deployed in Afghanistan are subject to evaluation and accreditation before commencing operational tasks.

The MDDs have the following capabilities:

- Conducting verification/clearance of low threat areas to prove or disprove the presence of mines or ERW;
- Providing support to manual demining teams for verification and QA;
- Providing support to mechanical demining units for verification and QA;
- Assisting manual demining teams during survey operations.

Chapter 06.06 of AMAS outlines the main requirements and standards for MDD operations in Afghanistan.

8.2.4 Task handover process

Task handover is the final and critical step in releasing contaminated land which has been cleared for the productive and safe use. The handover process aims to achieve the following:

- Formal declaration by demining organisation that the land has been cleared over the specified area, to the specified depth and to the specified quality;
- Recognition by the MACCA that the demining organisation has satisfactorily completed the task;
- Formal acceptance of the cleared land by MACCA;
- Full involvement of the affected community.

AMAS chapter 06.09 sets out the following requirements for the handover of cleared minefields and UXO contaminated areas:

- Marking – All markings that indicate the presence of danger must be removed from the cleared area. If the cleared area is adjacent to a contaminated area, the contaminated side of the cleared area must be clearly marked in accordance with AMAS 05.03;
- Final QA evaluation - A comprehensive final evaluation is conducted covering all the key aspects such as marking, task dossier for documentation, maps, internal QA and QC records and community and end users' involvement;
- Inspection – When required, inspection of cleared land is completed by an inspection team to ensure that the clearance has been conducted to the required quality;
- Documentation – The IMSMA Completion Report and all the relevant worksite documentation and the original tasking documentation are compiled into a single task dossier and a cleared area completion and acceptance certificate is produced by the demining organisation;
- On receipt of the satisfactory cleared area final inspection report, the AMAC signs the cleared area completion and acceptance certificate and formally accepts the land from the demining organisation;
- The signed cleared Area Completion and Acceptance Certificate is then added to the task completion report and the original is forwarded to MACCA. Copies of these reports are retained with the relevant AMAC and the demining organisation;
- The details from the task Completion Report are entered into IMSMA and the report is filed by MACCA. Thus the status of the minefield and UXO contaminated areas is changed from "active hazard" to "closed".

8.3 Cancellation of previously recorded landmine and UXO contaminated areas

In Afghanistan the cancellation process allows clearance organisations to recommend the cancellation of previously recorded mined areas that are found not to represent a risk from mines and UXO. Cancellation is based on accurate and reliable information. Cancellation is authorized by the AMAC manager. AMAS specifies the minimum requirements for cancellation.

Previously recorded SHAs are normally cancelled when they are revisited as part of a systematic non-technical survey/re-survey process or when the areas are visited by demining organisations as part of their reconnaissance phase for clearance. When no evidence of mines or ERW is found in an area previously recorded as contaminated, clearance and survey teams fill in a cancellation form. In order to make sure the cancellation is done properly, the following criteria must be fulfilled:

- A comprehensive non-technical survey of the previously recorded SHA must be completed;
- The land owner or user must be located and interviewed;
- At least two local contact persons who are familiar with the area must be interviewed and their names and contact details recorded in the cancellation form;
- The landowner(s) should be satisfied with the result of assessment that the area is mine- and UXO-free and the landowner and one other local person interviewed must sign the cancellation form;
- The area must be shown to be in use on a regular basis;
- A sketch map of the area along with the photographs of the area must be attached to the cancellation report;
- The cancelation report must be signed and verified by the AMAC manager;
- The cancellation report should include the name of the organisation and the name, signature and the contact details of the person recommending the cancellation.

Once these criteria have been fulfilled, the completed cancellation form is submitted to the data entry personnel to enter the information into IMSMA. The area changes status in the system from “active hazard” to “closed.” The records of the cancelled landmine and UXO contaminated areas remain in the system.

9. METHODS AND STANDARDS OF CONTROLLING AND ASSURING QUALITY

The aim of QM in mine action is to ensure that quality requirements have been met and that released land is safe for its intended use. QM for mine action comprises of three complementary components, namely accreditation, monitoring and post-clearance inspection.

"QM = Accreditation + Monitoring (Quality Assurance) + Inspection (Quality Control) = Confidence"

The following pages explain how methods and standards of controlling and assuring quality are managed in the mine action programme in Afghanistan. The section is broken down into five parts; QA, QC, Quality Circles, Monitoring and Evaluation.

9.1 Quality Assurance

The IMAS definition notes that Quality Assurance aims to *"confirm that management practices and operational procedures for demining are appropriate, being applied, and will achieve the stated requirement in a safe, effective and efficient manner. Internal QA will be conducted by demining organisations themselves, but external inspections by an external monitoring body should also be conducted."* This includes the development and maintenance of AMAS, accreditation of mine action organisations and monitoring of mine action activities.

9.1.1 Development and maintenance of AMAS

AMAS were established in 2006 with cooperation of GICHD and national and international experts working in the programme. In 2007 the IMAS were reviewed and the AMAS Review Board was established for amendment or changes as required. The Review Board is made up of MACCA/DMC staff and representatives from mine action organisations which encourage wider involvement and ownership. Since the first drafting of AMAS, amendment and review has been ongoing, aiming for continual improvement and updating in line with mine action developments both nationally and globally. The last review was completed in July 2011.

AMAS plays a significant role in the systematization of Quality Assurance (accreditation and monitoring) and Quality Control processes. "AMAS 03.01 Quality Management" describes standards for accreditation, monitoring and post-clearance inspection (QA and QC).

9.1.2 Accreditation

Accreditation is the process of technical assessment of mine action organisations to make sure that the organisation is capable of performing mine action activities in accordance with AMAS.

Since 2006 Afghanistan has had an accreditation system which has been continually developed and improved since then. This includes two types of accreditation: organisational accreditation and operational accreditation. Organisational accreditation is given to organisations that intend to work in Afghanistan but are not yet funded or contracted to be operational. Operational accreditation is required for all organisations with current funds or contracts for operating in Afghanistan.

Organisational accreditation involves a thorough review of mine action organisation documents; admin procedures, SOPs, including those relevant to internal quality management, and legal documents, plus a review of the structure of the organisation. The purpose of this review is to confirm that the mine action organisation is able to plan and manage mine action activities in Afghanistan. The organisational accreditation certificate is valid for 12 months.

Operational accreditation covers the requirements of organisational accreditation plus assessment of training, equipment, assessment of all different types of assets in a practical situation to make sure that their assets are capable of conducting mine action operations as per AMAS and their own SOPs. Operational accreditation confirms that the mine action organisation is able to plan, manage and conduct mine action activities in Afghanistan. Operational accreditation is valid for the duration of projects for which the organisation is funded or contracted.

In addition to accreditation, a test and licensing process has been established for mechanical demining assets and MDDs. This process increases confidence in the quality of the performance of both assets. AMAS 06.05 Mechanical Operations and AMAS 06.06 MDD operations describe standard guidelines on the testing, licensing and operations of both assets.

At time of writing, 20 organisations have organisational accreditation and 24 have operational accreditation in Afghanistan. On average, 150 MDD are tested and licensed per year and are subject to re-testing and licensing annually. A total of 67 mechanical demining assets have also been tested and licensed for operations.

In late 2010, a process was established for Accreditation Review of mine action organisations already operationally accredited in order to make sure that their internal quality systems are established and working as per AMAS and their SOPs.

All mine action organisations are subject to the Accreditation Review process, which follows an in-depth audit approach. The audit is conducted at the premises of the organisation and the team review operational documents, financial records, interview staff and make physical checks of equipment. If the organisation conforms to the audit requirements, MACCA issues a letter confirming the organisation meets the required standard. If not, MACCA provides the audit report and requests that the organisation devise an action plan for MACCA's approval to address the outstanding issues.

To date, Accreditation Review of three national mine action NGOs and one national commercial demining company have been completed and the process has started with one international NGO and two more national NGOs. MACCA's intention is to audit every operationally accredited mine action organisation annually.

9.1.3 Monitoring of mine action activities (external)

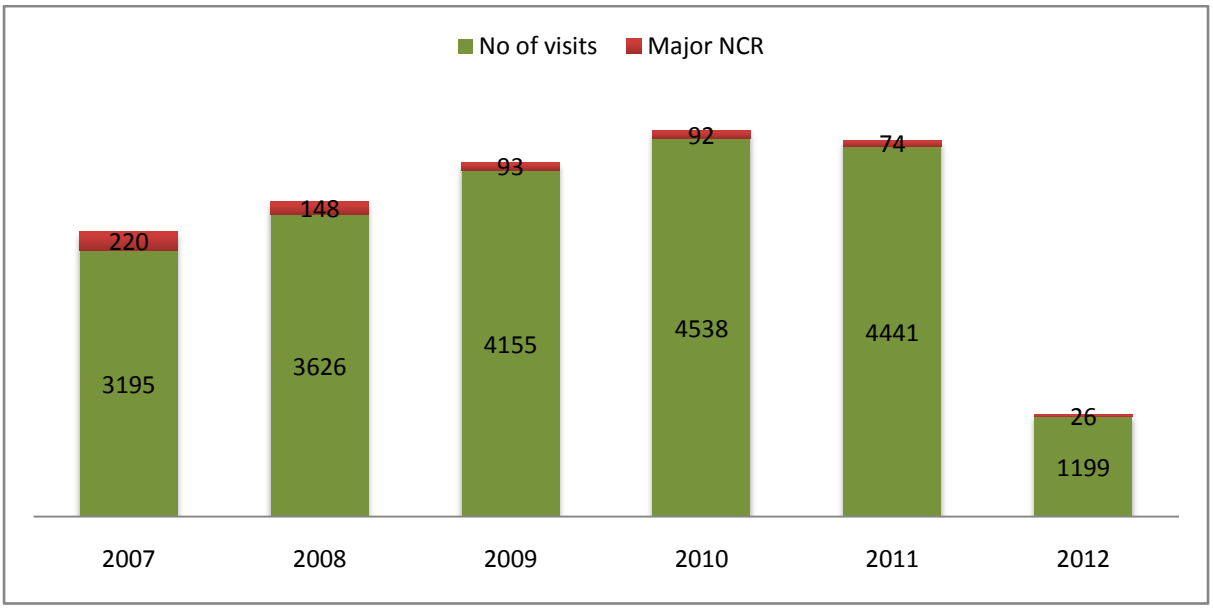
Between 1989, when the programme was established, and 1994, there was not a systematic external monitoring process of mine action activities. External monitoring was conducted on an ad hoc basis by international specialists located in the UN project office. In 1995, the UN developed monitoring standards and trained the staff of an Afghan NGO called the Monitoring Evaluation and Training Agency (META) which was contracted to undertake external monitoring and basic deminer training. From 1995 until 2005, external QA was limited only to the monitoring of mine action activities in the field and did not include accreditation. In 2006, MACCA became responsible for external QA on behalf of the government of Afghanistan and the donor community. META was dissolved and the QA capacity was transferred to MACCA.

MACCA QA inspectors - currently 40 staff members - are located in the seven regional AMACs and conduct QA visits on mine action teams and their training programmes. The aim is to make sure that the standards, processes and procedures being implemented are in accordance with AMAS, the mine action organisations' SOPs and contractual obligations. On average, since 2006, more than 3,000 QA visits per year have been conducted by external inspectors. The initial target was to visit each operational team once each month. This was found to be impractical given the size and scope of the programme; thus it was decided to focus mainly (but not entirely) on teams where non-conformity reports had been raised in a previous monitoring visit.

In late 2006, MACCA designed and established a QM database in order to systematically monitor and record QA activity and results, which is now incorporated in IMSMA. The table below shows the

number of visits per year and the number of major non-conformity reports recorded during the process.

Figure 29 Number and results of QA visits



As the graph shows, the number of visits has increased over time, in line with programme expansion. The number of major non-conformity reports has reduced despite an increase in the number of operational teams. This demonstrates a continuous improvement in the quality of mine action being delivered in Afghanistan.

In AMAS, a major non-conformity is defined as a breach of AMAS which could result in a fatality. Examples of these are:

- Missing a mine or ERW;
- Safety distances not being followed;
- Ambulance or evacuation vehicle not available on site or not AMAS compliant;
- Medical equipment required for casualty stabilization/evacuation not available on site;
- Casualty evacuation (known as CASEVAC) procedures not being practiced or recorded;
- Personal protective equipment (known as PPE) not available on site, not worn correctly in accordance with AMAS or not serviceable;

- Any significant deviation from AMAS that can potentially impact on safety and/or can potentially lead to a demining incident/accident (e.g. marking/clearance procedures or demolition procedures);

- Improper use of demining assets which could lead to demining incident/ accident, a missed mine or ERW, or impacts on cost;

- No means of communication at the clearance site;

- Poor command/control by the command element that may impact on safety and/or potentially lead to a demining incident/accident; and;

- Carelessness of a deminer that could impact on safety and/or potentially lead to a demining incident/accident (e.g. missed signal).

There may be occasions when other major (critical) non conformities may occur. The following list provides examples of such major non conformities:

- Repeated failure to apply accredited management systems;

- Lack of internal QA/QC processes;

- Refusal to allow monitoring or inspections to take place;

- Repeated interference with external monitoring or inspections;

- Premature release of cleared land in breach of contractual obligations;

- Application of processes known to place staff or the local population at unacceptable risk.

9.1.4 Monitoring of mine action activities (internal)

All mine action organisations in Afghanistan have their own internal QM systems and conduct monitoring visits in line with AMAS. Each demining team typically undergoes internal monitoring twice a month, which is conducted by internal QA inspectors. The frequency of internal monitoring is not dictated by AMAS; however, mine action organisations are required to conduct monitoring visits on all operational tasks, so the frequency required by internal QA SOPs tends to be twice per month in order to satisfy AMAS.

In consultation with mine action organisations, MACCA has devised a way of recording internal monitoring activities and results in IMSMA. Recording this data commenced in January 2012.

9.2 Quality Control: internal and external

The IMAS definition notes that QC relates to "*the inspection of a finished product. In the case of humanitarian demining, the 'product' is safe cleared land*." AMAS 03.01 describes the requirements of QC in demining operations in Afghanistan to be conducted internally by mine action organisations and externally by MACCA.

In line with AMAS, all mine action organisations working in Afghanistan are required to develop QC and sampling procedures and implement them throughout their field operations. AMAS 03.01 requires organisations to implement a system of internal QC that accurately records all internal QC carried out in a timely fashion and that allows immediate identification of the following factors should it be necessary:

- Details of the individual/asset that conducts QC on a specific area;
- The exact areas that has been subjected to QC;
- The date/time that QC was conducted; and
- The method of QC (sampling plan).

Sampling is to be incorporated into day-to-day activities so that inspections are carried out in a routine manner. Samples shall be randomly selected and carried out in accordance with the methodology and acceptance criteria clearly specified[44].

All mine action organisations accredited in Afghanistan have developed internal QC procedures within their QM systems, though procedures differ from organisation to organisation. Depending on the organisation, staff responsible for QC conduct sampling of between 10 and 20% of cleared land. All the areas cleared pass through organisations' internal QC and the process is implemented as a routine activity.

External QC commenced in 2005, when the META capacity was incorporated within MACCA and QC became the responsibility of MACCA operations staff in regional offices. It is linked to the results of

[44] Note: There may be situations where donors or commercial clients clearly direct that sampling shall be carried out as part of funding agreements or commercial contracts.

monitoring visits. If a monitoring visit results in a minor or major non-conformity and the problem is identified to lie in demining procedures, then the QA inspector conducts sampling of the cleared area in accordance with the QC and the organisation's sampling procedures, as required by AMAS. Due to the vast number of teams in the MAPA, it is not feasible or cost effective for external QC to be applied to every task; MACCA's responsibility is to make sure that internal QC is being consistently conducted by demining organisations in the field.

AMAS 03.01 requires that the external QC process is restricted to confirmatory checks following QA monitoring visits where required and practicable. The following applies:

- Sampling is not required following monitoring visits that turn out to be fully satisfactory (confidence level = high);
- Sampling should be conducted by the external monitoring body following monitoring visits that turn out to be not fully satisfactory (confidence level = medium) or unacceptable (confidence level = low);
- Sampling should be conducted in line with the sampling methodology and acceptance criteria developed by the involved organisation. Records of such inspections and results should be included in the QA completion form;
- If a sampling lot fails inspection, the external monitoring body shall require the lot to be cleared again. MACCA may then decide to suspend accreditation of the organisation for a pre-determined period until requirements for more extensive corrective action are identified and addressed. The failed lot shall not be offered for re-inspection until the organisation has taken preventive and corrective action as agreed with MACCA.

9.3 Monitoring:

Project monitoring is undertaken by MACCA on behalf of all donors, whether the project is funded through the VTF or bilaterally. If MACCA observes a project falling behind its targets, the organisation will advise the mine action organisation and the relevant donor.

Central to the concept of project monitoring is the objective-setting process prior to project commencement. Without a target against which to measure progress, it is impossible to determine a project's success or failure. Some organisations are still not taking a projectised approach to all their work and continue to deploy a specific capacity rather than to allocate specific resources to remove specific hazards.

9.3.1 Balanced Scorecard (BSC):

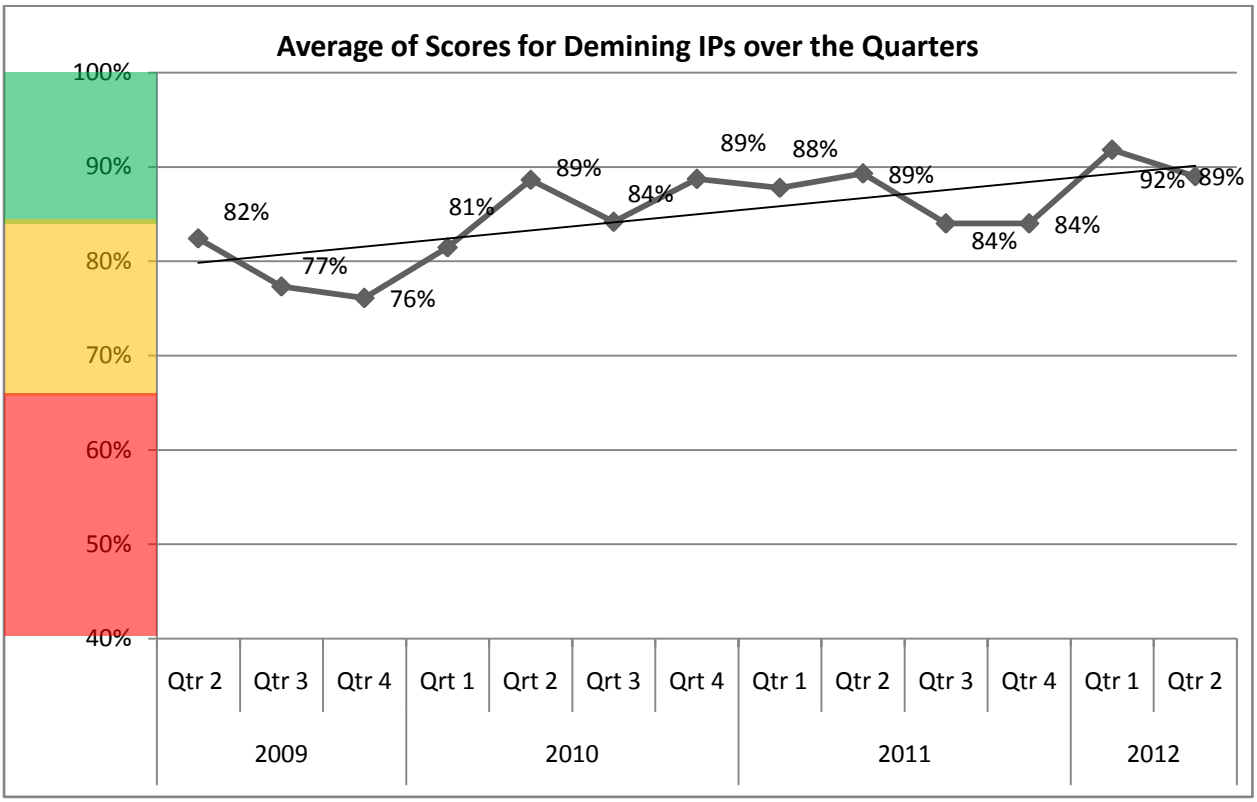
As part of the goal to continually improve the efficiency and effectiveness of MACCA's coordination function, at the end of 2009 MACCA developed a balanced scorecard (BSC) approach that centralized the results of monitoring and evaluation of mine action organisation activities which were successfully being conducted concurrently in different departments of MACCA. The aim of the BSC was not to replace these activities, which are still ongoing, but to draw together the results of these monitoring activities.

The BSC tool enables MACCA to monitor the output, quality and effectiveness of each organisation's projects against the same set of indicators on a quarterly basis. Not only does the tool allow for comparison between implementers (when the average score per project for each implementers projects are calculated) - information which could be useful for donors in funding decisions - but it also provides organisations with a baseline for their own improvement and development.

The total possible score (100%) is divided between four indicator sets: operations, quality management, demining accidents and reporting. Recognizing that delivering mine action is the primary function of mine action organisations, the operations indicator set has the highest weighting and accounts for 40% of the total score. The other indicators are divided almost equally and account for 20%, 25% and 15% of the total score respectively. Each indicator set is further divided into a number of subsets - or questions - which enable MACCA to measure and evaluate the planning ability of an organisation, productivity of assets, the quality of work delivered, and reporting efficiency. Full details are available in MACCA's BSC Briefing Document on the MACCA website.

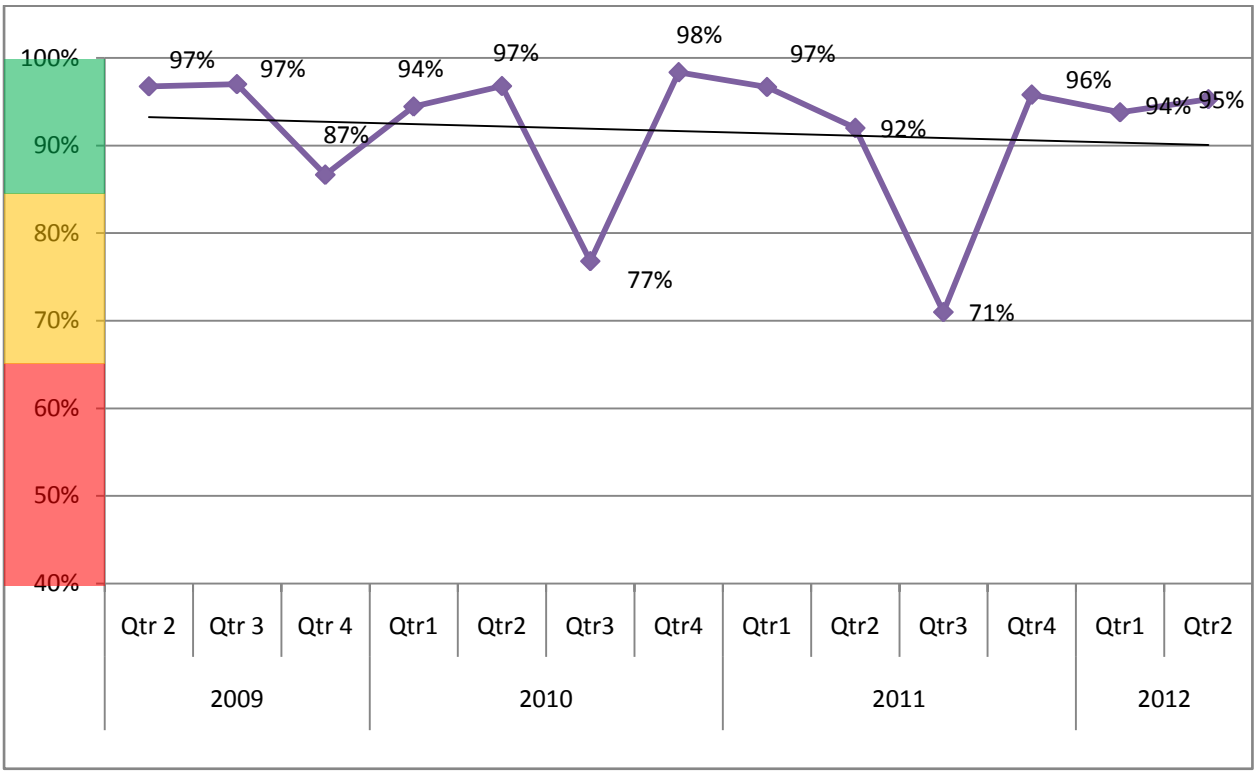
The graphs below show the average results for seven clearance organisations (ATC, DAFA, DDG, HALO Trust, MCPA, MDC, OMAR) and five MRE/VA IPs (AAR Japan, ARCS, Handicap International, OMAR, MMCC) measured over the period April 2010 – June 2012 MACCA monitored these specific organisations on behalf of two significant donors (UNMAS and the US Department of State).

Figure 30 Average BSC results 2nd Qtr 2009 – 2nd Qtr 2012 (clearance organisations)



The trend line on the graph above shows an improvement in the performance of demining organisations over time although the scores have gone up and down across the quarters. In all quarters, the average BSC for all implementers stayed either in the green zone (deemed "highly satisfactory" by MACCA) or the amber zone (deemed acceptable by MACCA).

Figure 31 Average BSC results 2nd Qtr 2009 – 2nd Qtr 2012 (MRE organisations)



The graph above indicates that the performance of MRE organisations has been highly satisfactory in all quarters except quarter 4 of 2009 and quarter 3 of 2010. In these quarters, MRE operators could not access some of the areas they had planned due to insecurity and parliamentary election days. Please note the use of "traffic light" warning system, according to the following grading:

Green: BSC results between 85% and 100% are determined highly satisfactory by MACCA. A score within this range indicates an organisation is executing its plan, delivering high quality services, has a low accident rate and reports on time and accurately to MACCA. The green colour code indicates activities should be continued without reservation.

Amber: BSC results in the range of 65% - 85% are deemed acceptable by MACCA, though follow up of the issues that are lowering the organisation's score should be highlighted and followed up by the organisation. The amber colour code indicates caution.

Red: MACCA views a BSC result of below 65% as poor, and organisations should take immediate corrective action. An extended period in the red or "stop" zone would result in the suspension of operations. Accreditation may be removed and a re-allocation of funds to organisations demonstrating better BSC scores may follow.

MACCA believes the BSC links the quality of the work of the deminer in the field or the site officer completing reports to senior managers responsible for decision making. All staff of an organisation can affect the score, and the score can impact organisation accreditation or funding. The BSC completes the circle of responsibility and accountability within the organisation.

9.4 Evaluation

Results-based evaluation is "*an assessment of a planned, ongoing, or completed intervention to determine its relevance, efficiency, effectiveness, impact, and/or sustainability."* Evaluation activities related to quality management are described below.

9.4.1 Board of Inquiry and demining incident investigation

While demining incidents are likely within a programme the size of MAPA's, to reduce the possibility of occurrence and to avoid severe consequences, MACCA developed a separate standard for the investigation of incidents. AMAS 07.05 describes the standard guidelines for this.

All demining incidents in the programme are subject to an investigation to recognize the root causes and to identify lessons to be learnt which are shared with all concerned organisations. If the incident is serious and involves death or severe injury a Board of Inquiry (BOI) will be convened. If the incident is not serious, MACCA will undertake its own investigation instead.

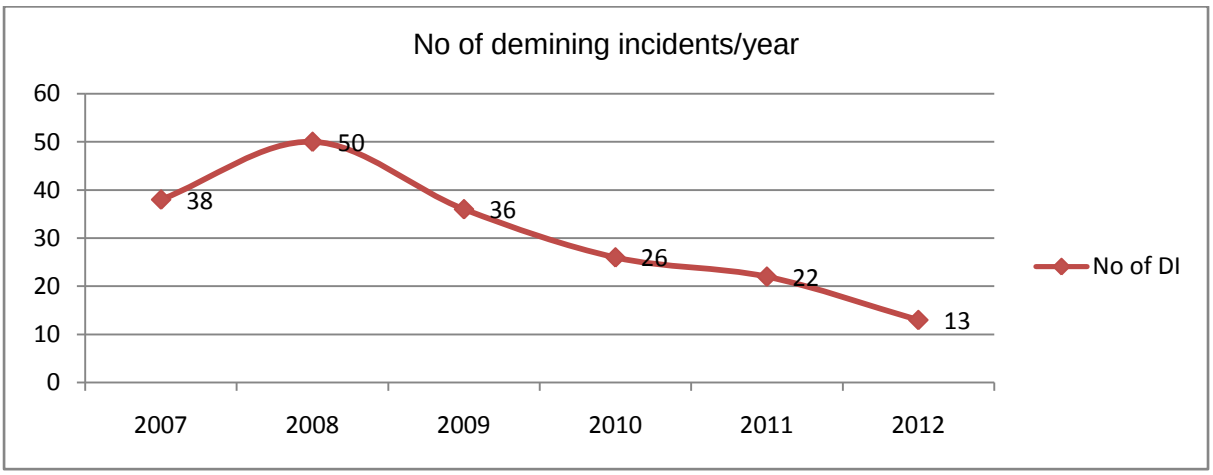
The organisation involved is then requested to implement corrective and preventive actions, under MACCA's oversight. The intention of this BOI or investigation is not to apportion guilt; however, the actions of an individual or an organisation may be identified as being the cause of the incident. The following activities take place following a demining incident:

- The operation is stopped, and any casualties are stabilized and the evacuation procedure is implemented if required;
- The clearance organisation submits the initial incident report as soon as possible, by phone or by radio;
- The involved mine action organisation conducts an internal investigation and submits a report to the MACCA QM section within one week of the incident;
- The BOI or external investigation report with conclusions and recommendations for preventive and corrective action is submitted by the chairperson of the BOI team to the MACCA QM section for further analysis and a lessons learnt summary, which is then sent to the organisation for their

appropriate corrective and preventive actions. The organisation is then requested to advise MACCA of their actions taken within the deadline outlined in the lessons learnt summary.

This graph below shows the number of demining incidents in the programme between 2007 and 2010. Increased attention to quality procedures have clearly decreased the number of accidents occurring within the programme.

Figure 32 Number of demining accidents per year 2007 – end of June 2012



9.4.2 Proposal Review

As part of the evaluation process, MACCA evaluates each organisation's project proposals to ensure they are in line with the annual goals of the programme and represent good value for money. The MACCA Proposal Review Team which is drawn from various departments (DMC, programme, operations and plans) reviews and endorses both VTF and bilaterally funded projects. The team considers the following issues during the proposal review:

- How the need for the project was determined, and whether intended beneficiaries and/or district government offices were involved in project identification and planning;
- How the proposal relates to other relevant national development strategies and policies;
- What is the impact of contamination to local people (civilian causality rate and blockage of key infrastructure);
- How many job opportunities will became available, including how many deminers will be recruited from the impacted communities;
- What the cleared land will be used for;

- How much money of the project is expected to be spent in the community;
- Whether the data used in the proposal is accurate (cross-checking with the national database that is owned by MACCA);
- Whether the planned productivity is reasonable, achievable and whether the method and equipment is appropriate.

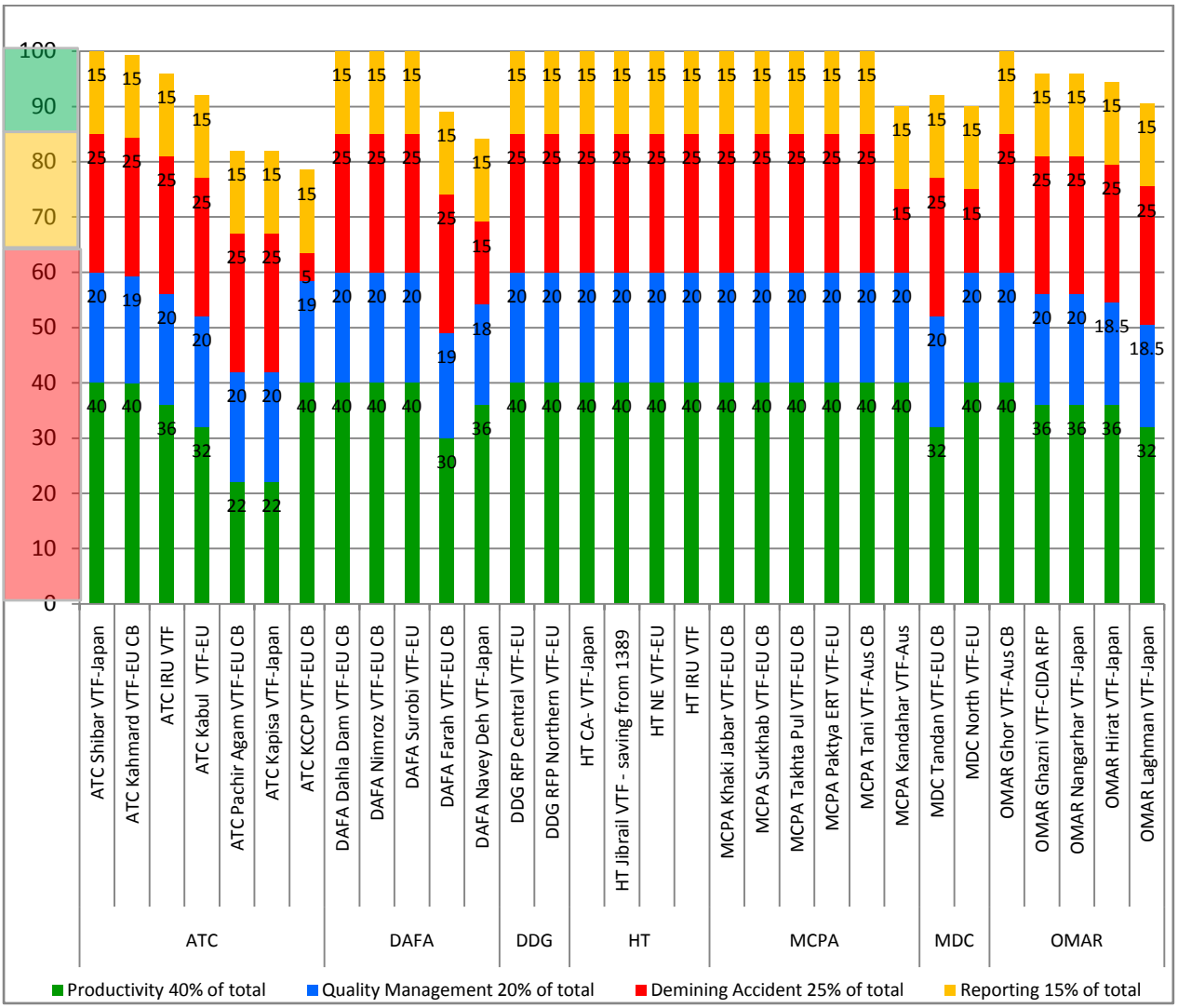
The review team also evaluates the project cost. This includes the cost of equipment and number of offices and support staff, among others. MACCA conducted an in-depth evaluation on the needs and requirements of different demining teams, types of equipment they need and put together a standard list for personnel and equipment.

9.4.3 End of project evaluation

The final process of evaluation comes at the end of the project, which in many cases coincides with the end of the Afghan year. Each project is evaluated against every indicator set in the BSC and the project is given an overall score out of 100.

Using the BSC methodology, MACCA conducted end-of-project evaluation of all VTF and bilaterally funded projects completed in 1390 (April 2011 – March 2012). The results are shown in the graphs below disaggregated by their donors:

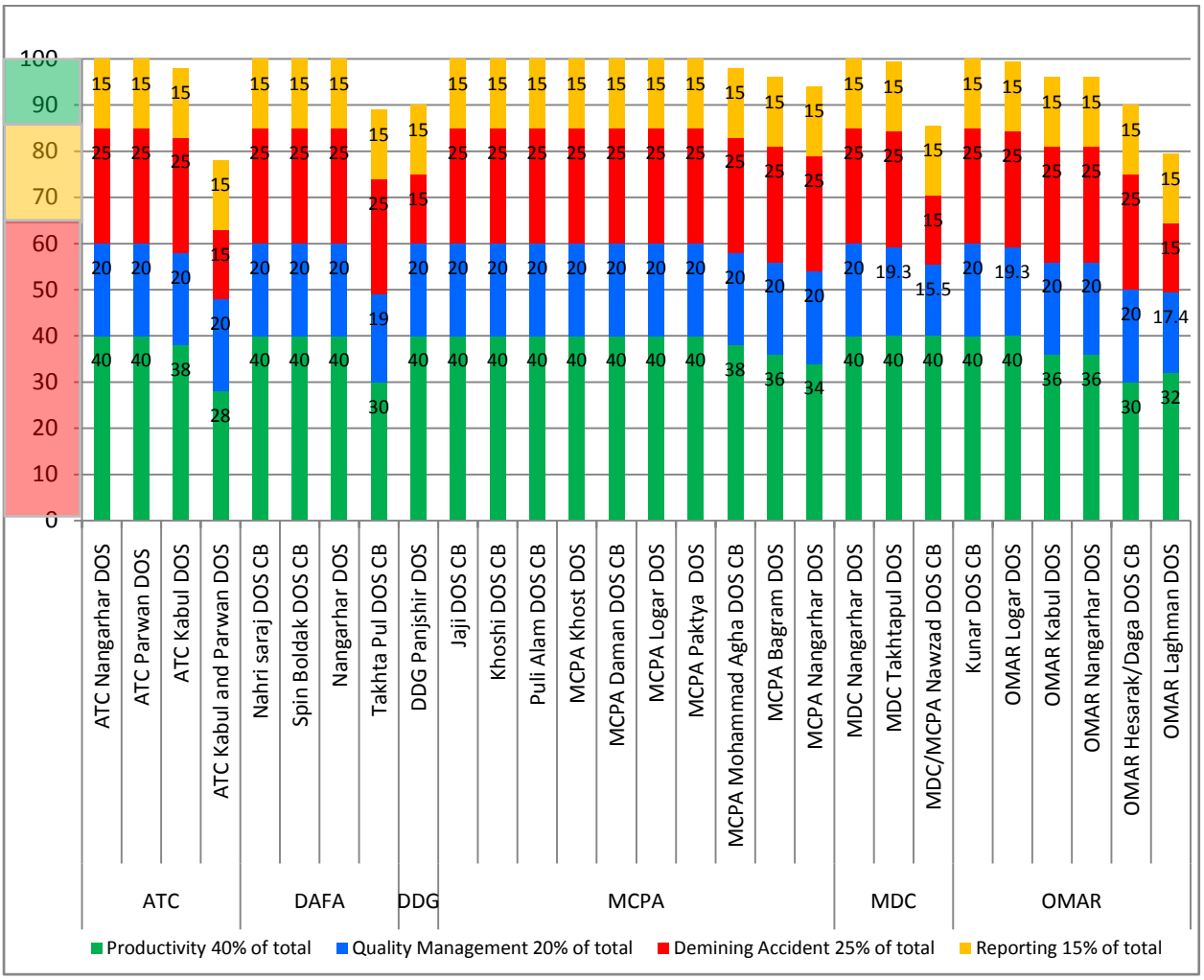
Figure 33 BSC end of project evaluation results April 2011 – March 2012 for VTF funded projects



The graph shows how each project scored within the parameters of productivity, quality management, demining accidents and reporting. Lessons learned during the project and findings of each evaluation feed into project funding decisions for the following year, or project cycle. As shown in the graph, out of 31 projects evaluated, 27 projects scored above 85% which is deemed "Highly Satisfactory" by MACCA. Four projects scored between 65% - 85% which is considered "Acceptable[45]" by MACCA.

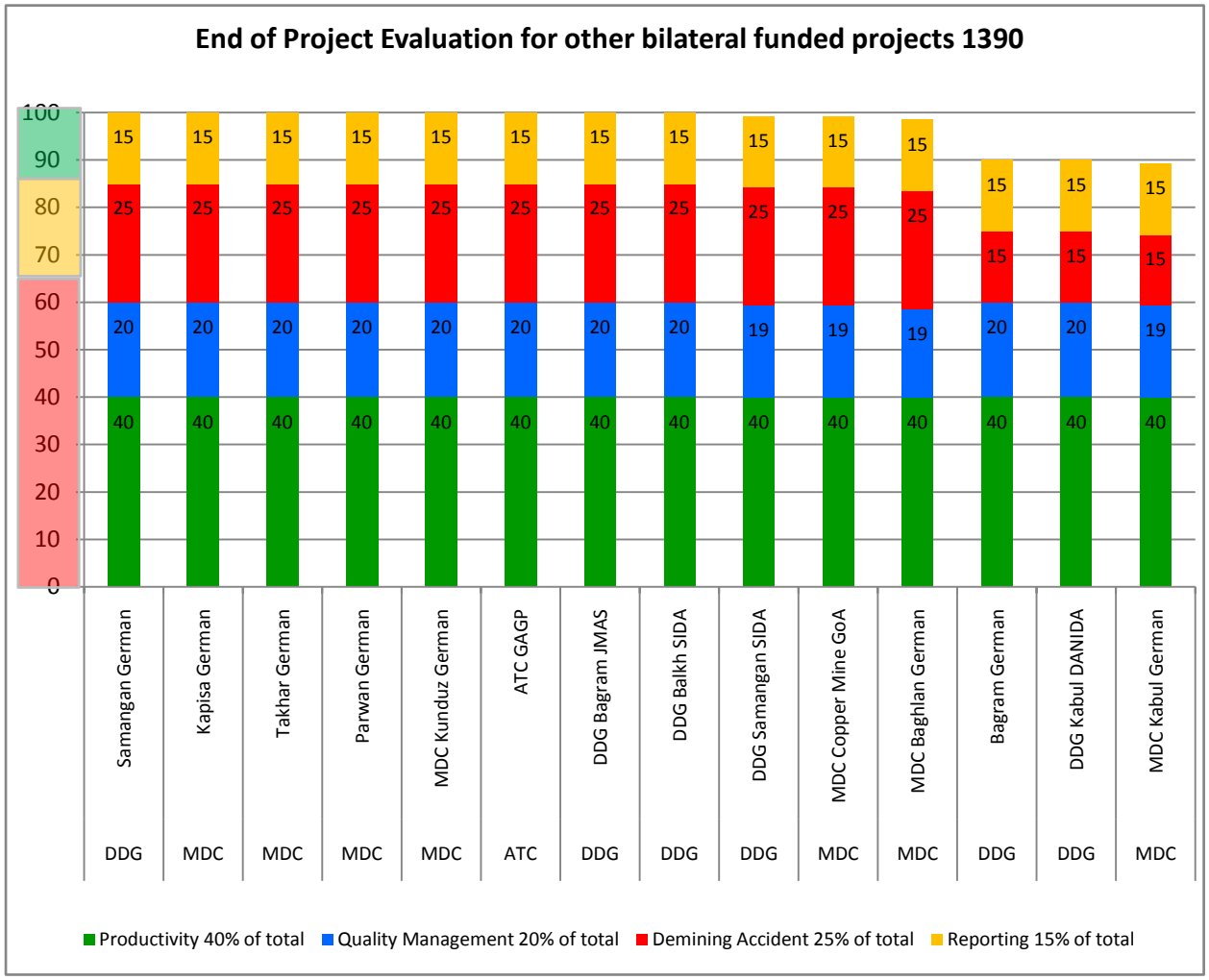
[45] The BSC score between 65% - 85% is however acceptable by MACCA but requires further follow up with the implementer to ensure they will take steps for further improvement

Figure 34 End of project evaluation April 2011 – March 2012 for USDOS funded Projects



MACCA undertook end of project evaluation on 28 USDOS funded projects out of which 26 projects scored over 85% out of 100% which is considered “Highly Satisfactory” by MACCA while the remaining two projects’ scores stayed between 65% - 85% which are considered “Acceptable”.

Figure 35 end of project evaluation (other bilateral funded projects)



In addition MACCA carried out end of project evaluation on 14 projects funded bilaterally by Germany, Japan, DANIDA, Government of Afghanistan, and SIDA in 1390. As can be seen all projects scored within the green and amber zone, considered "Highly Satisfactory" and "Acceptable" to MACCA.

9.4.4 DMC evaluation

An annual evaluation is undertaken by DMC to check that mine action implementation is effective and that beneficiaries are satisfied with the efficiency of clearance and confident in the safety of the end product.

The audit conducted in 2010 assessed 106 cleared and cancelled tasks in 16 provinces. Land owners and government authorities were consulted, with the following results:

- 98% of people expressed their satisfaction with mine action operations in the field;

- No mine/ERW accidents occurred after clearance or cancellation;
- 100% of cleared and cancelled previously hazardous land was in use;
- 14% of people requested for further mine/ERO clearance in their vicinity;
- Blockages in 96% of visited cleared and cancelled tasks have been removed;
- External QA has been conducted on 98% of cleared and cancelled tasks;
- Maps and documents of 99% of cleared and cancelled tasks were found to be in accordance with task features.

The audit conducted in 2011 assessed 149 cleared and cancelled tasks in 16 provinces. Land owners and government authorities were consulted, with the following results:

- 100% of people expressed their satisfaction with mine action operations in the field;
- No mine/ERW accidents occurred after clearance or cancellation;
- 100% of cleared and cancelled previously hazardous land was in use;
- 19% of people requested for further mine/ERO clearance in their vicinity;
- Blockages in 100% of visited cleared and cancelled tasks have been removed;
- External QA has been conducted on 96% of cleared and cancelled tasks;
- Maps and documents of 100% of cleared and cancelled tasks were found to be in accordance with task features.
- 97% of tasks were systematically handed over to land owners and government authority in accordance with the AMAS task handover standard.

In comparison with 2010 it appears improvements are being made in the area of customer satisfaction, blockage removal and task administration.

10. EFFORTS UNDERTAKEN TO ENSURE EXCLUSION OF CIVILIANS FROM MINED AREAS

Afghanistan has attempted to ensure the effective exclusion of civilians from mined areas through two means: clear marking of mined areas and the provision of MRE. This chapter provides details on how this has been and is being achieved.

The first section covers marking and the second section discusses MRE. The MRE part briefly outlines the history of the MRE programme and recent developments, the overall achievement to date and details of MRE methodologies.

10.1 Marking mined areas

To ensure the risk of unintentional entry of civilians into mined areas is reduced, MAPA has been marking mined areas since the early days of its operations. Marking in Afghanistan has been conducted in three main ways:

- Permanent marking of contaminated areas that are defined;
- Some partial marking and community mapping exercise during non-technical survey operations;
- Installing markers during the technical survey phase of each demining site.

Permanent marking efforts are meant for contaminated areas that are not scheduled to be cleared in the near future. Fencing was selected as the most effective measure of protecting civilians from the threat of landmines, but it was proven unsuccessful as local inhabitants removed it for their own use or sale. To prevent this, locally available materials with lesser economic value like stones, soil and sand are being now utilized.

Non-technical survey, which has been ongoing since 1993, has also contributed to marking mined areas by placing the control markers, such as benchmarks and reference points, on the most easily visible spots in the community. To ensure community members are fully aware of the location of hazardous areas, hazard mapping has been conducted by community elders under the guidance and technical assistance of the survey teams.

Most of the minefields' perimeter-marking has taken place as a result of stand-alone technical survey operations. By adopting this approach, the majority of the mined areas that have been subsequently cleared so far have been perimeter-marked prior to clearance using red-painted stones

or stones over the piles of soil. Technical survey has now been integrated into the demining teams' functions. Demining teams, prior to clearance, conduct technical survey, which leads to the placement of adequate markings to warn civilians about hazardous areas.

In Afghanistan due to the widespread use of landmines without proper mapping and recording by those who planted them, exactly defined hazardous areas are rare. This has been one of the major challenges for permanent or semi-permanent marking, because marking SHAs without conducting some clearance can be life-threatening for those who are installing markers due to not being clear about the boundary of the safe and unsafe ground. Most of the remaining hazardous areas need to be first defined by demining teams through physical interventions such as technical survey.

10.2 Mine Risk Education

The End Goal of the Government of Afghanistan for MRE will be achieved when a comprehensive and sustainable system is in place to educate and raise awareness throughout people and communities nationwide regarding the residual mines/ERW threats, including sufficient information to recognize and report these items to the appropriate authorities. [46]

10.2.1 History of the programme and recent developments

MRE refers to educational activities which seek to reduce the risk of injury from mines and ERW by raising awareness and promoting behavioural changes amongst at-risk groups. MRE also aims to enable people to recognize and report any potentially hazardous items to the appropriate authorities. MRE tries to ensure that men, women and children in the affected communities are aware of the risks from mines and ERW and encourages them to avoid risks to themselves, their property and their environment. The objective is to reduce the overall risk to a level where people can live safely, and to recreate an environment where economic and social development can occur free from the constraints imposed by contamination.

MRE operations within Afghanistan are based on:

- An operational principle of understanding the landmine/ERW threats to communities and individuals;
- Identifying vulnerable or target groups;
- Providing appropriate and targeted messages, and;

[46] Mine Action in Afghanistan: The Way Ahead, Islamic Republic of Afghanistan, Saur 1385 (May 2006).

- Confirming new knowledge to be used in MACCA/MAPA annual planning and priority settings.

MRE has been provided to almost 13.5 million people - women, men, girls and boys - since the government of Afghanistan signed the Ottawa Convention in 2003. Based on the MRE priority settings and tasking criteria, MRE is provided to impacted communities not as a "one-time-deal" but with required follow-up and revisits to target communities in order to make sure all community members are aware of the threats and making informed decisions. In particular, MRE aims to reach returnees from Pakistan and Iran who have settled in impacted communities and especially those who did not pass through the UNHCR transit centres, where MRE briefings are given. High impact communities, selected according to MRE tasking criteria (see paragraph 10.2.2 below), are visited every quarter. Therefore, if they are not able to cover the whole target community in the first visit, the teams will reach the rest of the target community members in following visits.

Before 2003, MRE activities were not standardized within MAPA. Each MRE implementing partner was using its own methodologies and materials. In order to ensure that the MAPA MRE activities were meeting the national standards for MRE in Afghanistan, MACCA started working with the MAPA MRE implementers and UNICEF. In 2003, the MAPA MRE programme shifted from an emergency modality to a long term Community Based Mine Risk Education (CBMRE) approach. The CBMRE Programme was designed based on the standard MRE package developed by the MACCA/MAPA in 2003 to ensure all MAPA MRE activities are coordinated under the umbrella of MACCA/MAPA and complying with the standard CBMRE package (guidelines and materials) in Afghanistan and to create a network of Community Volunteers spread throughout the country to act as community focal points for mine/ERW related issues.

The CBMRE programme aimed to reach an understanding of the mine/ERW affected communities' needs, providing MRE and training for community members and volunteers and linking mine action and the impacted communities to ensure people are aware of the threats posed by landmines and ERW and making informed decisions. The CBMRE programme encourages community members and community volunteers to mobilize their own community for taking responsibility for their own safety in mine/ERW impacted areas and to educate people on mine/ERW risks and to liaise with the mine action teams and share the recent changes in their communities in particular reporting mines and ERW as well as the new hazards/minefields.

The CBMRE programme is currently comprised of the following MAPA MRE implementing partners:

- Association for Aid and Relief (AAR Japan)
- Afghan Red Crescent Society (ARCS)
- Danish De-mining Group (DDG)
- Handicap International (HI)
- Mobile Mini Circus for Children (MMCC)
- Organisation for Mine Clearance and Afghan Rehabilitation (OMAR).

In order to minimize the number of mine/ERW casualties and to further strengthen the CBMRE programme, the mine action programme has tried to raise awareness amongst the mine/ERW affected communities through different MRE methodologies during the recent years as explained below.

During 2004 and 2005, MACCA conducted two Knowledge, Attitudes, Perceptions and Behaviour (KAPB) surveys in Afghanistan one in each year to assess the impact of MRE on affected communities as well as the returnees.[47] The KAPB surveys highlighted the areas where the MRE needed to be focused during the next years. This also resulted in a revised plan for allocation of MRE assets in most impacted communities to reach those who are living or working in highly impacted areas.

Following on from the CBMRE programme, standard MRE messages and materials began to be distributed through all MAPA MRE implementers and other entities in an effort to extend the reach of MRE. These included religious leaders, the Swedish Committee for Afghanistan, UNICEF vaccination teams, police officers, Community Based First Aid Volunteers of ARCS networks. Through these networks standard MRE materials were distributed to impacted communities.

In 2007/2008 as a result of projectised planning and decentralization of mine action activities the MAPA implementers took more responsibilities and ownership in the field level to assess the situation within their areas of responsibilities/mine and ERW impacted communities, prioritize the high impacted areas, liaise with community elders/members and highlight the challenges to design better project plans. MAPA MRE activities have also been further prioritized by mapping out the high, medium and low impacted communities for targeting and reaching the most impacted communities and groups. Emergency response activities further improved during 2007 which provided immediate response to areas where the accident happened.

[47] Please see www.macca.org.af the KAPB survey reports for details if required.

In 2009, the integration of MRE messages within the government related sectors, in particular the Ministry of Education (MoE), began. MRE messages were integrated into the new national curriculum, and training of teachers started in schools located in high impact communities. Distribution of MRE materials also started in target schools, and Tarbeyat magazine (a magazine with MRE messages focusing on young boys and girls) received support from MACCA and began to be disseminated in the schools in impacted areas. This initiative has resulted in wide coverage within Afghanistan. Some new MRE activities have also been added, such as dramas and theatre programmes for children in schools and impacted communities. In 2010 MACCA began working with the Ministry of Education's Educational Radio TV to broadcast MRE radio and TV spots to further expand coverage.

MACCA implemented another mine action KAPB survey during 2009/2010 in Afghanistan to highlight the areas requiring improvement.[48] MAPA MRE implementers' planning was also reviewed and improved in order to reach the impacted communities and raise awareness.

In 2010 and 2011, MACCA and DMC began working with the Ministry of Information and Culture, Ministry of Religious Affairs and the National Solidarity Programme, which is working under the Ministry of Rural Rehabilitation and Development with 29 partners in Afghanistan to support MRE and release the MRE messages. Joint field visits/spot checks started in collaboration with MoE, DMC and AMACs to monitor the MRE activities to ensure the MRE teams are allocated to the most impacted communities.

The Mine Action Sustainable Livelihood Surveys in Afghanistan during 2010 and 2011 indicated the requirements for prioritizations of the mine action programme and specified the needs of specific groups to be targeted by MRE i.e. reaching women in their houses through female MRE teams, distribution of additional MRE materials in impacted communities and reaching those communities in proximity of hazards.[49]

10.2.2 MRE Prioritisation

MACCA continuously analyzes MRE activities with the intent of improving the outreach and outcome of MRE. Communities are classified based on their need for MRE; the table below shows the prioritization indicators and their associated score.

[48] Please see www.macca.org.af the KAPB survey report 2009/2010 for details if required.
[49] For details please see www.gichd.org the mine action livelihood survey report.

Table 27 MRE Prioritisation matrix

	Indicator	Score
1	Victims recorded in the last 24 months (score is per victim, not per accident)	3
2	Community with no school	1
3	Community with ERW (because more accidents result from ERW than mines)	2
4	Community with mines	1
5	Community with cumulative hazards smaller than 200,000 sq m	1
6	Community population > 200 families	1
7	Casualties aged 18 or younger	1
8	Casualties resulting from playing in area	1
9	Casualties resulting from travelling in area	2
10	Communities with minefields within 1km of the community centre	1

Any community where an accident has occurred every year for the past five years (called a "killing zone") is automatically classified as high priority. The remaining communities are classified depending on scores resulting from the indicators shown below:

Communities without schools are given a higher weighting because communities without schools are likely to have less access to MRE through the MoE system.

Data from the years 2010, 2011 and up to end of June 2012 shows that 73.5% of casualties were caused by ERW rather than landmines and therefore communities contaminated by ERW are given a higher weighting than communities with only mines.

Indicators five and six are based on factors from the Survey Action Centre's Victim Prediction Model[50] which indicates hazards smaller than 200,000 sq m are more likely to cause accidents than hazards larger than 200,000 sq m, and that impacted communities with more than 200 families are also more likely to suffer from accidents.

Communities with casualties under 18 are given special priority due to the vulnerability of children as well as the fact that the majority of casualties in Afghanistan are children. Communities where accidents have occurred resulting during play or travel are prioritized as these are the activities

[50] Developed by Survey Action Centre – www.sac.org

causing most accidents; hence, more accidents are likely. Communities with a minefield which is close to the community centre are prioritized as this has significant psychological impact on the population. The fear is particularly pronounced in women.[51]

Communities with a score above six will be given high priority, between four and five medium priority, and three or under low priority. Following this analysis, MACCA checks which communities have already received MRE so that this can be taken into account when MRE partners are preparing their plan – it is more important that a community which has never received MRE is part of the plan than a community which has already received MRE. Nonetheless, all communities are studied to ensure an appropriate approach depending on its circumstances (i.e. return of refugees, or other population shifts.)

10.2.3 MRE beneficiaries

The following table shows the achievements of the programme since Afghanistan became a member of the Ottawa Convention.

Table 28 MRE achievements since 2003

	Region								Adults		Children	
Year	Central	East	North	North East	South	South East	West	Total	Women	Men	Girls	Boys
2003	367,797	210,851	86,154	130,348	321,673	67,524	339,579	1,523,926	230,679	499,939	376,597	416,711
2004	528,124	251,254	140,755	289,718	505,091	159,684	290,803	2,165,429	343,448	628,003	525,073	668,905
2005	348,176	326,811	94,347	138,538	357,012	234,015	260,867	1,759,766	295,568	392,012	456,233	615,953
2006	323,406	167,474	80,454	107,803	211,076	103,199	159,015	1,152,427	163,132	238,932	294,270	456,093
2007	397,069	293,390	158,499	145,770	239,631	115,457	233,652	1,583,468	232,352	289,887	430,336	630,893
2008	427,193	302,603	136,976	125,303	321,077	113,861	165,365	1,592,378	195,994	280,459	443,847	672,078
2009	292,254	154,437	124,029	69,058	316,964	66,066	75,936	1,098,744	151,798	183,106	285,249	478,591
2010	310,437	204,598	122,204	77,204	273,080	66,386	76,700	1,130,609	161,622	159,654	312,290	497,043
2011	352,079	183,257	107,860	69,435	272,555	70,434	82,967	1,138,587	173,390	161,335	306,521	497,341
2012 (Until end June)	107855	59,881	33,335	20,093	74,190	16,348	12,883	324,514	50,723	46,089	91,107	136,595
Grant Total	**3,454,319**	**2,154,556**	**1,084,613**	**1,173,270**	**2,892,349**	**1,012,974**	**1,697,767**	**13,469,848**	**1,998,706**	**2,879,416**	**3,521,523**	**5,070,203**

The above figures show that more people were reached in the central areas, which corresponds to the fact that contamination is the greatest in the centre, while the lowest number of people reached

[51] According to MACCA's research into the attitudes of women towards mine action in 2008, published at www.macca.org.af (Mine Action KAPB Survey)

are in the southeast due to lack of access to the impacted communities and insecurity. The programme is reaching men, women, boys and girls as illustrated in the above table to ensure gender equality as far as possible within MRE activities. The data also shows that boys have been particularly targeted by MRE, as most accidents affect this group. The table below illustrates the number of communities covered by region 2003 – end of June 2012:

Table 29 Number of communities covered by region

Region	No of Communities
Central	1,076
East	528
North	620
North East	608
South	825
South East	454
West	493
Total	**4,604**

As with the number of people receiving MRE, the table above shows that more impacted communities reached in central areas while the lowest number is shown in the southeast. Again, this is due to the greatest number of impacted people living in the central region and difficulties in accessing the southeast.

10.2.4 MRE methodologies

The following paragraphs give details of the different types of MRE which are being delivered in Afghanistan.

- **Teacher Training, in partnership with the Ministry of Education (MoE)**

The most cost-effective way to deliver the MRE public awareness program is through the education sector and MoE schools. This also ensures the widest public accessibility and reaches the target population of children, who are the majority of victims.

The MACCA and the MoE are implementing MRE trainings for MoE teachers and schoolchildren throughout the country, focusing on high impact areas. In 2008, MACCA trained over 120 MoE Child

Protection Officers to train the school teachers on MRE. In addition to delivering MRE messages, these teachers are also required to report any dangerous objects and mine/ERW accidents in their areas to MACCA regional offices and the DMC. To date, 20,082 teachers have been trained in around 9,000 schools throughout the country. Of those, 17,830 were male teachers and 2,252 were female. All trained teachers also received MRE kits to use during the lessons.

A joint action plan has been developed between DMC/MACCA and MoE to monitor the implementation of MRE activities within the target schools. MRE messages have now been integrated in the new national curriculum for grades 7 to 9 (approximate ages 13 to 15) with MRE messages delivered as part of Pashto and Dari language lessons, and in the subject of "Malumat-e-Madani" (social studies). MRE lessons appear in textbooks which are printed and distributed to most of the target schools throughout the country. MRE messages have also been integrated in grades 10-12 (approximate ages 15 – 18). The integration of MRE messages in grades 1 to 6 (approximate ages 7 to 12) has been delayed due to the fact that MoE is now making changes to their textbooks. The table below illustrates the number of teachers trained by region since 2008.

Table 30 Number of teachers trained by regions

Region	Trained Teachers		Total
	Male	Female	
Central	3,754	740	4,494
Northeast	2,732	34	2,766
East	3,203	653	3,856
South	3,155	234	3,389
South East	1,144	92	1,236
North	2,059	142	2,201
West	1,783	357	2,140
Grand Total	**17,830**	**2,252**	**20,082**

The MACCA and DMC provide technical and management support aimed at the development of the MoE Mine Action/MRE Directorate. MoE Mine Action Advisors will be responsible for national textbook development, teacher training and monitoring of MRE activities in schools. The Directorate will ensure that the Child Protection Officer Project is implemented to:

- Provide MRE training for new teachers/new schools;

- Conduct refresher trainings and distribute MRE materials to all trained teachers throughout the country;

- Regularly monitor MRE activities throughout the country;

- Report regularly to the MACCA and DMC on MRE activities within the MoE including the Directorate and ERTV activities as well as field and mission reports.

- **Returnee MRE Programme**

The MRE returnee programme targets repatriating Afghans, providing MRE information at UNHCR transit and encashment centres. This programme is implemented based on agreement between UNHCR and the MACCA/MAPA implementing partners to provide all returnees with mine awareness that transit the UNHCR encashment centres. This programme provides an introduction to the risks of mines and ERW and promotes safe behaviour to assist with travel through unsafe environments and the possible resettlement in communities with a significant mine/ERW risk. The UNHCR transit and encashment centres are currently located in Gardez, Nangarhar, Kabul and Kandahar but in the past were also located Herat and Khost provinces.

Returnee MRE Programme team members include both men and women to ensure all members of returning families have access to MRE activities. The activities include safety demonstrations, viewing MRE films (3 MRE movies have been produced focusing specifically on returnees), one-on-one briefings, and distribution of materials. OMAR, Handicap International and the Afghan Red Crescent Society are conducting the MRE activities in UNHCR transit and encashment centres for Afghan returnees in central, east, south and southeast regions.

The table below illustrates the number of returnees that received MRE by region and year since 2003 when Afghanistan became a party to the Ottawa Convention.

Table 31 Number of returnees who have received MRE

	Region								Adults		Children	
Year	Central	East	North	North East	South	South East	West	Total	Women	Men	Girls	Boys
2003	-	7,370	23	-	-	-	-	7,393	10	7,383	-	-
2004					2,266			2,266	193	-	289	1,784
2005	163,893	265,999	-	51,954	30,807	55,355	35,431	603,439	104,397	111,592	194,025	193,425
2006	41,700	60,499	391	-	18,754	20,237	1,234	142,815	28,376	27,397	43,884	43,158
2007	62,241	92,670	-	-	15,997	11,548	2,336	184,792	32,342	30,071	57,953	64,426
2008	56,335	116,538	-	-	18,802	7,694	2,870	202,239	36,710	39,609	61,060	64,860
2009	21,016	29,483	-	-	10,198	-	1,001	61,698	12,941	12,703	17,513	18,541
2010	49,187	48,928	-	-	23,143	-	-	121,258	21,863	21,946	38,234	39,215
2011	30,065	22,651	-	1,451	33,083	862	-	88,112	15,501	13,526	27,414	31,671
2012	16,381	13,895	-	-	18,601	-	-	48,877	9,415	8,328	14,429	16,705
Grant Total	440,818	658,033	414	53,405	171,651	95,696	42,872	1,462,889	261,748	272,555	454,801	473,785

As can be seen the majority of people have been reached in the east. The encashment centres in Gardez and Nangarhar addresses the needs of returnees from Pakistan and receive the most people. This is followed by the encashment centre located in Kabul, with lesser numbers in other areas.

- **Community Based MRE (CBMRE)**

Community based MRE is an integral part of mine action and provides the link between the community and mine action programme/agencies. CBMRE is designed to respond to the needs of impacted communities through emergency response, community based and volunteer networks, and community monitoring of risk (through victim and incident data collection) and MRE impact.

The CBMRE programme identifies and trains people from within the communities so that the communities are able to deliver their own MRE. This aims to empower the communities so that they take responsibility for the mine/ERW problem in their areas and by this, facilitate the mine action response, through the following main tasks:

- To educate the communities through MRE public sessions
- To create a link between the community and the demining teams (Community Liaison)

Currently, ARCS, OMAR, HI and DDG are implementing the CBMRE programme in Afghanistan.

The CBMRE team must understand the threat to a community, identify those most vulnerable and provide targeted, as well as general MRE within a community. The team also collects victim data and reports on ammunition, mines and ERW to monitor community risk.

The CBMRE team ensures that materials provided to community members are appropriate for the target group and that they have sufficient numbers of hand-outs for all participants. The CBMRE team is required to work with community leadership to ensure access to vulnerable groups, men, women boys and girls. Whenever possible, CBMRE teams also include females. CBMRE teams also recruit volunteers to do follow up activities where applicable. However, the community volunteer network is not able to provide MRE in all communities due to the current security situation in Afghanistan, though the network has been successful in some communities, in particular in the central, south, east and western areas. The table below illustrates the number of people reached through CBMRE by region/year since 2003 when Afghanistan became a party to the Ottawa Convention.

Table 32 Number of people who have received CBMRE

Year	Central	East	North	North East	South	South East	West	Total	Adults		Children	
									Women	Men	Girls	Boys
2003	-	-	86,131	-	34	32,784	34,964	153,913	20,898	31,765	39,166	62,084
2004	3,041	466	126,710	-	-	123,841	20,680	274,738	28,103	62,020	69,243	115,372
2005	150,446	55,615	93,085	46,211	128,239	131,695	212,011	817,302	145,046	194,340	181,642	296,274
2006	240,235	104,271	78,269	107,803	188,643	82,623	157,781	959,625	130,779	203,988	237,459	387,399
2007	275,982	200,210	145,893	138,305	223,603	97,583	226,210	1,307,786	195,601	249,679	342,416	520,090
2008	305,025	136,420	127,315	91,416	298,029	102,580	120,960	1,181,745	155,723	207,993	321,135	496,894
2009	171,279	89,469	118,802	65,097	296,100	63,683	54,242	858,672	112,253	156,469	215,212	374,738
2010	184,850	93,809	112,381	76,225	245,794	65,387	76,700	855,146	115,609	126,182	234,092	379,263
2011	231,760	123,573	107,375	63,667	238,390	67,775	63,612	896,152	128,061	139,645	231,527	396,919
2012	54,371	36,743	29,623	20,093	54,987	15,755	12,883	224,455	33,866	35,495	57,616	97,478
Grand Total	**1,616,989**	**840,576**	**1,025,584**	**608,817**	**1,673,785**	**783,706**	**980,043**	**7,529,500**	**1,065,939**	**1,407,576**	**1,929,508**	**3,126,511**

There were no CMBRE beneficiaries in the central, east and northeast regions in 2003 and none in northeast and southern regions in 2004, as these regions were not covered under the CBMRE programme at that time. Again it can be seen the central area has received the most MRE, since it has the highest population and greatest mine impact. Boys also remain the highest beneficiary group, reflecting the fact most accidents happen to this group.

- **Community liaison**

Community liaison is an essential component for the communication of information to communities, identifying community priorities for demining activities and ensuring confidence in the handover of demined land undertaken by the MAPA implementing partners. Community liaison helps to make sure the community is informed of all stages of mine action processes and how they impact their lives.

Community liaison is the link between the tasked mine action capacity and the communities affected by the threats posed by landmine and ERW, and an essential element in an integrated approach to mine action. Community liaison activities play a crucial role in the safety of affected communities, awareness raising, involvement of community members within mine action activities and enabling the impacted communities to avoid risky behaviour, take responsibilities for their own safety and make informed decisions. Community liaison activities have been mainly implemented through mine action assets, in particular survey and MRE teams.

The primary objective of community liaison is to ensure the needs and priorities of mine/ERW-impacted communities are at the centre of planning, implementation and monitoring of mine action activities. The community liaison teams ensure that communities fully understand the work to be undertaken by mine action agencies, and following clearance activities, feel confident that the land released to them is safe.

The MRE teams implement the following community liaison activities in order to:

- Collect information on:
    - The exact location of dangerous (including minefields or ERW) and safe areas in the village/district they were going to cover.
    - Recent mine/ERW incidents in the area.
    - Other mine action activities taking place locally (such as other MRE trainings or demining, survey, and marking).
- Develop good relationships with the local administrative authorities in order to introduce them to the CBMRE Volunteer Programme, clearance activities and keep them updated on any new programme information;
- Introduce the CBMRE Volunteer Programme to community leaders and members;

- Conduct ongoing field visits to support and monitor the MRE volunteers and other mine action activities;

- Collect on a regular basis incident and ammunition reports together with any mine/ERW related information to be passed to the AMAC for further action;

- Develop a list of community volunteers to be shared with the AMAC and the mine action agencies;

- Facilitate the link between the mine clearance teams/communities and the community volunteers:

- Set up a community referral system/network in case of mine/ERW incidents;

- Involve other relevant institutions such as: schools, health posts, and religious leaders in MRE and other mine action activities.

- **MRE Mobile Cinema Programme (MC)**

The mobile cinema programme delivers MRE awareness messages predominately in schools and community gatherings. MRE training activities are coupled with video presentations of MRE and disability awareness dramas and are projected on large screens in the impacted communities.

The MRE mobile cinema programme started in 2007 in central, north and southeast regions. The MC teams, like the CBMRE teams, must understand the threat to a community, identify those most vulnerable and provide targeted - as well as general - MRE within a community. To do this, the team utilizes cinema activities as well as direct training of participants to ensure safety messages are understood. The team is also responsible for collecting victim data as well as information on ammunition, mines and ERW reporting. The MC MRE teams are responsible to ensure that materials provided to community members are appropriate for the target group and that they have sufficient numbers of hand-outs to ensure all participants receive them. Mobile circus MRE teams are required to work with community leadership to ensure access to vulnerable groups, women and girls.

AAR Japan and OMAR are implementing the MRE mobile circus programme in Afghanistan. The table below illustrates the number of people received MRE through MC by region and year since the mobile circus programme began in 2007.

Table 33 Number of people who have received MC MRE

Region								Adults		Children	
Year	Central	East	North	North East	South East	West	Total	Women	Men	Girls	Boys
2007	28,218	-	6,215		93	-	34,526	223	2,169	12,038	20,096
2008	49,701	15,858	6,737	4,658	-	329	77,283	343	7,161	22,812	46,967
2009	59,971	4,327	5,227	3,200	-	-	72,725	256	5,443	23,787	43,239
2010	66,152	19,109	9,284	225	-	-	94,770	341	7,650	26,902	59,877
2011	76,035	2,807	-	-	-	19,158	98,000	268	5,254	34,589	57,889
2012	31,743	-	3,700	-	-	-	35,443	1,258	1,205	15,168	17,812
Grant Total	**311,820**	**42,101**	**31,163**	**8,083**	**93**	**19,487**	**412,747**	**2,689**	**28,882**	**135,296**	**245,880**

As can be seen in the table, most beneficiaries of the MRE messaging were in the central region, where security is better and also where most impacted communities are located. Unfortunately security has not allowed the mobile cinema programme to access the south.

- **Mobile Mini Circus for Children (MMCC)**

The Mobile Mini Circus for Children started working with mine action in Afghanistan in 2008. This programme delivers MRE to large general audiences through theatrical production focused on communicating MRE and disability awareness messages to children. The programme relies on actors, singers, musicians and circus players to communicate its messages effectively through plays, skits and music.

The table below illustrates the number of people reached by MMCC by region/year since MMCC began their operations. Due to security MMCC have not accessed the south.

Table 34 Number of people who have received MMCC MRE

Year	Central	East	North	North East	South	South East	West	Total	Adults		Children	
									Women	Men	Girls	Boys
2008	4,668	28,060	0	0	0	0	41,117	73,845	636	2,421	29,733	41,055
2009	27,260	151	0	0	0	0	41,537	68,948	328	1,450	16,766	50,404
2010	29,350	40,788	5,334	39,585	0	0	49,901	164,958	1,446	6,200	59,992	97,320
2011	0	5,845	0	0	0	0	0	5,845	43	84	4,206	1,512
Grand	61,278	74,844	5,334	39,585	0	0	132,555	313,596	964	3,871	46,499	91,459

- **Landmine Safety Programme**

The Landmine Safety Programme is directed at the aid worker community, in particular the UN, government and NGO actors. The programme utilizes Afghanistan-specific information and the international guidelines to ensure that the training reflects Afghan realities. The programme has a training of trainer's guideline, training manual and presentations that are supported by posters,

activity cards, country specific information and the international Landmine Safety Handbook. The programme is implemented by one or two male and female trainers. The MACCA, as well as some NGO partners, implement this activity upon request by UN/NGO agencies. The table below illustrates the number of people who benefitted from the Landmine Safety Programme by region and year.

Table 35 Number of people who have received LSP MRE

Year	Central	West	North	North East	South	East	Total	Female	Male
2007	2	144	0	0	0	0	146	12	134
2008	100	80	26	56	0	0	262	38	224
2009	0	0	0	0	716	0	716	0	716
2010	18	0	0	76	0	0	94	76	18
2011	55	0	0	0	0	0	55	1	54
Grand Total	175	224	26	132	716	0	1273	127	1146

- **Mass media**

Beginning in 2003, in order to provide MRE messages in remote or insecure areas, mass media activities were developed to reach out to the general public and were broadcast at different times and days through different radio and TV channels to ensure broad coverage. Radio messages were developed through MACCA MRE section and partner NGOs, in particular AAR Japan, and broadcast through local public and private radio stations, including national radio/TV and government official newsletters.

To date, 443 radio programmes and 12 TV spots have been developed and broadcast through national radio/TV, Aryana, Arman, Salam Watandar, Killeed, Takharistan and Lahza radio stations with country-wide coverage focussing on areas with high impact and communities with no or limited access for MRE teams, mainly in south, southeast and eastern areas.

The MRE radio and TV spots are focussed on behaviours that are likely to lead to mine or ERW incidents – based on the MACCA/MAPA victim data - and target mainly children. They are broadcast in local languages: Dari, Pashto, Uzbeki and Baloochi. In addition to these regularly programmed messages, over 10 radio and TV messages have been developed and broadcast supporting the International Mine Action Day and other mine action related events.

11. RESOURCES MADE AVAILABLE TO SUPPORT PROGRESS MADE TO DATE

Article 6 of the Ottawa Convention recognizes the right of each State Party to seek and receive assistance from other States Parties in fulfilling its obligations. This chapter provides information on the resources which have been made available to the programme to date. The chapter first explains financial information sources and some of the challenges found in analyzing this data. The funding modalities used in Afghanistan are explained and information is provided on the total funds provided per donor. The section concludes with a breakdown of how funds have been spent in recent years across the three thematic sectors: clearance, MRE/VA and coordination.

11.1 Information sources

On a biannual basis, MACCA requests and receives from implementers details of their funding situation covering direct (bilateral) contributions from donors; the amount, the donor, the period for which the donation is valid, and the project for which the funds are secured. In addition MACCA has access to UNMAS annual reports which provide information regarding donor contributions allocated through the VTF administered by UNMAS in New York. Finally, Landmine Monitor research includes a section on donor contributions per country.

There were a number of challenges associated in analyzing donor contributions for this chapter. In summary:

- Incomplete data - Given the 23-year history of the programme, it is difficult to determine, especially from the early period, a fully accurate figure as some of the data is missing;
- Reporting periods - Donors, the United Nations and the Government of Afghanistan have different fiscal years and so in many cases there is an overlap of data. In addition the Landmine Monitor country reports do not always make clear the reporting period;
- Funds received vs. funds expended - In some reports the date of the donation is considered while in others the period in which the funds are expended is reported;
- Multiyear funding - Some contributions span several years, so a multiyear donation will appear in one year but also impact subsequent years. This has the effect of “skewing” the level of funding in the year in which the donation was made.

In this analysis, a combination of sources has been used, taking whichever is deemed the most accurate for a particular year. Multiyear funding is reported for the year the donation was made. Data has been cross-checked against each information source to generate the clearest picture possible. All figures should be viewed as estimates.

11.2 Funding channels

MAPA receives donor funding via two primary funding channels, either:

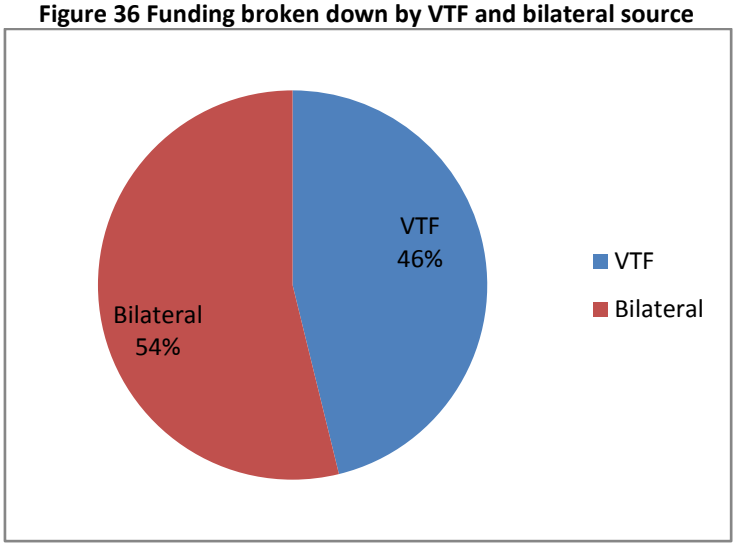
- The VTF administered by UNMAS , or;
- Bilateral agreements by donors made directly with implementing partners.

From 2002 when the VTF was established, MACCA began recording separately funds received through the VTF and through bilateral channels. As can be seen in the table and pie chart below, the programme is supported almost equally by both mechanisms, the bilateral route providing marginally more (by $67.1 million) than the VTF during the reporting period.

Table 36 Funding broken down by VTF and bilateral source

Funding channel (2002 to end of June 2012)	AMOUNT (in millions of US$)	Percentage of total during period
VTF Funding	404.2	46%
Bilateral Funding	471.3	54%
TOTAL	**875.5**	

Figure 36 Funding broken down by VTF and bilateral source



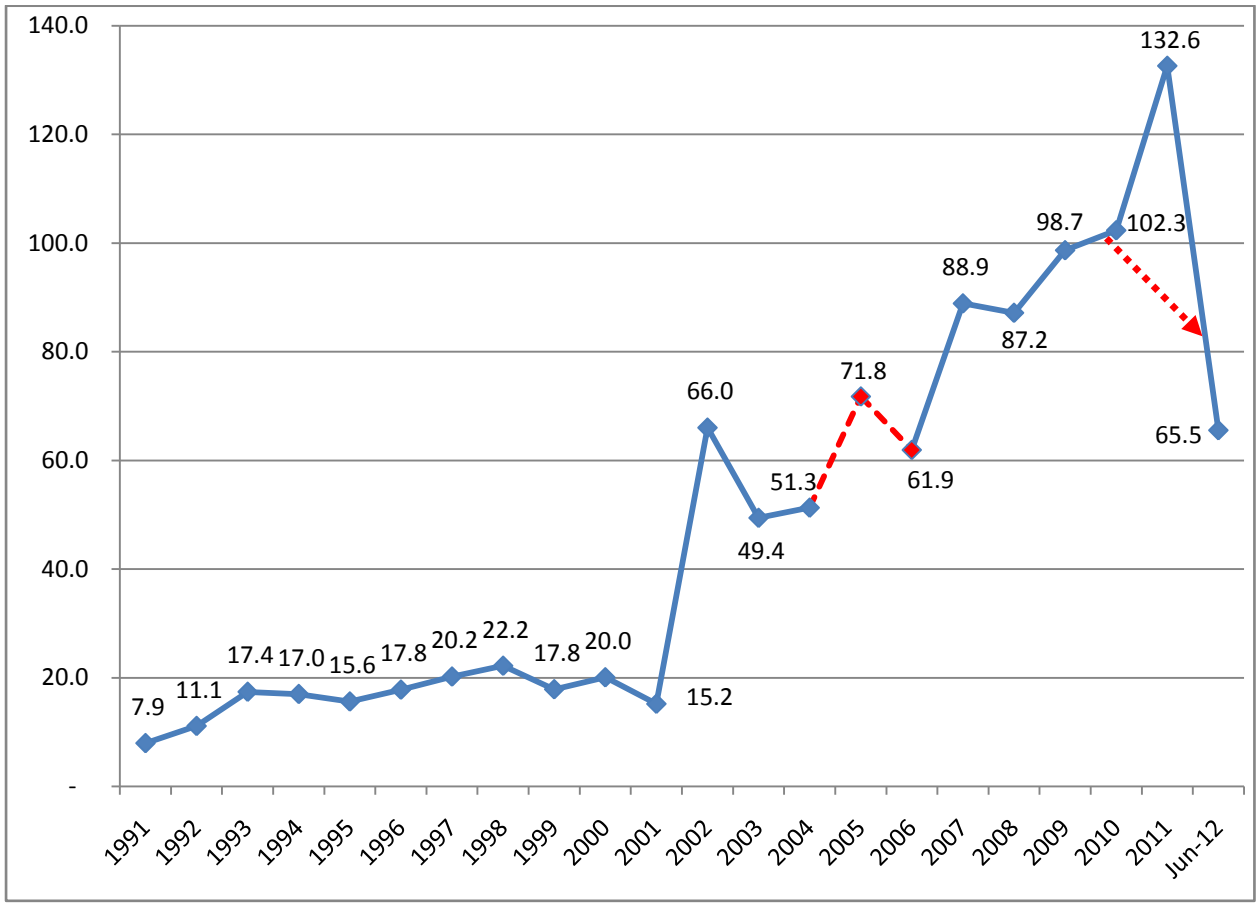
It is important to note here the funds which flow into Afghanistan for what MACCA terms "checking". As described in Chapter 5, paragraph 5.2.4, a large amount of verification is done in Afghanistan to ensure that land identified for development projects is not mined. In these cases, the land is not suspected of being a hazardous area, so the checking process simply verifies that the land is free of mines so that projects can proceed. In Afghan years 1389 and 1390 (April 2010 – March 2012) the monetary value of this work was estimated to be $130 million; this activity did not and

does not impact on the known AP/AT or ERW contamination and is therefore not considered as part of the financial analysis.

11.3 Funds provided

The graph below shows the value of donor contributions (in US$ millions) to the MAPA from 1991 to end of June 2012.

Figure 37 Funds secured annually from 1991 – end of June 2012



Although the programme began in 1989, data for the first two years is not reliable; it is supposed that between $1million and $5 million was provided through Operation Salaam, UNOCHA and the United States during these years. For the period of 1991 to 1993, the analysis uses information provided in Landmine Monitor reports as the most accurate data source. During the period 1994 to end of June 2012 funding information is based on MACCA annual reports and other internal records, UNMAS annual reports serving as the basis for the reported funds channeled through the VTF from 2003 to end of June 2012, and implementing partner reports serving as the basis for the reported funds (bilateral contributions) channeled directly to implementers.

As shown in the graph, levels remained more or less under $20 million per annum for the first decade of the programme. This period covers the time of civil war and the Taliban regime; during both periods Afghanistan was relatively isolated politically and economically. With the toppling of the Taliban, establishment of the Karzai government, and international community engagement in Afghanistan since 2001, contributions have increased year on year with a few exceptions. Dips in annual funding reflect international donor community trends, including donors' priorities in terms of geographical focus, political emphasis, and global financial events. Totals for 2005 and 2006 have been reconstructed; bilateral contribution records were not maintained, were incomplete and/or not clearly labelled. The assumption for 2005 was made that bilateral contributions similar to the previous and following years were received. For 2006 a total funding figure is available and a VTF figure is available; it was assumed that the difference was the bilateral contribution. It is expected that the trend is as shown in the graph by the red dotted line. Please also note that in 2011 the United Arab Emirates made a $26 million bilateral contribution for clearance in Kandahar; though the contribution was made in 2011 the project will be between two and three years duration, thus approximately $23 million of this will be spent after 2012. Similarly, CIDA made a contribution of $9 million to the VTF in 2011 which will be spent in 2012. These two contributions have inflated the 2011 figure by approximately $32 million. Some other small contributions which were received in late 2011 will be also spent in 2012. Funds expected to be expended in 2011 are nearer to $100 million and similar to 2010 and are shown by the red dotted line.

The amount received from Jan-End of June 2012 is $65.5, but as mentioned some of the funds received in 2011 will be used in 2012, thus the total available amount for 2012 as of end of June 2012 is $82 millions as shown by red dotted line. Please also note that it is hoped additional funds will be secured between July-Dec 2012.

11.4 Donors

The table below shows the breakdown of contributions from 1992 by donor in alphabetical order.

Table 37 Donor contributions

Donor/Year	TOTAL	% of total
Afghanistan	7.2	0.7%
Australia	34.5	3.6%
Austria	2.9	0.3%
Belgium	2.4	0.2%
Canada	133.8	13.0%
Cyprus	0.0	0.0%
Czech Republic	0.8	0.1%
Denmark	31.9	3.0%
Estonia	0.0	0.0%
European Commission	136.3	14.3%
Finland	22.7	2.2%
France	0.2	0.0%
Germany	74.6	6.6%
Greece	0.0	0.0%
Ireland	10.4	0.9%
IRU	1.9	0.2%
Italy	6.9	0.7%
Japan	110.3	10.4%
Korea	0.3	0.0%
Lithuania	0.0	0.0%
Luxembourg	1.6	0.2%
Netherlands	51.2	5.2%
New Zealand	0.0	0.0%
Norway	30.8	2.8%
Oman	0.2	0.0%
Roots of Peace	0.3	0.0%
Spain	3.3	0.3%
Sweden	38.1	3.6%
Switzerland	2.6	0.3%
UK	55.0	5.2%
UAE	27.8	3.0%
UNOCHA	4.5	0.4%
USA	212.6	17.3%
USA/UNA	1.2	0.1%
World Bank	2.8	0.2%
Private contributions	48.3	5.1%
TOTAL	**1,057.6**	

The United States of America, the European Commission, Canada, Japan, and Germany are the top five donors to the program. Private contributions are funds given by NGOs or private corporations through both the VTF and bilateral funding channels. Such organizations include AAR Japan, Adopt-A-Minefield, Christian Aid, and MAERSK, among others.

In addition to the international community, the Government of Afghanistan has contributed a total of approximately US$7.2 million to mine action since 2009. These funds were used for demining activities in support of the Aynak Coppermine development and were channeled directly to the implementer, and are thus considered a bilateral contribution. The Afghan Government also provides in-kind contributions, including salaries of DMC personnel, land for offices for many of the Afghan demining NGOs, and travel costs of government staff attending relevant conferences and meetings, among other expenses.

The programme has benefitted immensely from the provision of expertise through training, workshops, and familiarization visits from the following:

- GICHD - expertise on MDDs, IMSMA, IMAS/AMAS, mechanical assets, monitoring and evaluation, quality management, strategic planning, livelihoods;
- Survey Action Centre - ALIS, data analysis, Victim Prediction Modeling tool, strategic planning;
- Cranfield University - strategic planning, photographic analysis, senior management training, middle management training;
- James Madison University - senior management training.

Full details of financial contributions can be found at Annex 22.

11.5 Funding by thematic sector

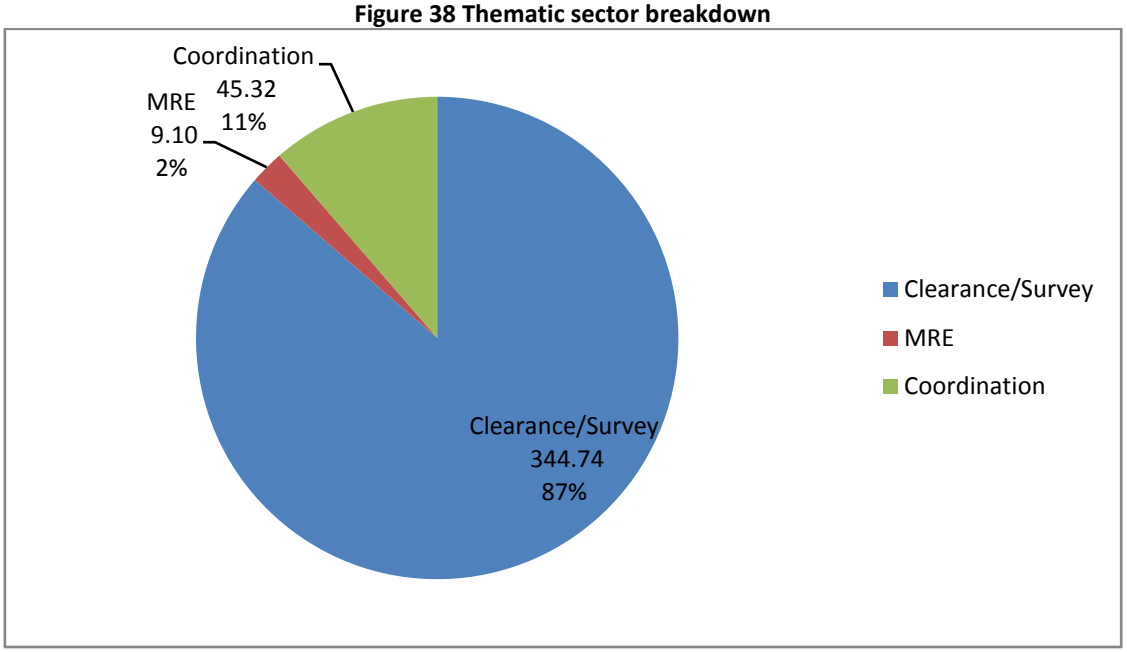
Since 2009 MACCA has disaggregated funds by thematic sector as shown in the table and pie chart below.

Table 38 Funding by thematic sector 2009 – end of June 2012

Thematic sector/year	2009 (US$ million)		2010 (US$ million)		2011 (US$ million)		2012 (US$ million)		TOTAL	%age
	VTF	Bilateral	VTF	Bilateral	VTF	Bilateral	VTF	Bilateral		
Clearance/Survey	43.0	38.9	25.7	59.9	25.7	91.5	6.9	53.1	**344.7**	**87%**
MRE	1.4	0.6	2.3	1.0	1.4	1.0	0.3	1.0	**9.1**	**2%**
Coordination	14.7		13.5		12.9		4.2		**45.3**	**11%**
TOTAL	**59.2**	**39.5**	**41.5**	**60.9**	**40.0**	**92.6**	**11.4**	**54.1**	**399.2**	**100 %**
GRAND TOTAL		**98.7**		**102.3**		**132.6**		**65.5**		

Of funds received during this period, 87% was used for clearance. Coordination accounted for around 11% with the remaining going to MRE and VA.

Figure 38 Thematic sector breakdown



12. CIRCUMSTANCES THAT HAVE IMPEDED COMPLIANCE WITHIN THIE 10 YEAR PERIOD 2003 - 2013

This section provides explanation as to why all the areas under Afghanistan's jurisdiction or control in which anti-personnel mines are known or suspected to be emplaced have not been completely cleared since Afghanistan became a party to the Ottawa Convention in 2003. The reasons are:

Under funding - The magnitude of landmines and ERW contamination in comparison to the available mine action resources and capacities can be considered as one of the main reasons for this failure. While the international aid community has generously funded this programme for many years, the reality has always been a mismatch between the amount of funding required and the scale of the problem.

Between 2003 and 2011 the mine action programme has been funded to the tune of $82.7 million per annum. The total reported AP MF contamination is 780.7 sq km[52]. Had this been the only contamination affecting the country Afghanistan could have almost finished clearance with these resources. However, as has been shown in this document there are AT MFs and BFs which impact significantly on communities and there has been a humanitarian imperative to remove these hazards as well. Removal of all the hazard impacting on Afghan communities (total 2,318.5 sq km[53]) would have required a minimum of $258 million per annum[54] for the 10 year period of the Ottawa Convention. Afghanistan has been under-funded by over 67% year on year since 2003.

As a consequence of this under funding demining operators' efforts had to be focused on addressing the most important areas contaminated by both mines and other ERW.

Security and ongoing conflicts – Afghanistan has not yet achieved a nation-wide peace and stability since the start of armed conflicts in 1979. Although demining operators have been able to continuously work amidst conflicts insecurity in many mine affected areas has slowed down, and in some areas completely halted the progress of mine clearance.

AT landmines and ERW – Due to the presence of many high priority AT landmine contaminated areas MAPA was not able to focus only on AP landmine clearance. Some of the mine action resources also had to be allocated for addressing the ERW problem.

[52] 464.1 sq km cleared (see table 20 Chapter 6) + 316.6 sq km remaining (see Chapter 14)
[53] 1683 sq km cleared (see table 23 Chapter 6) + 635.5 sq km remaining (see Chapter 14)
[54] Assuming $1 per sq m

Lack of records and maps of mined areas – Indiscriminate use of landmines and the lack of records and maps of mined areas have been a major challenge, requiring extensive efforts to identify mined areas. Due to the non-availability of key informants, survey teams had to rely on local people who generally had limited information about mind areas. As a result locating and destroying AP mines and destroying has not been as fast as hoped and often large areas of land have had to be cleared.

Randomly laid minefields – The majority of mined areas in Afghanistan contain sub-surface randomly laid mines. This has made the identification of mines in the mined area a challenging and time consuming activity.

New minefield reporting – Despite several national-level survey efforts to identify mined areas many contaminated areas remained hidden due to the lack of information and lack of urgent requirement for land use. As a result of increased access and population movements previously unreported minefields are being reported and added into the national mine action database.

Potential for reduced livelihood generation – The MAPA has been a significant livelihood provider for many people for over 2 decades. Currently almost 15,000 are employed in the sector. In a country where employment opportunities for rural men and women are very poor, the determination to "finish the job" may be affected. It is in the communities best interest to report suspected minefields if income generation is provided by clearance (jobs, provision of supplies to demining teams such as vehicle rental, fuel, foodstuffs, etc). MACCA has found that in some cases new minefields have been reported by communities which have been surveyed and checked by AMAC LIAT teams later and found to be false.

Mine action technology - Mine action technology has evolved since 2003, but there has not been a breakthrough that has substantially increased the productivity of manual mine clearance, which is the main method used in Afghanistan. The available metal detectors are not able to distinguish between landmines and a piece of metal. To find a mine a deminer has to do prodding and excavation on several false alarms received through his metal detector or a mine detection dog. As a result identification and destruction of landmines is slow. The exception to this is HALO Trust's deployment of 19 HSTAMIDs detectors in western Afghanistan from 2008. The HSTAMIDs is proving highly successful on large open areas with sandy soils against a minimum-metal AT mine threat where deployment has resulted in significant productivity gains for manual demining teams.

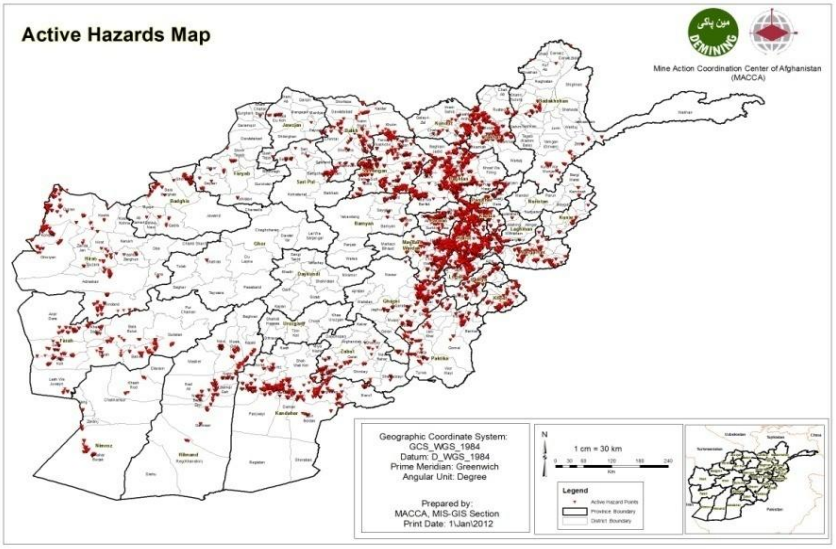
Competing priorities – After 2001 Afghanistan witnessed a considerable increase of international assistance. Several major infrastructure projects were planned and implemented. Main highways of the country and in addition to rehabilitation of the old power lines a new power line from north of

the country to capital city was built. Most of these projects needed demining support, hence considerable resources had to be deployed to address the landmine contamination in support of reconstruction and development rather than focusing solely on AP minefield removal.

13. HUMANITARIAN, ECONOMIC, SOCIAL AND ENVIRONMENTAL IMPLICATIONS OF REMAINING CHALLENGE

This section explains the humanitarian, economic, social and environmental implications of the remaining landmine contamination in Afghanistan. By and large, the socio-economic implications of the remaining contamination are the same as those identified for the original challenge and explained in Chapter 3. Readers are therefore encouraged to keep Chapter 3 in mind while reading this part of the extension request.

Figure 39 Geographical spread of current contamination



In spite of the remarkable achievements of the mine action community, the country still remains as one of the most heavily contaminated in the world.

An estimation based on data analysis using LandScan data for 2007shows that still more than 671,000 Afghan citizens (3 % of the total population) are living within 500 meters of landmine contaminated areas. That estimate is based on light intensity at night and derives the population size at specific points on the map. It is possible that this data underestimates the number of people affected, since many Afghans do not use light at night, most going to sleep in the early evening.

13.1 Humanitarian impact

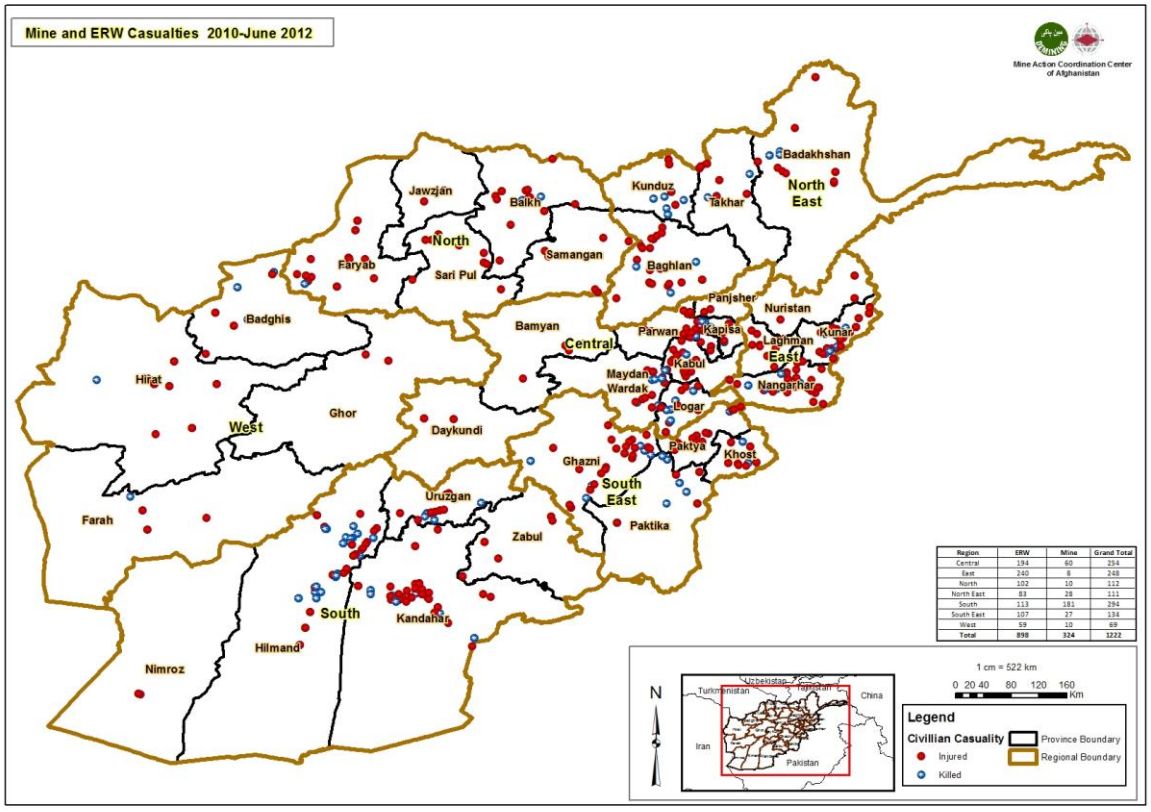
Mine/ERW casualties, 2010 to end of June 2012

During 2010 up to end of June 2012 a total of 1,222 civilian deaths and injuries caused by landmines and ERW have been recorded in IMSMA.[55] It worth noting the actual casualty rate is almost certainly higher due to likely gaps in the reporting mechanism in a country with poor communications systems and few clinics for victims to access.

[55] Data as of End of June 2012

Data for the last two years indicates an average of 41 civilian deaths and injuries each month. As shown on the following map, casualties have occurred in all seven regions of the country.

Figure 40 Geographical spread of casualties

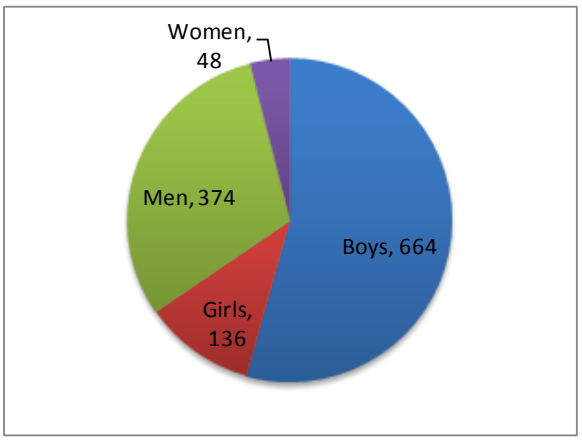


The table below shows the total of landmine and ERW related deaths and injuries in 2010, 2011 and up to end of June 2012, split by killed, injured, gender and device type.

Table 39 – 2010 up to June 2012 casualties

Casualties	Gender	No of Causalities	Casualties %	AP	AP%	AT	AT%	ERW	ERW%
Killed	Boys	180	50.7	24	13.3	11	6.1	145	80.6
	Girls	29	8.2	3	10.3	9	31.0	17	58.6
	Men	134	37.7	36	26.9	46	34.3	52	38.8
	Women	12	3.4	2	16.7	5	41.7	5	41.7
	Total	355	100.0	65	18.3	71	20.0	219	61.7
Injured	Boys	484	55.8	48	9.9	27	5.6	409	84.5
	Girls	107	12.3	7	6.5	6	5.6	94	87.9
	Men	240	27.7	62	25.8	28	11.7	150	62.5
	Women	36	4.2	6	16.7	4	11.1	26	72.2
	Total	867	100.0	123	14.2	65	7.5	679	78.3
Total of Injured & Killed		1,222		188	15.4	136	11.1	898	73.5

Figure 41 Casualties by gender



In terms of gender the table shows that of those killed, the majority (50.7%) are boys, followed by men (37.7%). Similarly, the majority of those injured are boys (55.8%) and men (27.7%). Women and girls fall victim to landmines to a lesser extent. The pie chart shows total casualties by gender.

Figure 42 Casualties by adult/children

Data analysis shows that children were impacted almost twice as much as adults; 65.4 % of the total victims were children. The table also shows that of 180 deaths of boys, 13.3% were a result of AP mine accidents, 6.1% of AT accidents and 80.6% of ERW accidents. In fact, the table demonstrates across all groups that ERW is a significant problem in Afghanistan from a casualty perspective.

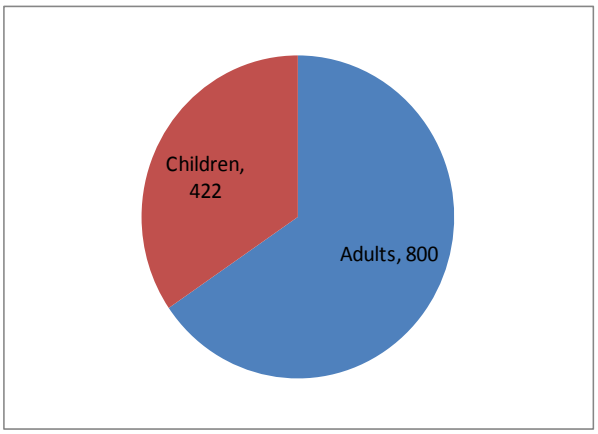


Figure 43 Casualties by device type

Analysis by device type shows that in the past two and half years AP mines have killed 65 people and injured 123 people, AT mines have killed 71 people and injured 65 people and ERW has killed 217 people and injured 679 people. AP landmines are responsible for 15.4% of the total casualties.

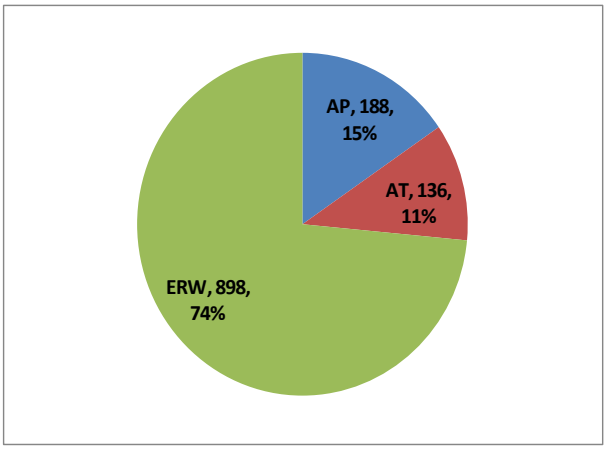
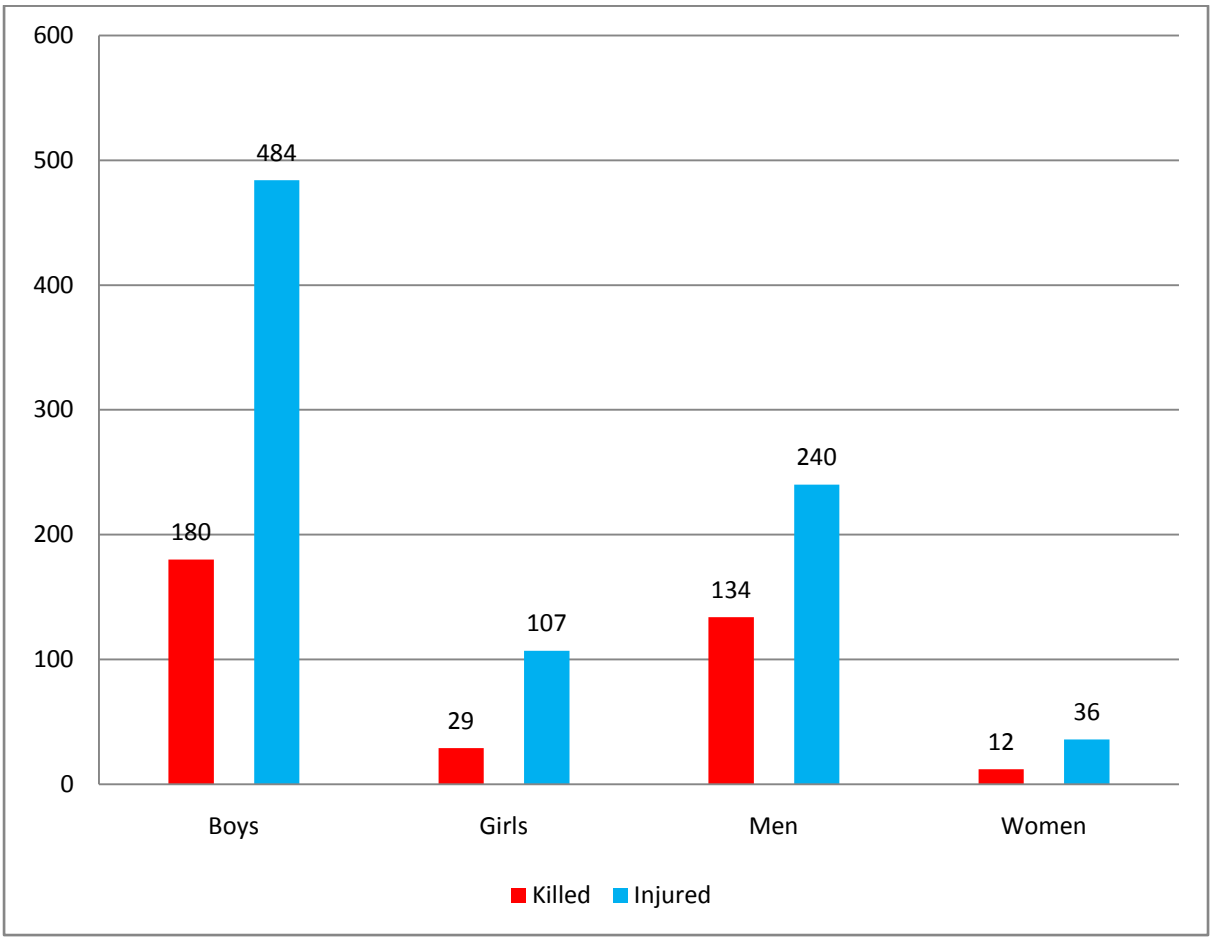


Figure 44 Civilians killed and injured by mines and ERW by gender from 2010 to end of June 2012



Unless the remaining contamination is removed, it is expected the same number of people will be affected year upon year at similar rates to those being experienced currently.

13.2 Economic impact

The table below shows the blockages resulting from the remaining challenge, the area they cover and the population they impact. It is important to note that one hazard may have more than one blockage, so the totals shown in the table below are greater than the total number of hazards.

Table 40 Blockages resulting from remaining contamination

Blockage caused by AP landmines

Blockages	Hazard	Hazard %	Area In sq Km	Area %	Population	Population %
Agriculture	2,992	82.95	230.18	80.95	431,296	69.44
Housing	27	0.75	23.07	8.11	48,698	7.84
Infrastructure	18	0.50	0.87	0.31	56,359	9.07
Water	72	2.00	4.69	1.65	13,304	2.14
Non Agriculture	498	13.81	25.53	8.98	71,439	11.50
Total	3,607	100	284.34	100	621,096	100

Blockage caused by AT landmines

Blockages	Hazard	Hazard %	Area In sq Km	Area %	Population	Population %
Agriculture	878	89.50	185.31	84.89	175,760	87.90
Housing	65	6.63	29.29	13.42	21,439	10.72
Infrastructure	4	0.41	0.91	0.42	51	0.03
Water	14	1.43	0.38	0.17	378	0.19
Non Agriculture	20	2.04	2.40	1.10	2,323	1.16
Total	981	100	218.30	100.00	199,951	100.00

Blockages caused by ERW

Blockages	Hazard	Hazard %	Area In sq Km	Area %	Population	Population %
Agriculture	59	60.20	23.78	90.34	9,976	79.01
Housing	25	25.51	1.02	3.87	1,646	13.04
Infrastructure	6	6.12	0.27	1.02	872	6.91
Water	4	4.08	0.20	0.74	101	0.80
Non Agriculture	4	4.08	1.06	4.03	32	0.25
Total	98	100	26.33	100.00	12,627	100

Blockage caused by remaining total landmines and ERW contamination

Blockages	Hazard	Hazard %	Area In sq Km	Area %	Population	Population %
Agriculture	3,929	83.05	439.27	83.04	617,032	74.01
Housing	162	3.42	53.38	10.09	71,783	8.61
Infrastructure	28	0.59	2.05	0.39	57,282	6.87
Water	90	1.90	5.27	1.00	13,783	1.65
Non Agriculture	522	11.03	29.00	5.48	73,794	8.85
Total	4,731	100	528.98	100.00	833,674	100

As shown above, most of the remaining landmines and ERW contamination (83%) obstruct agricultural areas (which includes grazing land), with 74% of the directly affected people facing difficulties accessing agricultural land. This can be considered a major blockage in a country where approximately seventy percent of the labour force is involved in agriculture-related activities. The remaining contamination affects residential areas, infrastructure and water sources. The pie charts below demonstrate that more agricultural land is contaminated versus other types of area.

Figure 45 Remaining AP landmine contamination in sq km

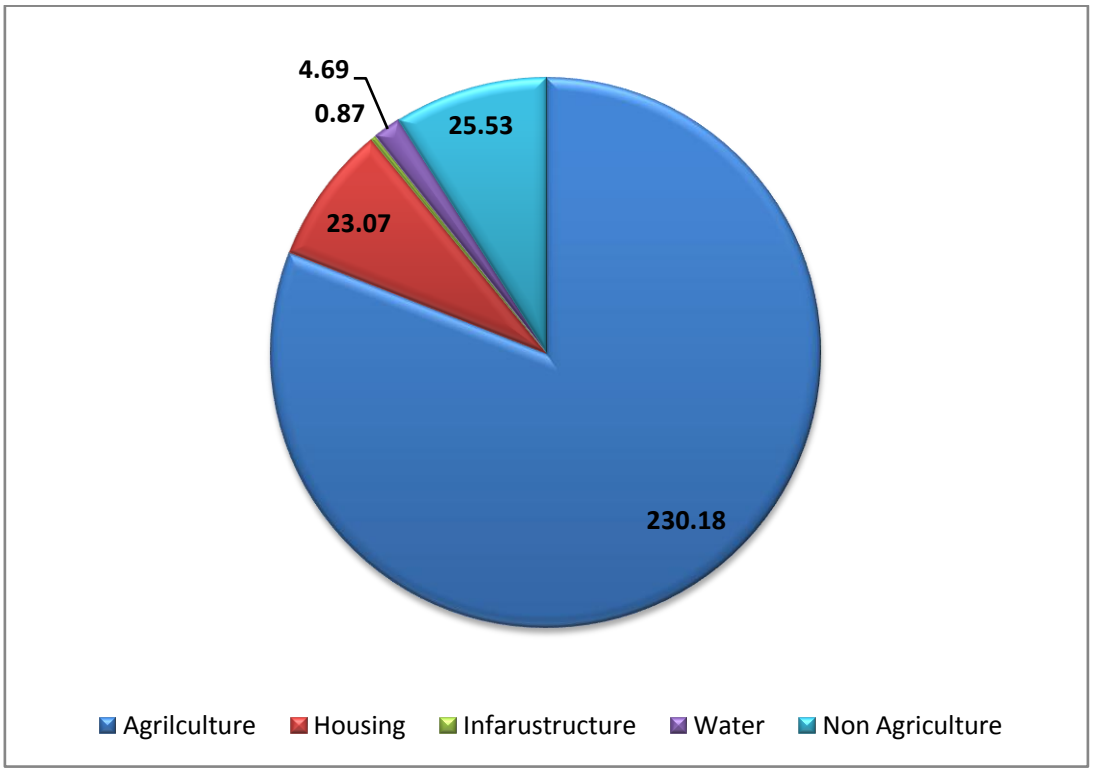


Figure 46 Remaining AT landmine contamination in sq km

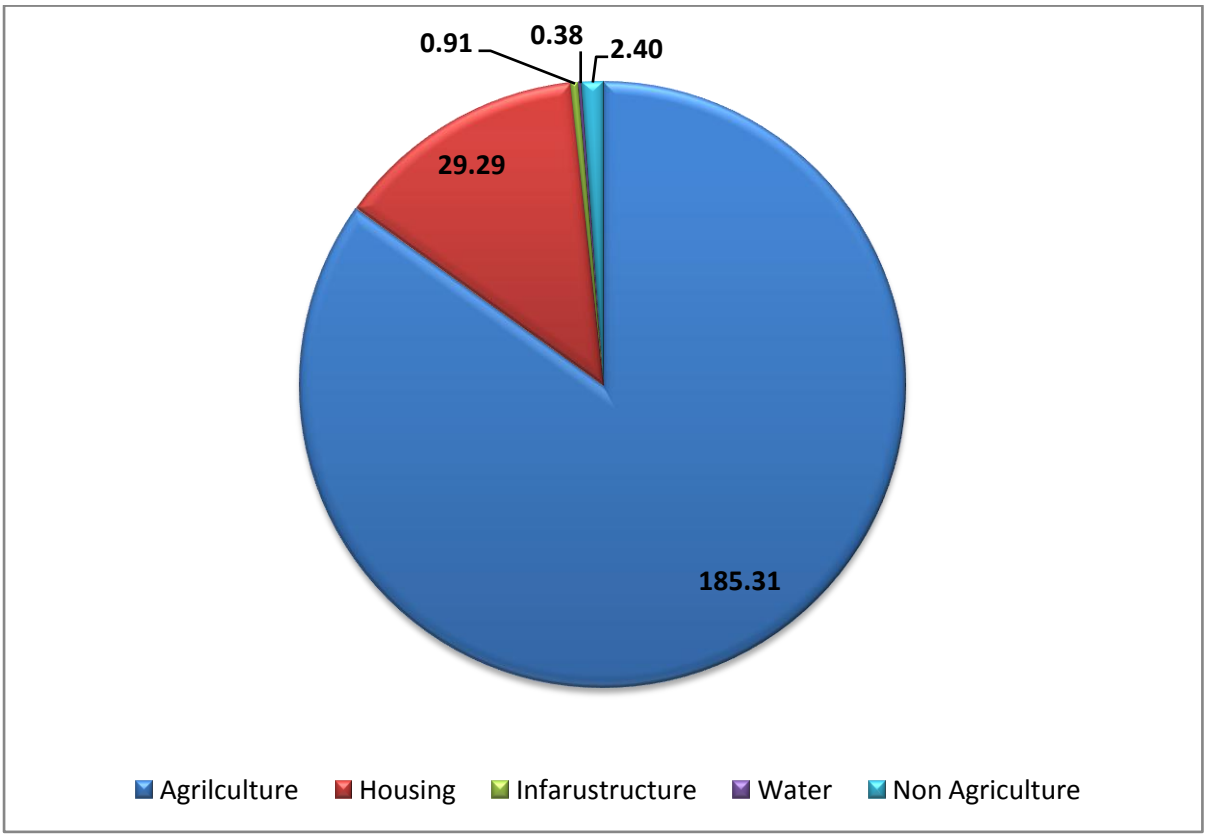


Figure 47 Remaining ERW contamination in sq km

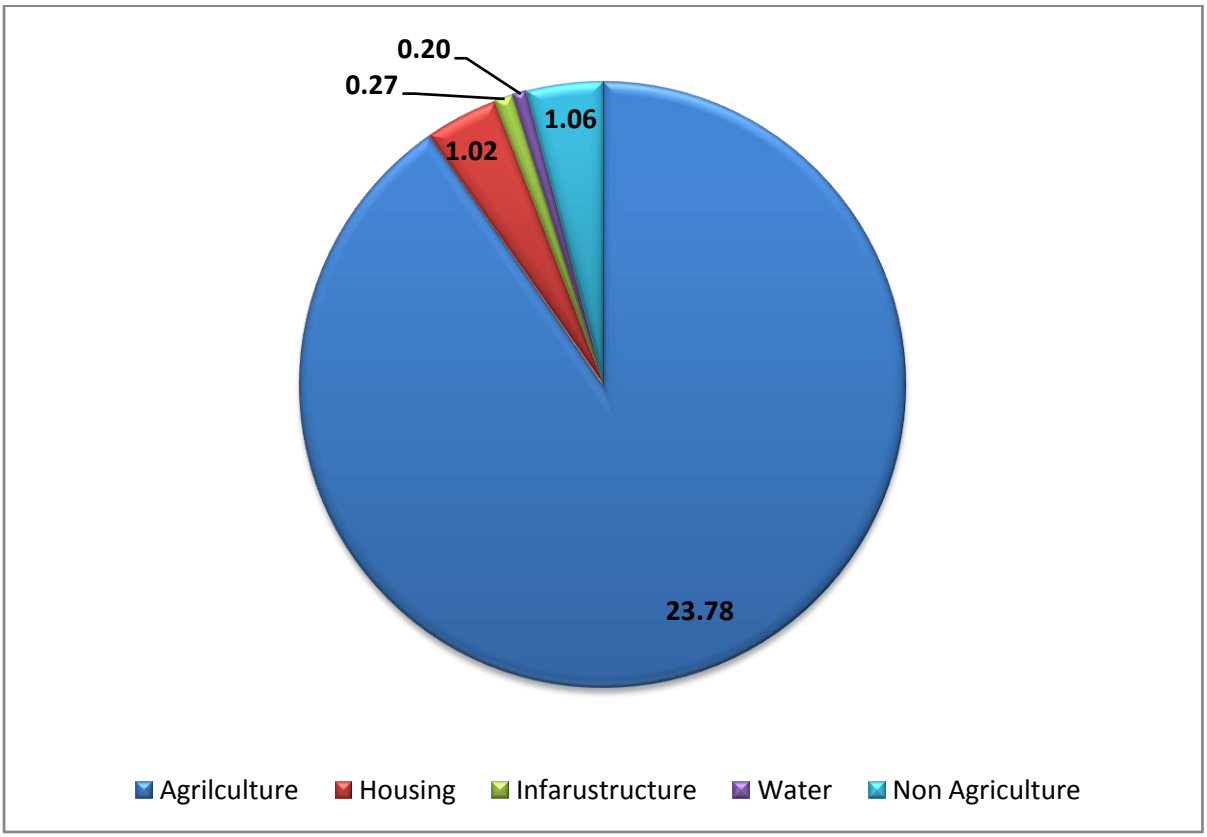
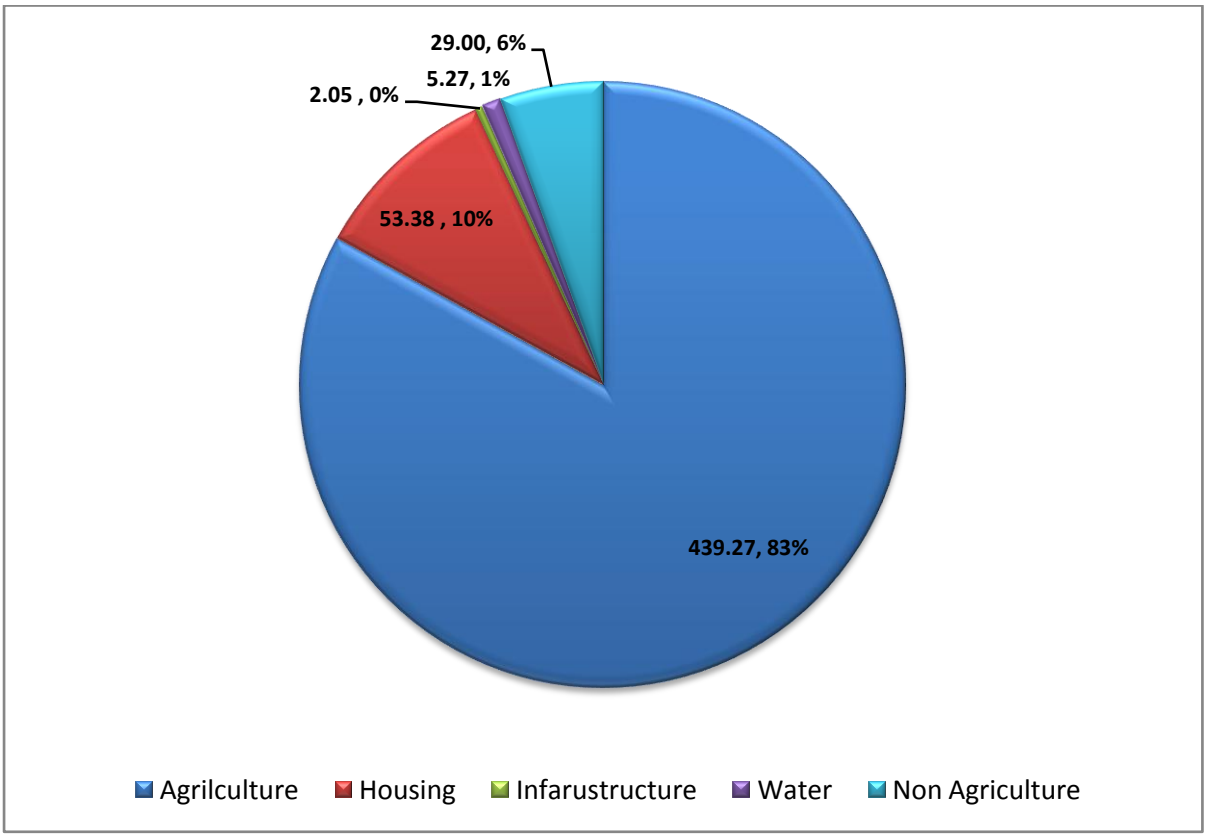


Figure 48 Remaining AP, AT and ERW contamination in sq km



A significant proportion (1,283 out of 4,445) of the remaining MFs and BFs are located within 200m of important infrastructure such as irrigation systems, roads, health facilities, camps for internally displaced people (referred to as IDPs), airports, power transmission lines and bridges. This information has been produced by overlaying maps showing the location of health facilities, roads, and airports, with maps showing the location of the remaining contamination. The tables below break this down according to contamination type.

Table 41 Contamination within 200m of infrastructure

AP mine contaminated areas within 200 m of Infrastructure

Infrastructure Blocked	Hazard	Area In sq Km	Population
Irrigation	365	39.83	216,071
Road	401	34.26	135,952
IDP Camps	5	0.64	2,622
Health Facilities	2	0.69	469
transmission Lines	8	0.39	714
Total	781	75.82	355,828

AT mine contaminated areas within 200 m of Infrastructure

Infrastructure Blocked	Hazard	Area In sq Km	Population
Irrigation	176	36.71	78,226
Road	259	47.19	59,731
IDP Camps	1	0.02	-
Health Facilities	1	0.06	185
transmission Lines	1	0.01	2
Total	438	83.98	138,144

ERW contaminated areas within 200 m of Infrastructure

Infrastructure Blocked	Hazard	Area In sq Km	Population
Irrigation	27	3.80	4,894
Road	37	17.42	5,595
Total	64	21.22	10,489

Total AP and AT landmine and ERW contaminated areas within 200 m of Infrastructure

Infrastructure Blocked	Hazard	Area In sq Km	Population
Irrigation	568	80.34	299,191
Road	697	98.86	201,278
IDP Camps	3	0.09	469
Health Facilities	6	0.70	2807
transmission Lines	9	0.40	716
Total	1,283	180.39	504,461

As shown in the above tables, 1,283 minefields and other ERW contaminated areas are located very close to irrigation systems, roads, health facilities, and other important infrastructures. The majority of these minefields (781 of 1,283) are contaminated by AP mines.

Limited access to essential infrastructure means hardship for many people. Lack of access to shelter, water and sanitation is likely to lead to health and hygiene problems. Landmines and other ERW can further exacerbate the lack of employment, displacement, and psychological problems. In addition, contamination has wider implications on refugee resettlement, with landmines and other ERW posing considerable obstacles to repatriation and rehabilitation.

IMSMA information on mine and ERW victims indicates that landmine and ERW detonations that led to the deaths and disabilities of civilians happened when the victims were farming, collecting food, water and wood, tending animals, traveling or other household related activities. This indicates that landmines are a particular socio-economic threat, posing grave risk to those engaged in livelihood activities.

Afghanistan is well known for its landmine problem which causes developers and implementers of major reconstruction projects to be extremely cautious. Most, if not all, require a robust level of checking prior to delivering their projects. In some cases, the level of checking is beyond what is required; sometimes full “clearance” is undertaken on land that is not recorded in IMSMA as mined, but insurance or legal requirements of the developers demand a full check. This is arguably a waste of valuable resources which could be used to benefit Afghanistan in other ways. As long as Afghanistan remains contaminated by mines this trend will continue; speedy removal of all mines in Afghanistan will free up resources for other purposes.

The table below reflects 43 out of 262 major infrastructure, economic development and archeological projects that are planned to be implemented in Afghanistan. All of these 43 projects will require demining and ERW clearance support ranging from provision of information to survey and/or clearance. Hazardous areas have not been recorded in the areas where the remaining 219 projects are going to be implemented.

Table 42 Planned major infrastructure projects

S/N	Project Name	S/N	Project Name
1	Andkhoi-Qaisar Road Project (210 km)	23	Anardara Road Project
2	Kabul-Bamyan Road Project (140 km)	24	Nahri Saraj Road Project
3	Bamyan-Doshi Road Project (180 km)	25	Kohsan Road Project
4	Mazar-i-Sharif-Darai Suf Road Project (140 km)	26	Mandozai-Nadirshah kot Road Project
5	Jabalussaj-Sarobi Road Project	27	Sayed Abad Road Project
6	Taluqan-Aikhanum Road Project (187 km)	28	Jalriz Road Project
7	Chighchiran-Gardandiwal Road Project	29	Khinj (Hisai Awal) Bridge Project
8	Jabalussaj-Nijrab Road Project	30	Bagram Road Project
9	Kunduz-Khulm Road Project	31	Jabalussaraj Road Project
10	Ring Road Project (247 km)	32	Darai suf payin Road Projects (2)
11	Mazar-i-Sharif-Shibirghan and Shibirghan Aqina Railway Project	33	Nahrin- Khost wa Firing Road Project
12	Mazar-Shirkhan Railway Project	34	Kahmar- Sayghan Road Project
13	Kabul-Mazar Railway Project	35	Nawzad Road Project
14	Shah wa Aros Dam Project	36	Paghman- Shakardara Road Project
15	Warsaj Dam Project	37	Kunduz-Imam Sahib- Dashti Archi Road Project
16	Gambery Dam Project	38	Zarghon Shahr- Jani Khil Road Project
17	Shah Toot Dam Prooject	39	Bazarak Road Project
18	Aynak Copper Mine Project	40	Feroz Nakhchir Road Project
19	Amu darya Basin Oil Project	41	Taluqan- Namak Ab Road Project
20	North Oil Project	42	Kabul- Jabalussaraj Road Project
21	Nimroz Irrigation Project	43	Khulm- Kunduz Road Project
22	Ghormach Road Project		

The table shows multiple development projects planned in Afghanistan that will rely on mine action, such as the railway line between Kabul and Mazar provinces, three main dam projects in Kunar, Laghman and Takhar provinces, and several roads networks. The copper mine project close to Kabul has already started but is in need of mine action support in order to continue the extraction of copper. Development of the Hajigak mine and the project along with the Amu Darya Basin Oil

project have been contracted and land will need to be checked for mines. All these projects are vital for the country's economic development; and their success can be at risk if the threat of landmines and ERW is not addressed.

14. NATURE AND EXTENT OF THE REMAINING ARTICLE 5 CHALLENGE: QUANTITATIVE ASPECTS

This chapter will first describe the quantitative aspects of the remaining known challenge for both AP minefields and the additional AT and ERW contamination. This will be followed by an assessment of the remaining challenge in terms of the unknown contamination.

In the 9 years since Afghanistan became a party to the Ottawa Convention, it is clear significant progress has been made in terms of removal of all types of landmine and ERW contamination. Nonetheless, by 30th June 2012:

- 3,847 AP minefields covering 289.4 sq km still require clearance;
- 1,266 AT minefields covering 264.95 sq km still require clearance;
- 155 ERW contaminated areas (BF) covering 41.91 sq km still require clearance.

Implementing partners have secured funding to clear a number of these contaminated areas (599 AP minefields covering 31.48 sq km, 169 AT minefields covering 17.88 sq km, 58 ERW contaminated areas, BF, covering 15.03 sq km) in the coming months[1] and in some cases have already started work.

Thus the target for Afghanistan to reach Ottawa Convention compliance is clearance of 3,248 AP minefields[56] covering 257.92 sq km. In order to also remove AT and ERW contamination (BF) Afghanistan will have to clear 1,097 AT minefields covering 247.07 sq km and 97 ERW contaminated areas (BF) covering 26.88 sq km.

13.2 Remaining known contamination

The table below shows the breakdown of known contamination type in terms of number of MF/BF and the area contaminated.

[1] Before 1st April 2013
[56] Including IED fields

Table 43 Remaining contamination

Contamination type	No of MF/BF	% of MF/BF	Area (sq km)	% of area
AP minefields	3,248[57]	73.1	257.92	48.5
AT minefields	1,097	24.6	247.07	46.5
ERW contamination (BF)	97	2.3	26.88	5.0
Total	4,442	100	531.87	100

As can be seen, most of the contamination results from AP mines both in terms of the number of MFs affecting the country and in terms of the area contaminated, though the difference between the area contaminated by AP mines and the area contaminated by AT mines is not large (50% of total contaminated area results from AP mines and 45 % results from AT mines). Note, as mentioned previously the amount of "current" BF recorded in IMSMA is usually quite small as BF tends to be cleared fairly quickly after reporting. The table below breaks down AP MF contamination by region.

Table 44 AP contamination by region

Region	No of AP MF	% of AP MF	Area AP MF (sq km)	% of AP MF area
Central	1,412	43.53	87.60	33.97
East	115	3.54	10.52	4.08
North	388	11.93	14.65	5.68
North East	861	26.48	49.46	19.18
South	159	4.89	41.92	16.26
South East	204	6.27	19.86	7.70
West	109	3.35	33.87	13.13
Total	3,248	100.00	257.88	100.00

As shown in the table above, just under half of all the AP minefields are located in the central region and they account for 34% of the total AP contaminated area.

The table below breaks down AT MF contamination by region.

Table 45 AT contamination by region

Region	No of AP MF	% of AT MF	Area AT MF (sq km)	% of AT MF area
Central	379	34.55	54.92	23.97
East	44	4.01	3.97	1.73
North	32	2.92	1.46	0.64
North East	26	2.37	0.72	0.32
South	135	12.31	82.25	35.91
South East	251	22.88	41.35	18.05
West	230	20.97	44.40	19.38
Total	1,097	100.00	229.07	100.00

[57] Including IED fields

As can be seen, in terms of the number of AT minefields most are in the central region, however the area contaminated is greatest in the south.

The table below identifies the western region as the most affected in terms of area contaminated.

Table 46 BF contamination by region

Region	No of ERW BF	% of ERW	Area ERW (sq km)	% of ERW area
Central	17	1.55	2.56	9.52
East	7	0.64	2.05	7.64
North	20	1.82	1.05	3.91
North East	31	2.83	6.62	24.64
South	6	0.55	0.32	1.18
South East	5	0.46	1.49	5.55
West	11	1.00	12.79	47.56
Total	97	8.84	26.88	100.00

13.3 Confirming the unknown

Out of 32,448 communities in Afghanistan 1,537 are known to be contaminated; directly impacting on 4.73% of Afghan communities. The breakdown of the total number of communities per region and the number of known impacted communities per region is shown in the table below. The centre and north-east have the highest proportion of impacted communities.

Table 47 Number of impacted communities by region

Region	Total number of communities	Number of impacted communities	% impacted
Center	7,761	532	6.85
East	2,172	52	2.39
North	3,046	135	4.43
North East	4,066	319	7.85
South	5,616	160	2.85
South East	4,877	231	4.74
West	4,910	108	2.20
Total	32,448	**1,537**	**4.74**

Though Afghanistan has a good understanding of the contamination in these 1,537 communities, there are known gaps in the knowledge of the contamination in other communities.

As mentioned in Chapter 2, due to security reasons the ALIS was not able to cover five districts with 1,017 communities located in the south and south-eastern parts of the country. These five districts were Shah Wali Kot in Kandahar Province, Shahjoy and Arghandab in Zabul Province, Nawi in Ghazni Province and Barmal in Paktika Province. In total, 58 dangerous areas which had been previously reported were not checked by ALIS; the total SHA was 11.7 sq km and 2.3 sq km of this was thought

to be contaminated by AP mines. This contamination still remains unchecked though Shah Wali Kot will be surveyed during the period of 2011 to 2012 as part of a large clearance project in Kandahar being funded by the United Arab Emirates and executed by EOD Technology, Inc (EODT).

As explained in Chapter 4, the Polygon Survey (2008/2009) intended to survey 361 districts which were thought to be contaminated but, due to security issues, the survey was completed only in 138 districts; in total 223 districts have not yet been resurveyed.

As explained in Chapter 6, as part of the process to move SHA records into the MF level of IMSMA, SHAs which were inaccessible to survey teams underwent a process of "desk top polygoning". These hazards, which represent over 20.36 % (905 contaminated areas covering an area of 245.52 sq km) of the total remaining contaminated area were not physically redefined; when resurveyed these areas could be either cancelled, redefined into smaller or bigger minefields or battlefields. The table below shows the areas requiring resurvey.

Table 48 Summary of desktop polygoned SHAs

Region	No of AP MF pending survey	Estimated area AP MF (sq km)	No of AT MF pending survey	Estimated area of AT MF (sq km)
Central	197	23.30	117	17.65
East	10	2.89		
North East	18	1.01	3	0.06
South	106	19.22	90	75.65
South East	67	9.42	200	37.62
West	67	31.77	30	26.93
Total	465	87.61	440	157.91

During preparation of this request MACCA analysed data related to reporting of new contamination and cancellation of known contamination. This is shown in the table below.

Table 49 New contamination vs. Cancelation

Year	Contamination Type	Number of Hazards	Size of Area (SQM)	Total Area Cancelled
2010	AIED	14	0.778	8.86
	AP	263	10.283	
	AT	71	5.784	
2011	AIED	7	0.344	12.47
	AP	693	33.250	
	AT	189	12.661	
2012	AP	82	6.277	12.48
	AT	54	4.129	
Total		1,373	73.506	33.81

As can be seen a significant amount of newly reported MF was entered onto the database in 2011. This mainly results from new minefields identified in the Panjshir due to the expansion of HALO operations into the province. Many of these minefields had not been identified during the ALIS, and as such were polygon surveyed by HALO. In Kabul province, during an expansion of HALO Trust clearance operations into Chahar Asyab district a large number of local requests for clearance were passed to HALO Trust through the AMAC, resulting in the survey of newly identified minefields. Additional minefields were also identified within HALO's area of operations in Central Region including the districts of Charikar, Shakadara, Guldarah, Salang, Jebul Seraj and Shinwani. In the North/North East Region HALO was able to survey new minefields in Samangan Province due to improved security.

The table also shows how much minefield was cancelled in the same time frame. None-the-less the net gain of newly reported data in IMSMA is 39.7 sq km over a two and half year period. Afghanistan acknowledges that new hazard is likely be reported during the 2-year survey commenced in May 2012, however Afghanistan also expects cancellation of some of the hazard already recorded in IMSMA. It is possible that newly reported hazard may outweigh hazard which is cancelled; if this is the case Afghanistan may need to amend the extension request, however the work plan is for suspected and known landmines and ERW contamination at the time of writing.

It is clear the need for resurvey remains part of the challenge. As explained in Chapter 17 the work plan includes resurvey of all 32,448 communities in Afghanistan, the results of which will fill the gaps identified above and complete the picture of contamination of all types of hazard and possibly result in an amendment of the work plan.

15. NATURE AND EXTENT OF THE REMAINING ARTICLE 5 CHALLENGE: QUALITATIVE ASPECTS

This chapter aims to qualitatively outline the extent of the remaining Article 5 challenge; the chapter will describe the nature of the landmine and ERW contamination identified in the previous chapter.

15.1 Impact at community, district and provincial level

As shown in the table below AP minefields directly impact on 1,158 communities, AT minefields on 468 communities and ERW contaminated areas on 69 communities. In total 1,537 communities are directly impacted.

Table 50 Impact of AP MFs on communities

Hazard type	No of hazards	% of hazards	Area (sq km)	% of area	Population affected directly	% affected	No of communities impacted	% of communities impacted
AP minefields	3,248	73.1	257.92	50.20	546,306	70	1,158	68.32
AT minefields	1,097	24.6	247.07	44.57	218,965	28	468	27.61
ERW contamination	97	2.3	26.88	5.23	12,974	2	69	4.07
Total	**4,442**	**100**	**531.87**	**100**	**778,245**	**100**	**1,695**[58]	**100**

However, the indirect impact of this contamination on other communities can be considerable. Each minefield is linked to only one community. If a minefield is between communities it is linked to the nearest one, but could easily affect the neighbouring community also.

In addition, contaminated communities impact on people travelling between non-contaminated communities when they pass through the impacted community. Furthermore if development projects aimed to assist a group of impacted and non-impacted communities are restricted due to landmines this impacts on all the potentially-benefitting communities rather than only the impacted community where the development project has been planned. Thus, in reality the figure of 1,537 impacted communities is lower than the actual number of communities affected by landmines and ERW contamination in Afghanistan.

[58] Some communities are directly impacted by more than one type of contamination, thus the total of these figures (1,158, 468,69) total more than 1,537

Note that population figures presented in this data analysis are derived from the LandScan 2007 data. LandScan uses the light intensity at night to approximate the population at a specific location. It is likely to underestimate the population figures as most Afghans in rural settings go to sleep early in the evening, so these figures should be viewed as the minimum numbers of people affected.

It should be noted that in places where there are adjacent minefields the same population may be impacted by more than one hazard and consequently they may be "double counted" in the following tables. It should also be noted that these population figures are substantially lower than those taken at community level during the ALIS. The decision to use LandScan data was based on the fact that LandScan data is quantitative while ALIS is qualitative amid the ALIS data dates back to 2004 whereas LandScan data is more up to date.

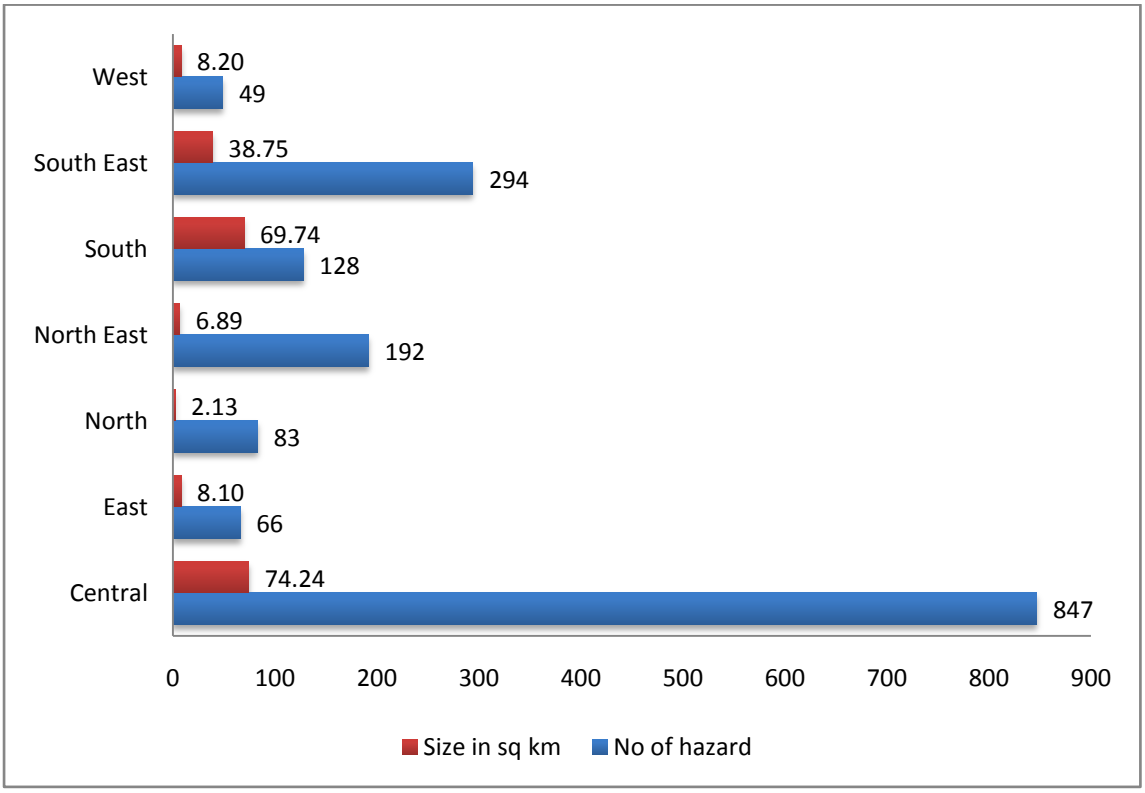
As shown in the table below a total of 1,659 remaining hazards are located within 1 km of community centres. These hazardous areas together contaminate a total of 208 sq km, of which 38.7 % contains AP mines, 58.5 % AT and 2.8 % contains ERW. The proximity of these hazardous areas to the community centres, in addition to threatening the personal security of local inhabitants, can also mean that they become major obstacles for community development. As can be seen in the chart below, 51 % of hazardous areas located close to the community centres are in the central region, 17.72 % are in the south east, 7.72 % are in the south, and 11.57 % are in the north-east. The numbers of hazardous areas located close to the community centres are relatively few in the rest of the regions. Within the system by which the hazards are classified as high, medium or low impact (see paragraph 17.2 for further details), proximity to community centres is considered as a factor. As a result, many of these hazards will be cleared during the early years of the extension request.

Table 51 Mine and ERW contaminated areas located within one km of community centres

Region	Device Type	Number of Hazards	Area in sq km
Central	AP	612	40.30
	AT	223	32.27
	ERW	12	1.67
Total		847	74.24
East	AP	43	5.07
	AT	20	1.57
	ERW	3	1.46
Total		66	8.10

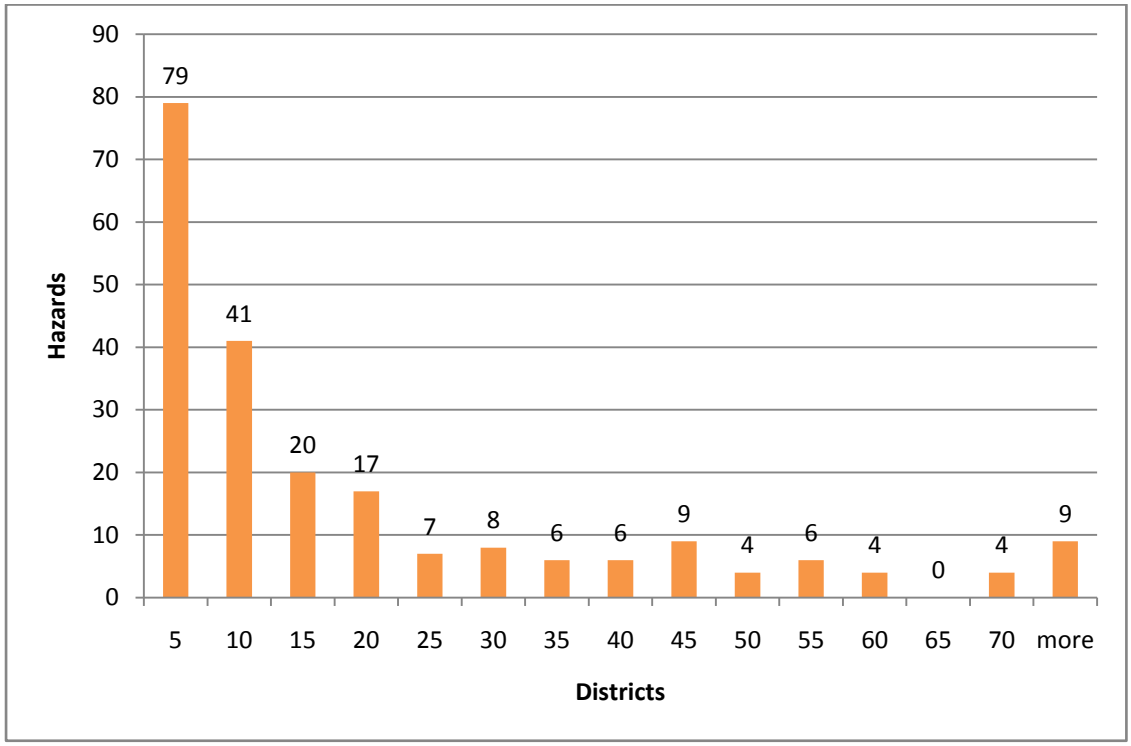
North	AP	73	2.11
	AT	6	0.02
	ERW	4	0.00
Total		83	2.13
North East	AP	179	6.73
	AT	5	0.05
	ERW	8	0.12
Total		192	6.89
South	AP	76	12.61
	AT	50	57.07
	ERW	2	0.06
Total		128	69.74
South East	AP	111	9.08
	AT	178	28.18
	ERW	5	1.49
Total		294	38.75
West	AP	23	4.63
	AT	20	2.49
	ERW	6	1.09
Total		49	8.20
Grand Total		1,659	208.06

Figure 49 Hazards within 1 km of community centres by region



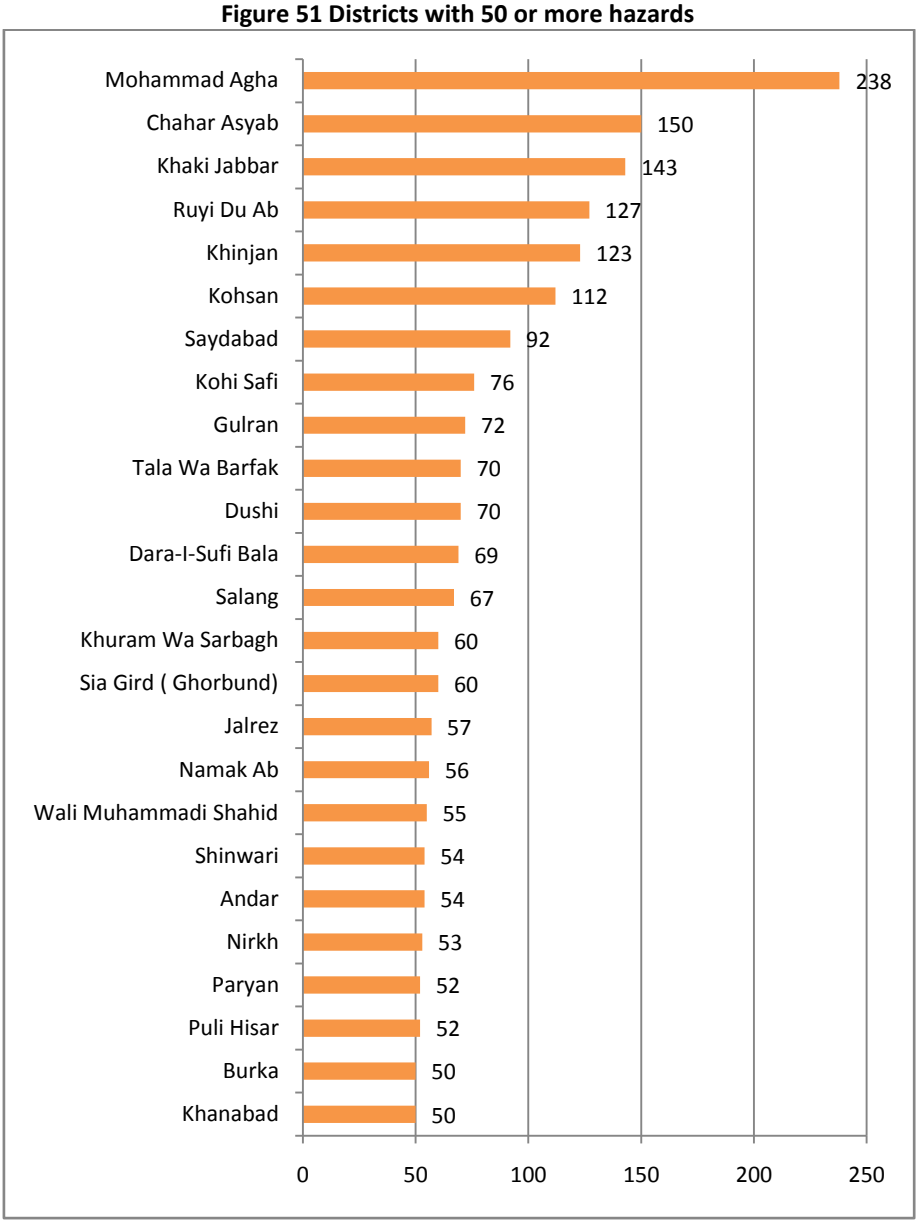
The following chart shows how the number of hazards is distributed across districts.

Figure 50 Hazard distribution by district



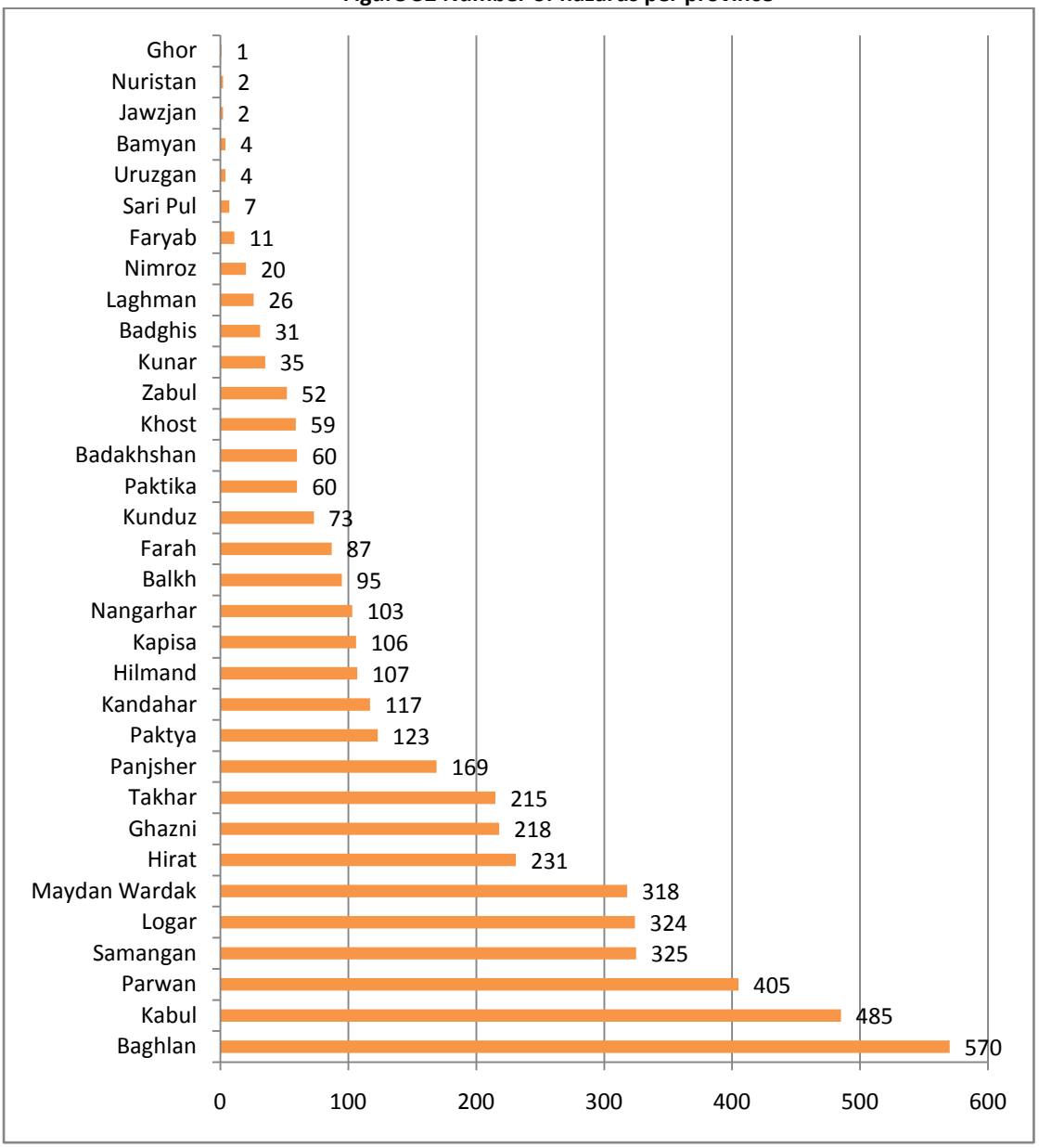
As shown, there are 79 districts with 1 to 5 hazards, and 41 districts which have between 6 and 10 hazards. Within the 79 districts which have between 1 and 5 hazards, 23 districts have only one hazard each, 20 districts have two, 15 districts have three, 13 districts contain four and 8 districts have five hazards each. This demonstrates that in 120 districts (which make 54.5 % of the total 220 impacted districts) the contamination is relatively low (10 or less hazards per district). It also shows that 24 districts shown in the chart below are densely contaminated, having 50 or more hazards in each.

Figure 51 Districts with 50 or more hazards



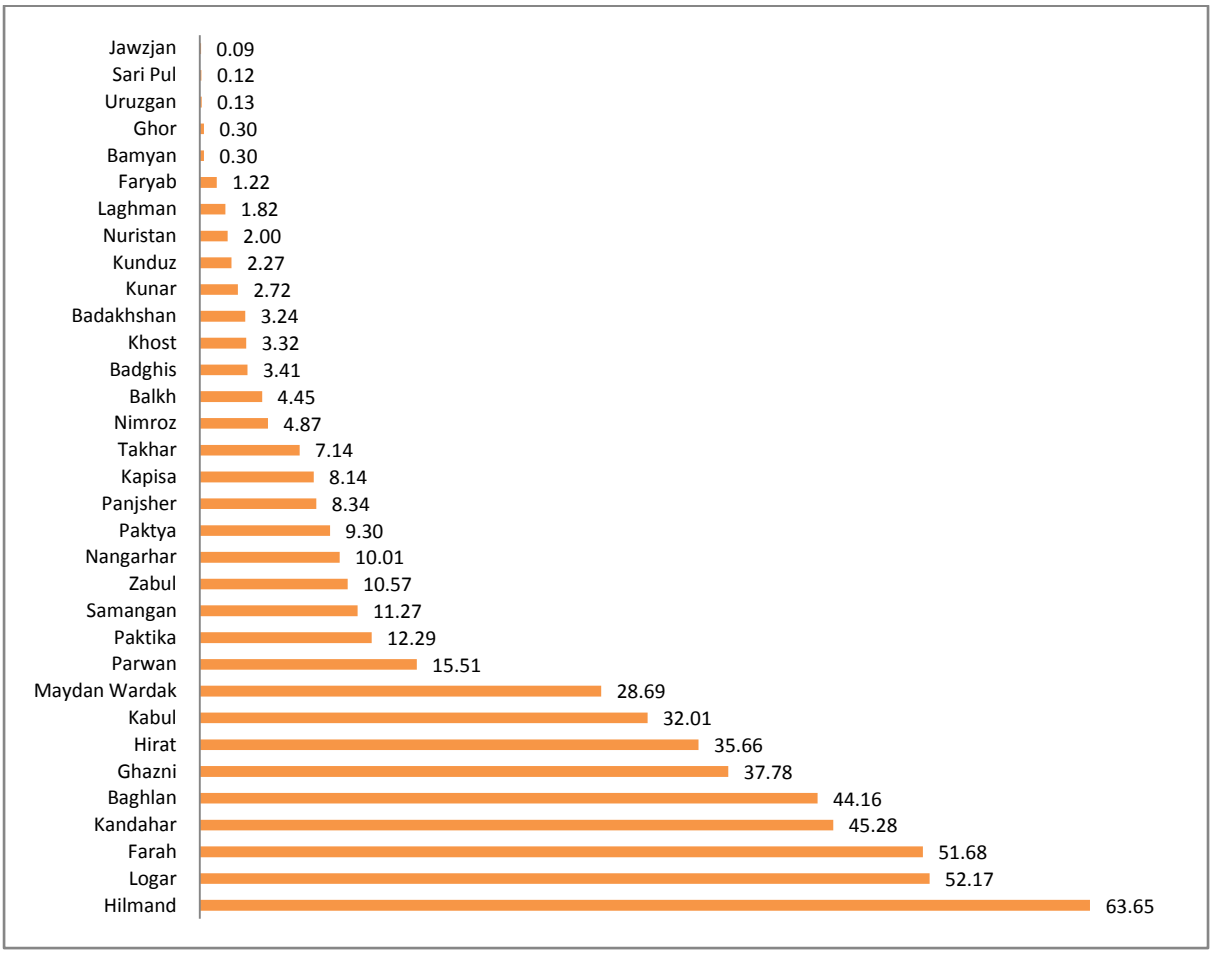
The chart below shows the number of hazardous areas (AP MF, AT MF and BF combined) by province. As can be seen, 3,816 (85.8%) of the total remaining hazardous areas are located in 15 provinces, each province containing more than 100 hazards.

Figure 52 Number of hazards per province



To better understand the level of contamination, the area (size) of contamination should also be considered. The graph below shows the area of contamination by province. It indicates that 484 sq km (94%) of the total remaining contamination is in 18 provinces: Kandahar, Helmand, Logar, Kabul, Baghlan, Farah, Hirat, Ghazni, Maydan Wardak, Parwan, Nangarhar, Samangan. Paktia, paktika, Panjshir,Kapisa, Zabul and Takhar

Figure 53 Area contaminated by province in sq km



15.2 Analysis by device type

The table below breaks down the remaining contamination by device type and shows that majority (72.7%) of remaining contaminated areas contain AP mines and AIEDs (considered part of the Article 5 challenge).

Table 52 Remaining contamination by device type

Hazard Type	Hazard	% of Total Hazard	Area (sq km)	% of Area	Population	% of Population
AP	2,832	63.76	170.61	34.03	429,041	55.13
AP/AT	227	5.11	58.15	11.32	53,516	6.88
AP/AT/ERW	20	0.45	9.90	1.93	9,273	1.19
AP/ERW	169	3.80	14.96	2.91	30,560	3.93
Sub Total	3,248	73.12	257.88	50.19	522,390	67.12
AT	1,029	23.15	223.04	43.40	194,855	25.04
AT/ERW	68	1.53	6.03	1.17	24,110	3.10
Sub Total	1,097	24.68	229.07	44.57	218,965	28.14
ERW	97	2.18	26.88	6.08	36,890	4.74
Grand Total	4,442	100	514	100	778,245	100

Please note, within the 97 ERW contaminated hazards there are 22 hazards which are contaminated by cluster munitions which cover 7.64 sq km.

In terms of area, AP mines are responsible for half of the remaining landmine and ERW contamination and directly impact over 67% of the total affected population. The majority mined areas that contain AP mines are located in densely populated areas.

The table indicates that only 2.6% of the total remaining contamination is due to ERW. However, as shown in Chapter 13, analysis of civilian casualties in the last two years shows that ERW has caused 73.5 % of the total casualties. Given the database demonstrates a relatively low number of recorded ERW contaminated areas, the accident data suggests that scattered ERW is found in many communities of Afghanistan which have not been recorded as impacted by ERW.

The tables below show the remaining landmine and ERW problem by type of contamination and region.

Table 53 Remaining AP contamination by region

Region	No of AP MF's	% of AP MF	Area of AP MF (sq km)	% of AP MF Area	Population	% of Population	Number of Communities Impacted	%of Communities Impacted
Central	1,412	43.47	87.60	33.97	266,691	48.82	448	38.69
East	115	3.54	10.52	4.08	24,706	4.52	32	2.76
North	388	11.94	14.65	5.68	14,243	2.61	116	10.02
North East	861	26.50	49.46	19.18	72,745	13.32	299	25.82
South	159	4.89	41.92	16.26	55,441	10.15	98	8.46
South East	204	6.28	19.86	7.70	49,524	9.07	105	9.07
West	109	3.35	33.87	13.13	62,956	11.52	60	5.18
Total	3,248	100	257.88	100	546,306	100	1,158	100

As shown in the table above, just under half of all the AP minefields are located in the central region and they account for 34% of the total AP contaminated area. The west is the least affected by AP minefields in terms of the number of minefields, though the east is the least affected in terms of the area contaminated by AP mines. The central region has the highest number of people and communities affected, followed by the north-east.

The table below shows how AT contamination is distributed regionally. As can be seen, the central region has the greatest number of minefields, but the extent of contamination is greatest in the south. Although the central region has the highest number of people impacted by AT mines, the

south-east has the highest number of communities impacted. The east, north-east and north regions are notably less affected by AT mines than other regions.

Table 54 Remaining AT contamination

Region	No of AT MF's	% of AT MF	Area of AT MF (sq km)	% of AT MF Area	Population	% of Population	Number of Communities Impacted	%of Communities Impacted
Central	379	34.55	54.92	23.97	78,874	36.02	128	27.35
East	44	4.01	3.97	1.73	23,393	10.68	19	4.06
North	32	2.92	1.46	0.64	3,225	1.47	19	4.06
North East	26	2.37	0.72	0.32	3,716	1.70	21	4.49
South	135	12.31	82.25	35.91	27,025	12.34	77	16.45
South East	251	22.88	41.35	18.05	73,710	33.66	152	32.48
West	230	20.97	44.40	19.38	9,022	4.12	52	11.11
Total	1,097	100	229.07	100	218,965	100.00	468	100

The table below identifies the north-eastern region as the most affected in terms of the number and area of ERW contaminated sites, the population they affect and the number of communities they impact.

Table 55 Remaining ERW contamination

Region	No of ERW cont. areas	% of ERW cont. areas	Area of ERW cont. (sq km)	% of ERW cont. area	Population	% of Population	No of communities Impacted	%of communities Impacted
Central	17	17.53	2.56	9.52	3,476	26.79	14	20.29
East	7	7.22	2.05	7.64	1,328	10.24	5	7.25
North	20	20.62	1.05	3.91	776	5.98	11	15.94
North East	31	31.96	6.62	24.64	4,512	34.78	22	31.88
South	6	6.19	0.32	1.18	858	6.61	5	7.25
South East	5	5.15	1.49	5.55	1,213	9.35	2	2.90
West	11	11.34	12.79	47.56	811	6.25	10	14.49
Total	97	100	26.88	100	12,974	100	69	100

15.3 Security Analysis

Afghanistan faces an ongoing insurgency, with government and international military engaged in active combat operations in a number of provinces. The ongoing security issues make it difficult and, in some areas, impossible for government agencies, UN and NGOs to deliver essential public services in parts of the country. The table below shows the UN security level system information in respect of the remaining impacted communities.

Table 56 Contamination and UN security level

UN Security Level System	Communities	% of Communities	Population	% of Population	No of Hazard	% of Hazard	Area in sq km	% of Area
Extreme	35	2.28	24,421	3.14	74	2	50.06	10
High	390	25.37	207,273	26.63	865	19	182.37	35
Low	205	13.34	79,183	10.17	664	15	47.77	9
Minimal	157	10.21	76,356	9.81	522	12	22.42	4
Moderate	300	19.52	135,614	17.43	986	22	77.07	15
Substantial	450	29.28	255,398	32.82	1,331	30	134.13	26
Total	1,537	100	778,245	100.00	4,442	100	514	100

As can be seen, the security risk in 43.7% of impacted communities (where 37.41% of the affected population is living) is considered to be minimal, low or moderate whereas 56.93% of impacted communities are in insecure parts of the country. MAPA is considered by most Afghans to be an organisation that transcends political and ethnic differences and thus most communities will allow operations to take place in most parts of the country, contrary to UN security levels.

15.4 Small hazards

As shown in the table below a total of 299 contaminated areas, each covering less than 1,000 sq m and thus defined as small hazards, are among the remaining contaminated sites.

Table 57 Small hazards

Region	Device	Hazard	Area
Central	AP	54	83,776
	AT	17	34,955
	ERW	3	5,294
Total		74	124,025
East	AP	4	6,986
	AT	1	4,600
Total		5	11,586
North	AP	48	123,881
	AT	11	21,171
	ERW	5	1,770
Total		64	146,822
North East	AP	96	199,798
	AT	10	21,762
	ERW	6	4,038
Total		112	225,598

South	AP	7	11,805
	AT	1	2,500
South East	AP	12	33,204
	AT	6	10,437
Total		26	57,946
West	AP	3	1,970
	AT	13	30,895
	ERW	2	125
Total		18	32,990
Grand Total		299	598,966

Over 77% of these sites (224) are contaminated by AP mines. If these small hazards are cleared, there will be 6.7% reduction in the total remaining landmine and ERW contaminated area, and 6.9% reduction in the number of AP contaminated areas. As shown, most of the small hazards are located in the north-east, central and northern regions of the country. The total estimated size of these areas is about 0.6 sq km.

Within the system by which hazards are classified as high, medium or low impact, size is one of the factors, with smaller areas likely to be prioritized. As a result many of these small hazards will be cleared in the early years of the extension request.

15.5 Slope

The slope of the land on which hazards are located provides a guide for planning. The slope values for the hazards are derived using the 3D terrain model and ArcGIS spatial analysis. The table below shows how the remaining hazard is broken down depending on slope.

Table 58 Slope of remaining hazard

Slope	Population	% Population	Number of Hazards	% Hazard	Area sq km	% Area sq km
0-5%	264,938	34	865	19	227.47	44.26
5-10%	112,080	14	611	14	81.38	15.83
10-15%	71,115	9	386	9	30.23	5.88
15-20%	51,935	7	347	8	27.39	5.33
20-25%	35,353	5	319	7	19.30	3.76
25-30%	35,192	5	294	7	15.73	3.06
>30%	207,632	27	1,620	36	112.41	21.87
Total	**778,245**	100	**4,442**	100	**513.91**	100.00

Most of the remaining contamination has a relatively lower slope where most of the affected population lives. In terms of the number of contaminated areas 50% are located on the higher and 50% on the lower slope. The slope can affect the ability of mine action implementers to use

machines or dogs, and the speed of mine clearance is likely to be slower on hazards with higher slope.

The table below shows over 2,150 (66.1%) of the AP contaminated areas are on land with higher than 20% slope, indicating most of the AP contaminated areas will need to be addressed manually.

Table 59 Slope of remaining AP contamination

Slope	Population	% of Population	Hazards	% of Hazard	Area sq km	% of Area
0-5%	145,401	26.62	276	8.44	55.49	21.52
5-10%	49,553	9.07	259	7.97	30.91	11.99
10-15%	42,260	7.74	265	8.16	17.39	6.74
15-20%	42,605	7.80	301	9.27	16.53	6.41
20-25%	31,760	5.81	293	9.02	17.22	6.68
25-30%	32,551	5.96	278	8.56	14.54	5.64
>30%	202,176	37.01	1,579	48.58	105.79	41.02
Total	**546,306**	**100**	**3,248**	**100**	**257.88**	**100.00**

As shown in the table below, over 90.43% of the areas that contain AT mines are located on relatively flat ground (15% or less slope). This allows both mechanical and MDD mine clearance operations to take place. As a result, clearance productivity rate on AT contaminated areas is expected to be higher compared to AP mined areas.

Table 60 Slope of remaining AT contamination

Slope	Population	% of Population	Hazard	% of Hazard	Area sq km	% of Area
0-5%	114,023	52.07	547	49.86	153.64	67.07
5-10%	59,427	27.14	330	30.08	46.53	20.31
10-15%	28,362	12.95	115	10.48	11.94	5.21
15-20%	9,251	4.22	43	3.92	10.70	4.67
20-25%	2,983	1.36	23	2.10	1.63	0.71
25-30%	1,727	0.79	11	1.00	0.33	0.14
>30%	3,192	1.46	28	2.55	4.29	1.87
Total	**218,965**	**100**	**1,097**	**100**	**229.07**	**100.00**

The table below shows that 86% of the ERW contaminated areas are on relatively flat ground (15% or less slope).

Table 61 Slope of remaining ERW contamination

Slope	Population	% of Population	Hazard	% of Hazard	Area sq km	% of Area
0-5%	5,514	42.50	43	44.33	18.28	68.00
5-10%	3,100	23.89	22	22.68	3.94	14.64
10-15%	493	3.80	6	6.19	0.90	3.35
15-20%	79	0.61	3	3.09	0.16	0.60
20-25%	610	4.70	3	3.09	0.45	1.67
25-30%	914	7.04	5	5.15	0.86	3.21
>30%	2,165	16.69	14	14.43	2.29	8.53
Total	12,974	100	97	100	26.88	100

15.6 Land Cover

Based on the Food and Agriculture Organisation (FAO) land cover classification system, land cover is the observed bio-physical cover on the earth's surface, and is considered a geographically explicit feature which other disciplines may use as a geographical reference (e.g., for land use, climatic and ecological studies). Land use is characterized by the arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it. Definition of land use in this way establishes a direct link between land cover and the actions of people in their environment.

The table below shows the classification of the hazards based on the FAO Land Cover classification system. Based on the analysis, 46.55% of the remaining landmine affected area is classified as “Rangeland (grassland/forbs/low shrubs)” and 33.47% as “Rock Outcrop / Bare Soil”. The next bracket is at 8.32% for “Irrigated: Intermittently Cultivated”, 4.13% is for “irrigated: Intensively Cultivated” and 2.76% for “Rainfed Crops (sloping areas). The remainder of the land cover categories represents less than 5% of the affected areas.

Table 62 Remaining contamination by land cover

Land Cover Class	Land Cover Legend	Hazard	% of Hazards	Area In sq km	% of Area
1	Settlements	12	0.27	10.47	2.04
10	Water Bodies	1	0.02	0.04	0.01
11	Permanent Snow	1	0.02	0.05	0.01
2A	Fruit Trees	6	0.14	0.25	0.05
2B	Vineyards	14	0.32	1.06	0.21
2C	Gardens	2	0.05	0.28	0.05
3A	Irrigated: Intensively Cultivated (2 Crops/year)	13	0.29	0.19	0.04
3B	Irrigated: Intensively Cultivated (1 Crop/Year)	289	6.51	21.23	4.13
3C	Irrigated: Intermittently Cultivated	156	3.51	42.74	8.32
4A	Rainfed Crops (flat lying areas)	47	1.06	3.33	0.65
4B	Rainfed Crops (sloping areas)	399	8.98	14.17	2.76
6A	Natural Forest (closed cover)	29	0.65	3.19	0.62
6B	Natural Forest (open cover)	26	0.59	1.67	0.33
6C	Degenerate Forest/High Shrubs	4	0.09	0.05	0.01
7	Rangeland (grassland/forbs/low shrubs)	2,710	61.01	239.18	46.55
8A	Rock Outcrop / Bare Soil	693	15.60	171.96	33.47
8B	Sand Covered Areas	20	0.45	1.96	0.38
8C	Sand Dunes	5	0.11	0.10	0.02
9A	Marshland Permanently inundated	15	0.34	1.91	0.37
Total		**4,442**	**100**	**514**	**100**

15.7 Snow Coverage

Snow data records from MODIS Snow covered satellite data[59] shows the "high points" for snow every month of the year. Using the latest snow high points, to some extent it can be predicted how many hazards will be "covered" with snow during the peak winter months in Afghanistan. The table below illustrates that 56.87% of the affected area by AP landmines will not be covered or did not record any snow during the peak winter months, indicating mine clearance operations can continue throughout the year. Mine clearance in the remaining 43.13% of the AP hazards is likely to be affected by snow. This should be factored in the project design for clearing AP contaminated areas.

[59] This data is collected under a project is by Information Technology for Humanitarian Assistance, Cooperation and Action (ITHACA), http://www.ithaca.polito.it/projects/snow_cover.php.

The snow-covered percentage on AT and ERW contaminated areas is relatively low compared to AP contaminated areas.

Table 63 Remaining contamination by snow coverage

AP				
Snow	Hazard	% of Hazards	Area (sq km)	% of Area
No Snow	1,678	51.66	146.67	56.87
Coverage with Snow	1,570	48.34	111.21	43.13
Total	3,248	100	257.96	100
AT				
No Snow	527	48.04	140.54	61.35
Coverage with Snow	570	51.96	88.53	38.65
Total	1,097	100	229.07	100
ERW				
No Snow	73	75.26	22.76	84.65
Coverage with Snow	24	24.74	4.13	15.35
Total	97	100	26.88	100

16. AMOUNT OF TIME REQUESTED AND A RATIONALE FOR THIS AMOUNT OF TIME

Afghanistan is requesting a 10 year extension request based on

- The extent of the remaining contamination (fully explained in Chapter 14)
- Careful and considered development of the work plan (fully explained in Chapter 17)
- An estimation of anticipated funding for the duration of the extension request

There are three factors which could impact on this time frame.

- The work plan includes a survey and re-survey element; if significantly more contamination is discovered this will impact on the likelihood of complete clearance within 10 years. However, as has been highlighted in previous chapters Afghanistan expects a significant proportion of currently recorded contamination to be cancelled, which would have the opposite effect on the time frame.
- The ten year time frame has been based on funds anticipated to be received per annum of the extension request. Should funds materialize in excess of the foreseen yearly amounts clearance could be accomplished within a shorter time frame.
- The security situation in Afghanistan is very unstable; deterioration in security will definitely impact on the plan.

17. DETAILED WORK PLAN FOR THE PERIOD OF THE REQUESTED EXTENSION

This chapter will present the work plan for the ten year extension request. The following sections, tables and graphs make it very clear what will be achieved in the ten year extension period.

First an explanation of how the work plan was prepared will be provided. Information will then be provided on how remaining recorded hazards (4,442) have been prioritized for clearance. This will be followed by an explanation of how the security situation was incorporated into the plan to clear these hazards, how anticipated productivity rates were considered and how the annual targets for clearance of these hazards were calculated.

This will be followed by an explanation of the survey work which will be undertaken throughout the country in order to verify the recorded hazards (4,442), to confirm that communities not believed to be impacted are indeed not impacted and to ensure hazards which have not been captured to date are entered into IMSMA and subsequently cleared. An explanation of how EOD village by village searching will be undertaken will also be covered.

Next a summary of the annual milestones will be provided, followed by a detailed explanation of the work plan budget.

The chapter will conclude by outlining the risks associated with the extension request and the assumptions made in preparation of the work plan.

17.1 Work plan preparation methodology

A committee consisting of representatives from MACCA, DMC and the seven major humanitarian demining agencies ATC, DAFA, DDG, HALO Trust, MCPA, MDC and OMAR was established to work together to develop a detailed operational work plan for the Ottawa Extension Request. The rationale behind taking an inclusive and participatory approach was to ensure maximum use of MAPA expertise and collective ownership of the plan. The table below provides details of committee members.

Table 64 Work plan committee members

No	Agency	Name	Title	Alternative	Title
1	ATC	Timur Shah Hakimi	Operations Manager	Ab. Shakoor Yusufi	Executive QA Manager
2	DAFA	Mohammad Daud Farahi	Exec. Operation Manager		
3	DDG	Mohammad Hakim Noorzai	Operations Manager		
4	DMC	Mohammad Qasim	Deputy Director		
5	HALO Trust	Rahmatullah	Planning Officer	Calvin Ruysen	Lead Expatriate
6	MACCA	Mohammad Wakil	Senior Planning Officer	Plans Section	Plans Associates x 4
7	MCPA	Amir Mohammad	Exec. Operation Manager	Mohammad Aziz	Operations Manager
8	MDC	Amrullah Rawan	Planning Officer	Shah Wali Ayubi	Exec. Operation Manager
9	OMAR	Fazel Rahim	Operations Manager		

Meetings were scheduled to be held weekly for the period from November 2011 to February 2012 rotating the location between each committee member's headquarters. In addition work plan progress was also communicated to all MAPA stakeholders at coordination meetings held monthly at MACCA. Annex 23 details committee meeting minutes.

The Director of ANDMA, Mr. Mohammad Daim Kakar, and Mr. Noorullah Kaleem representative of the Ministry of Foreign Affairs (MoFA) were briefed during the month of November 2011 and were kept informed on a weekly basis of the progress on work plan development. The final presentation of the extension request occurred on 26th January 2012 at MACCA, where all NGO Directors and Deputy Directors and the members of the work plan development committee were present. All stakeholders were given until 9th February 2012 to provide their feedback and the extension request was submitted at the end of March 2012. Revision of the first submission was undertaken by the work plan committee during the months of July and August 2012, which has been incorporated into this document which is the final version of the extension request.

17.2 Prioritisation for clearance

Due to the varied nature of contamination in Afghanistan it is not possible to consider the AP problem in isolation from the AT and BF contamination. There are some AT MFs which impact on communities to a greater extent than some AP MFs; such AT MFs should be cleared first. The challenge for Afghanistan is to ensure reduction of the impact resulting from all types of contamination in the most time efficient manner possible.

Every AP MF, AT MF and BF (termed "hazard") is classified in terms of its impact (high, medium and low) on the community and the result recorded in IMSMA. To enable impact classification MACCA uses a set of impact indicators with an assigned numeric weighting as reflected in the table below.

Table 65 Impact indicators

Ser	Impact Indicator	Weight factor	Remark
1	Known victims linked to hazard	High with victims	
2	Local authority/villagers requests	Requests	Further assessment required unless already prioritized according to other criteria
3	Resettlement/Development areas	High	For example hazards in close proximity to IDP camps
4	Agriculture blocked	2	All blockages are grouped into 5 main categories: (1) Agriculture fields (2) Non-agriculture fields (3) Water access (4) Other Infrastructure (5) Critical Infrastructure –this related to infrastructure such as schools, health clinics and mosques.
5	Non-Agriculture blocked	1	
6	Water blocked	3	
7	Infrastructure blocked	1	
8	Critical infrastructure blocked	3	
9	No. of affected families - 200 family factor - from VPM (communities > 200 families gets 1)	1	Communities with over 200 families: such communities had 77% more recent victims compared to communities with less than or equal to 200 families.
10	Area size - up to 200 000 sq m relatively more victims - from VPM (Hazards < 200 000 sq m gets 1)	1	Cumulative Area of hazards Impacting the Community: For each 10,000 square metres increase in total hazard area, up to 200,000 square metres, the recent victim total increased 7%. At and after 200,000 square metres, it leveled out.
11	Small Hazards	2	Small hazards could potentially be cleared quickly and therefore could be prioritized to rapidly change the 'map'.
12	Community centres	2	Minefields close to community centres cause high levels of psychological stress to women
13	Anti-personnel minefields on Flat land affecting high number of people	2	The majority of the affected population relate to AP only minefields (51%) and those on flat land are quicker to clear so these should be weighted to alleviate the pressure on this large section of the population.

14	Device type: Mine/ERW	2	As highlighted at the beginning of section two, ERW cause the majority of casualties and so these areas should receive a weighting for impact.

By applying these weighting factors each hazard is given a score. Hazards with scores above 9 are classified as high impact, hazards with scores 6 to 9 are classified as medium impact and hazards that score 5 or lower are classified as low impact. Hazards with recorded victims and those that block resettlement are automatically classified as high impact. If local authorities have requested clearance MACCA/AMACs will further investigate and if appropriate the hazard will be amended in the dataset as high impact.

In preparation for this extension request each MF and BF was further analyzed and categorized resulting in the allocation of an "Ottawa Ranking". The Ottawa Ranking refers to the priority for clearance. The factors used to determine the Ottawa Ranking are shown in the table below.

Table 66 Indicators for Ottawa ranking

Impact classification factor	**Ottawa Ranking**
Victims in the last 2 years	1
High impact with victims beyond 2 years	2
High & medium impact	3
Population over 100	4
Low impact,	5
Low impact, top of mountains	6

Any hazard which has caused an accident within the last 2 years has been given an Ottawa Ranking of 1; this means these hazards will be cleared first. Any hazard which is already classified in IMSMA as high impact and has caused an accident in any time frame beyond 2 years has been given an Ottawa Ranking of 2 and is the second priority for clearance. All remaining hazards which are already classified as high and medium impact have been given an Ottawa Ranking of 3. All low impact hazards which affect a population of over 100 people have been given an Ottawa Ranking of 4. Remaining low impact hazards have been given an Ottawa Ranking of 5, with the exception of low impact hazards on the top of mountains which have an Ottawa Ranking of 6.

The table below shows the results of the Ottawa Ranking for all hazards.

Table 67 Results of Ottawa ranking

Ottawa Ranking	Number of AP MF	Area of AP MF (sq km)	Number of AT MF	Area of AT MF (sq km)	Number of BF	Area of BF (sq km)	Total no of hazards	Area (sq km)
1	137	10.6	77	54.8	14	2.8	228	68.2
2	281	21.5	192	38.7	9	11.4	482	71.6
3	401	24.8	256	46.5	51	8.6	708	79.9
4	442	29.8	260	56.1	4	1.2	706	87.1
5	1,678	100.3	559	101.0	19	2.9	2,256	204.2
6	62	2.8	-	-	-	-	62	2.7
Total	**3,001**	**189.8**	**1,344**	**297.1**	**97**	**26.9**	**4,442**	**513.8**

Please note that the number of AP MFs shown in the table above total 3,001 whereas the total number of AP MFs requiring clearance shown in chapter 14 is 3,248. Similarly in this table the AT MFs total 1,344 whereas in chapter 14 they total 1,097. However, the total number of contaminated areas in this table and in chapter 14 is equal to 4,442.

The reason for the discrepancy is that the work plan committee was focused on the operational approach to the remaining contamination. The committee agreed that AP/AT mixed MFs would be cleared using the same operational methodology as AT only MFs. So 247 AP/AT mixed MFs (which in chapter 14 were included in the AP total) have been moved to the AT total in this table. The total number of hazards requiring clearance remains the same.

As can be seen 130 out of 228 (57%) Ottawa Ranking 1 hazards are AP MFs and 276 out of 482 (57%) Ottawa Ranking Two hazards are AP MFs. In an ideal world these hazards should have been cleared already, and should be given priority for clearance now. However 227 (56%) of these hazards are in areas classified by the United Nations Department of Safety and Security (UNDSS) as extreme, high or substantial security risk. Clearance of these hazards is challenging and will require an approach which can ensure as far as possible the security of demining personnel. One such approach is "Community Based Demining (CBD)"; the concept of which is that deminers are recruited locally from contaminated communities. CBD enables community members to take ownership of the contamination directly affecting them and to benefit financially from an injection of cash into otherwise subsistence economies. The communities themselves have an incentive to ensure the security of the project.

The table also demonstrates that 304 AT MFs and BFs are Ottawa Ranking 1 and 2 hazards; these hazards should be cleared *before* AP MFs with an Ottawa Ranking of 3. Similarly 314 AT MFs and BFs have an Ottawa Ranking of 3 and should therefore be cleared before AP MFs with an Ottawa Ranking of 4, and so on. This table demonstrates numerically what has been said previously; from a humanitarian perspective Afghanistan cannot focus only on AP removal at the expense of AT and BF removal.

Most of the remaining hazard has an Ottawa Ranking of 5, and is of low impact. This should be heralded as a success; it demonstrates that the right priorities have been followed to date and MAPA implementers have removed most of the high and medium impacting contamination.

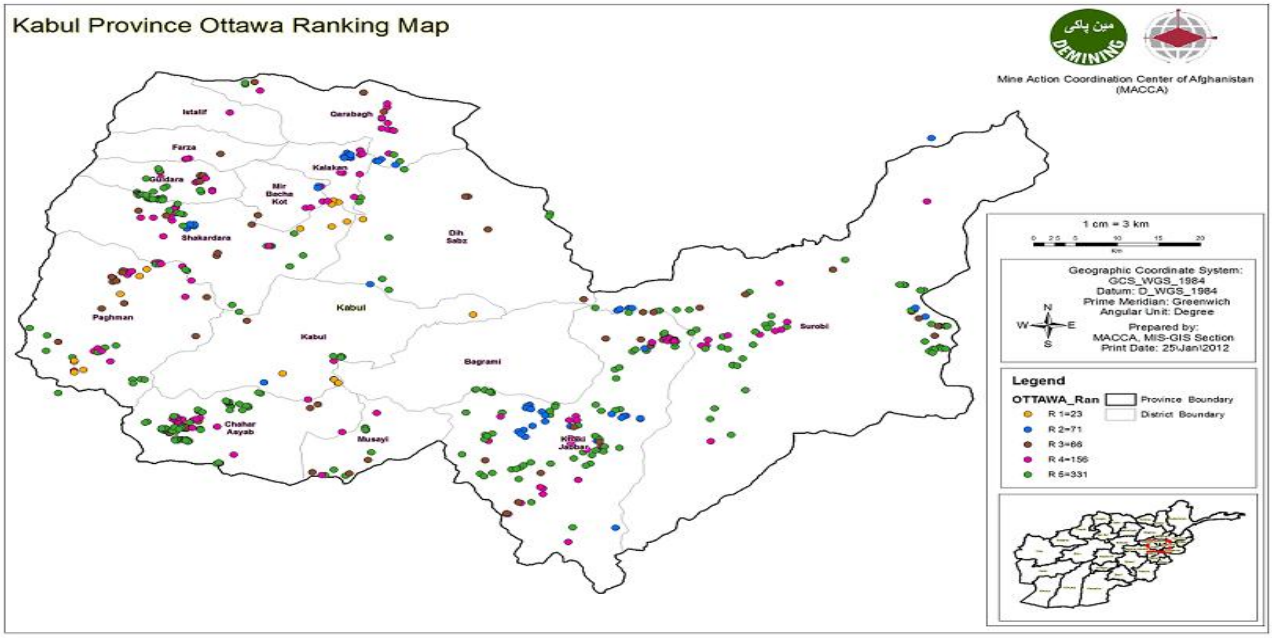
MACCA developed a draft of the prioritization criteria and presented to the Director of ANDMA, representative of MoFA and work plan development committee on the 22nd November 2011. Some of the committee members disagreed with one of the previously suggested criteria of "High Slope", which was discussed and then removed.

17.3 Projectisation

Afghanistan took the decision to "projectise" the remaining hazard because a projectised approach enables monitoring and evaluation of each project with a set of pre-defined objectives. In addition resource mobilizing for individual or groups of projects has been a successful strategy within MAPA in recent years. Finally, projectisation breaks down the remaining challenge into manageable "bite-size" chunks.

The first step was to consider the geographical location of each hazard in order to logically group hazards into projects. For each impacted province a map was produced which showed the location and Ottawa ranking (colour coded) of every hazard. The map below shows the example for Kabul Province.

Figure 54 Ottawa ranked hazards in Kabul Province



Where possible, projects were designed to be made up of hazards with the same Ottawa Rank in the same geographical area. The intention was for each project to contain hazard covering approximately 2 sq km. In some cases it was not possible for a project to be made up of only one Ottawa Rank and cover 2 sq km. In these cases hazards with other Ottawa Ranks (preferably of a similar level) were incorporated into the project based on geographical location. For example some projects are made up of all Ottawa Rank 1 hazards, cover 2 sq km and are located in the same area. Other projects cover approximately 2 sq km but are made of hazards with Ottawa Ranks 1, 2, 3 and/or 4. In addition projects were designed to provide easy access for logistical purposes. For example projects were designed to be on one side of a mountain range or not to have a large river running through the middle of the project area. Each project was given a name based on the province followed by a number related to the expected priority for clearance. For example, there may be 10 projects in Parwan Province. By assessing the ranks of the hazards included in each project the expected order of clearance of each project was determined and the projects numbered accordingly. Thus, Parwan Demining Project 01 will be cleared before Parwan Demining Project 02 and will contain hazards ranked 1 or 2. Parwan Demining Project 10 would be cleared much later than 01 or 02 and would contain hazards of Ottawa rank 4, 5, or 6.

Once the expected order for clearance was defined (per province) security was considered. It was apparent that some of the projects containing Ottawa Rank 1 hazards which were a priority for clearance were in what UNDSS considered extreme, high or substantial risk areas. Therefore an

assumption could be made that it would not be possible to clear these projects first. When this issue was discussed by the work plan committee it was noted that UNDSS risk analysis is quite generic and sometimes, depending on the approach taken by the implementer, demining operations are possible in areas deemed by UNDSS to be inaccessible. Furthermore, the first-hand experience and knowledge of demining NGOs who have many years of experience of operating in Afghanistan was probably more accurate than that of UNDSS. Following this discussion the expected order of project clearance was modified. Note that the name of the project was not changed, thus it was now possible that a project called Parwan Demining Project 01 could be cleared after a project called Parwan Demining Project 05, if project 01 was deemed by the committee to be in an insecure place.

The next issue considered by the work plan committee was the HALO Trust's prioritization system, which differs slightly from the impact classification system used by MACCA. The HALO Trust prioritize clearance of each hazard based on their categories 1a, 1b, 1c, 2 and 3. If a hazard is 1a it is a priority, followed by 1b, 1c, 2 and 3. The HALO trust priority was included in the hazard list for analysis. It was agreed by the work plan committee that if a hazard had a HALO Trust priority of 1a, 1b or 1c and was part of a project which was expected to be cleared later in the extension request, then the project should be moved forward in the order for clearance. This ensures a work plan which both addresses humanitarian priorities on the ground and is supported by all implementers.

The work plan was printed and distributed to all work plan committee members at a meeting held on 4th January 2012 at MCPA headquarters for final review. Following committee members feedback a number of minor amendments were made and the final meeting held on 14 February 2012.

By the end of this process Afghanistan had a list of projects, placed in order of priority for clearance agreed by all implementers. The breakdown of projects per region is shown in the table below.

Table 68 Ottawa projects per region

Region	No of Projects	Hazards	AP MF (Sq km)	AT MF (Sq km)	BF (Sq km)	Total Contamination (sq km)
CA	107	1,808	82.63	59.88	2.56	145.08
EA	7	166	9.31	5.17	2.05	16.54
NA	26	440	14.25	1.85	1.04	17.16
NE	43	918	49.23	0. 94	6.62	56.80
SA	47	300	14.00	110.16	0. 31	124.49
SE	53	460	12.85	48.34	1.49	62.69
WA	25	350	7.51	70.74	12.78	91.04
Total	**308**	**4,442**	**189.82**	**297.11**	**26.88**	**513.82**

As can be seen most of the projects are in the Central Region, which is where most of the contamination is located.

17.4 Productivity rates

The next step was to calculate how long it would take to complete clearance of all these projects and in so doing anticipate how many projects from the list would be completed in each year of the extension request. For this purpose analysis of productivity rate was required.

The standard structure within the 5 Afghan NGOs is a 10-lane demining team while the structure within DDG and the HALO Trust is a 6 man section and a 22 lane demining team respectively. Because it is not known at this stage which NGO will clear which project it was necessary to agree a standard clearance rate acceptable to all implementers[60]. The work plan committee tasked ATC, MDC and OMAR to work on this issue and provide their feedback. As per their analysis the average monthly productivity rate of 8,425 sq m per 10 lane team per month was calculated as illustrated in the following table:

[60] Which NGOs deliver which project will be determined when funds are secured either by the NGO bilaterally (in which case the NGO and donor will identify which project they will deliver) or through the VTF (in which case UNMAS will decide which project will be delivered by which NGO through their pre-selection process, or a competitive process)

Table 69 Average productivity calculation

NGO	No. of teams	% of teams	Deminers per team	Monthly productivity rate per team (sq m)	Operational months per year	Output per year	Average monthly productivity
DDG	81	18	6	3000	11	2,673,000	
HALO Trust	100	22	22	9500	11	10,450,000	
Afghan NGOs	274	60	10	10000	12	32,880,000	
Average	455	100				46,003,000	8,425[61]

At a committee meeting on 20th December 2011 at ATC headquarters it was agreed a productivity rate of 8,000 sq m per 10-lane demining team per month should be used. In addition it was agreed productivity for Mine Dog Groups should be 35,000 sq m per month and battlefield search 100,000 sq m per month (an average between surface and subsurface). At a committee meeting on 14th January 2012 at HALO Trust it was agreed the productivity rate of mechanical demining units should be 13,000 sq m per month for AP MFs, 7,000 sq m per month for AP/AT MFs, 15,000 sq m per month for BF and 26,000 sq per month for AT MFs. These averages were calculated by considering the average outputs of the mechanical assets currently in the programme (Front End Loaders with gill and ripper systems, Backhoes, etc). HALO Trust have been successfully using a Raptor in AT MFs in western Afghanistan which has an average output of 50,000 sq m per month. The committee decided to include 3 new Raptors in the work plan and so agreed the average productivity in AT MFs would be 30,000 sq m per month.

17.5 Annual target and number of teams

The work plan committee based the annual target on the funds MAPA realistically expected to secure over the ten year period. The assumption was made that for 1392 the same level of funds would be secured as in 1391, but that thereafter each year could expect to face a 6% reduction in funding. If the annual reduction in funds is more than 6% the work plan will not be achievable in ten years. Conversely if funds drop by less than 6% year on year then the work plan will be achieved in a shorter period than 10 years. MAPA will endeavour to ensure a 6% reduction is the minimum through active resource mobilising. The table below illustrates the funding requirement per year and the percentage of decrease.

[61] Calculated by dividing annual output by the number of teams by 12 months (46,003,000 / 455 / 12)

Table 70 Funding target per year

Year	Cost ($)	Yearly decrease in cost	Yearly decrease percentage (%)
1392 (2013)	70,343,834		
1393 (2014)	65,715,331	4,628,503	6.58%
1394 (2015)	61,272,729	4,442,602	6.76%
1395 (2016)	57,246,033	4,026,696	6.57%
1396 (2017)	53,656,369	3,589,664	6.27%
1397 (2018)	50,197,795	3,458,574	6.45%
1398 (2019)	46,964,807	3,232,988	6.44%
1399 (2020)	44,009,705	2,955,102	6.29%
1400 (2021)	41,153,569	2,856,136	6.49%
1401 (2022)	37,511,525	3,642,043	8.85%

In order to calculate the annual clearance target the committee considered the funds available and the total remaining hazard which was broken down into four different types of contamination (AP MF, AP/AT MFs, AT MF and BF). As mentioned in paragraph 17.2 in a committee meeting held at MACCA on July 14 2012 it was decided to consider AP/AT MFs as AT MF, agreeing that the clearance methodology for AP/AT mixed MFs would be the same as that for AT only MFs. Thus the remaining hazards were broken down into three different types of contamination (AP MF, AT plus AP/AT mixed MF and BF). For all hazards the committee agreed 10% area reduction resulting from survey work was expected, which is consistent with current rates. For the 3 different types of contamination the committee agreed how much of the hazard was expected to be cleared manually, using MDDs and using machines. This is shown in the table below.

Table 71 Anticipated breakdown of clearance technique

Hazard type	**% cleared manually**	**% cleared using MDD**	**% cleared using mechanical assets**
AP MF	70%	10%	20%
AT and AP/AT mixed MF	35%	15%	50%
BF	98%	0%	2%

The work plan committee calculated how many teams (demining, MDD and mechanical) were required to clear each type of hazard, for how long (team months) they would be required and how much hazard they would be able to clear in each year considering the anticipated funds available.

The table and graphs below gives details for AP MFs.

Table 72 Calculation for teams required for AP contamination removal

Year	AP (sq km)	AP after 10% area reduction	Team months required (manual)	Team months required (MDD)	Team months required (mechanical)	Total team months	No of teams per year
1392 (2013)	26.6	24.0	2,096.8	199.7	368.7	2,665.2	222
1393 (2014)	25.7	23.1	2,020.7	192.4	355.3	2,568.4	214
1394 (2015)	24.8	22.3	1,954.5	186.1	343.7	2,484.3	207
1395 (2016)	33.8	30.4	2,662.8	253.6	468.2	3,384.6	282
1396 (2017)	20.8	18.7	1,636.1	155.8	287.7	2,079.6	173
1397 (2018)	14.8	13.3	1,166.6	111.1	205.1	1,482.8	124
1398 (2019)	9.9	8.9	782.0	74.5	137.5	993.9	83
1399 (2020)	15.7	14.2	1,239.8	118.1	218.0	1,575.8	131
1400 (2021)	15.2	13.7	1,200.5	114.3	211.1	1,525.9	127
1401 (2022)	2.4	2.2	189.1	18.0	33.2	240.4	20
Total	189.8						

Figure 55 Teams required for AP contamination removal

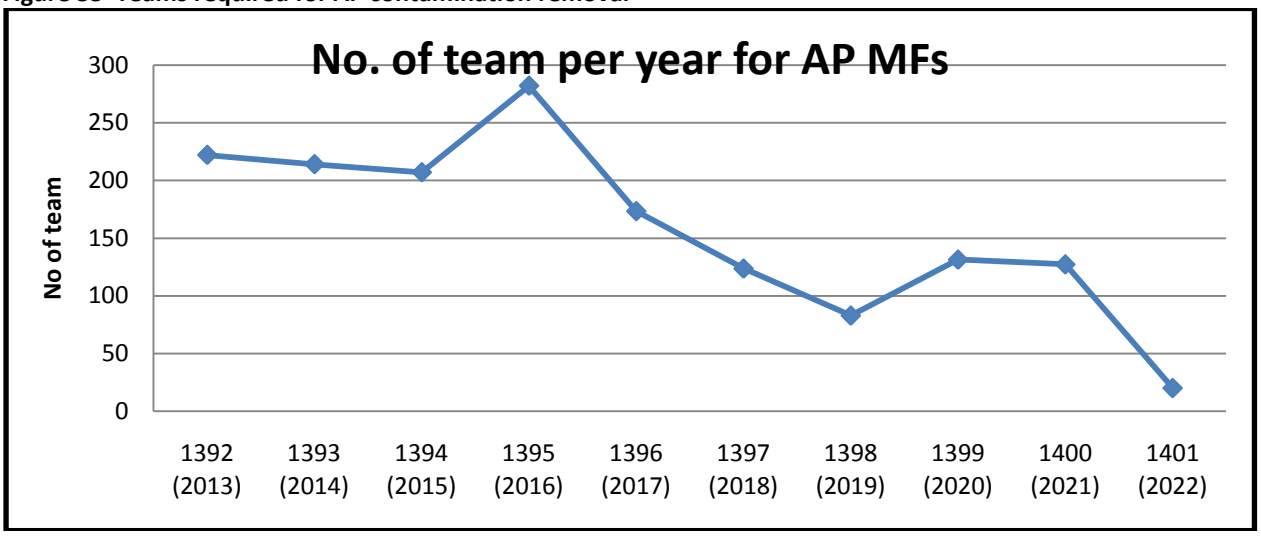
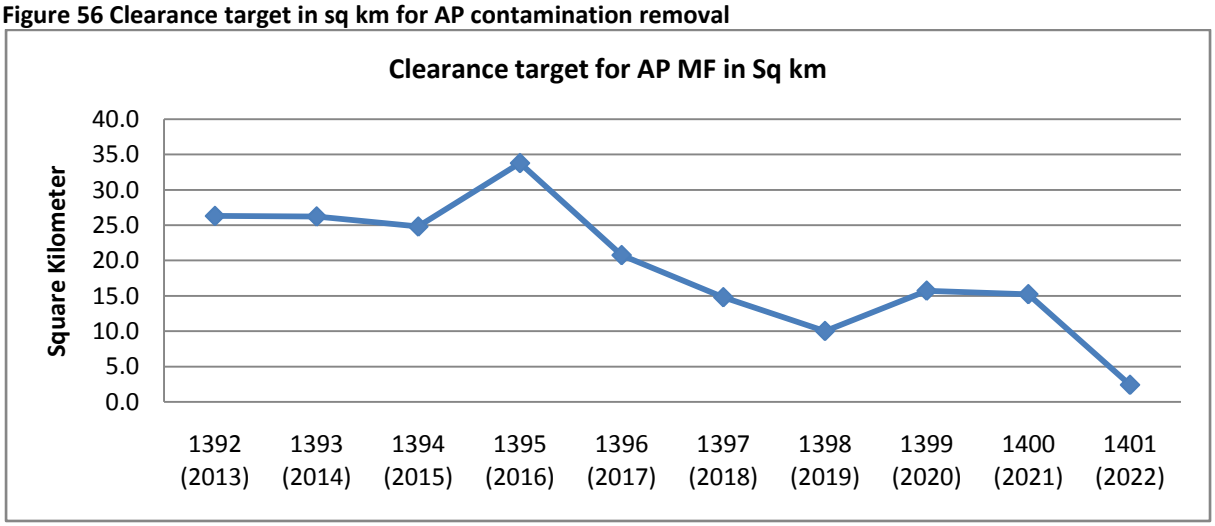


Figure 56 Clearance target in sq km for AP contamination removal



The table and graphs below give details for AT and AP/AT mixed MFs.

Table 73 Calculation for teams required for AT and AP/AT mixed contamination removal

Year	AT and AP/AT mixed (sq km)	AT and AP/AT mixed after 10% area reduction (sq km)	Team months required (manual)	Team months required (MDD)	Team months required (mechanical)	Total team months	No of teams per year
1392 (2013)	43.8	39.4	1,722.7	492.2	656.3	2,871.2	239.3
1393 (2014)	36.8	33.1	1,448.9	414.0	551.9	2,414.8	201.2
1394 (2015)	29.1	26.2	1,146.9	327.7	436.9	1,911.5	159.3
1395 (2016)	6.4	5.7	250.8	71.6	95.5	417.9	34.8
1396 (2017)	31.4	28.3	1,237.8	353.7	471.6	2,063.0	171.9
1397 (2018)	33.3	29.9	1,309.7	374.2	498.9	2,182.8	181.9
1398 (2019)	38.0	34.2	1,497.3	427.8	570.4	2,495.5	208.0
1399 (2020)	22.9	20.6	901.5	257.6	343.4	1,502.5	125.2
1400 (2021)	19.4	17.5	765.4	218.7	291.6	1,275.6	106.3
1401 (2022)	36.0	32.4	1,418.1	405.2	540.2	2,363.5	197.0
Total	297.1						

Figure 57 teams required for AT and AP/AT mixed contamination removal

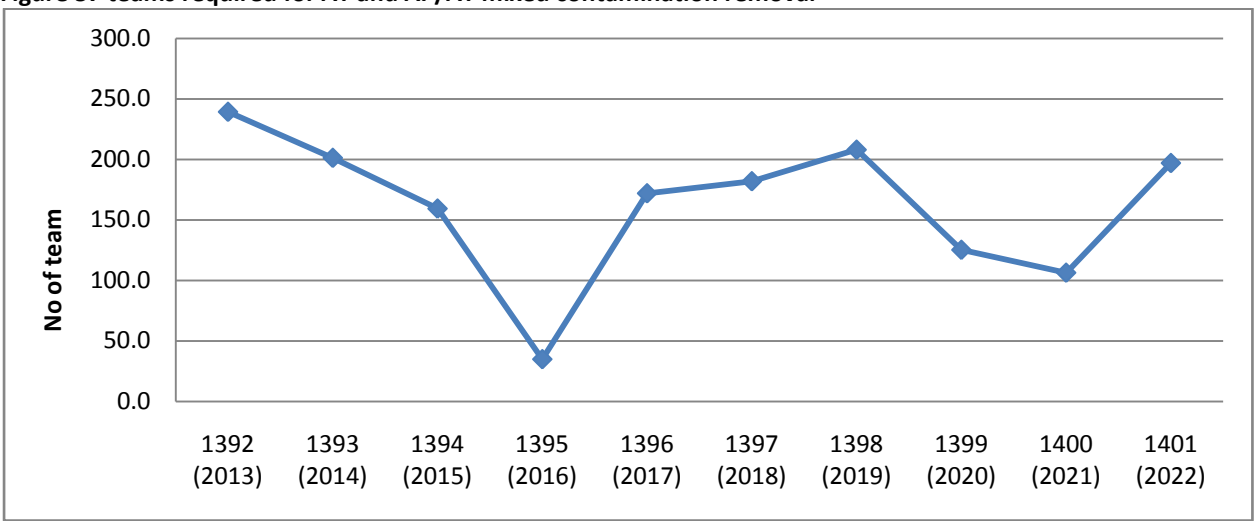
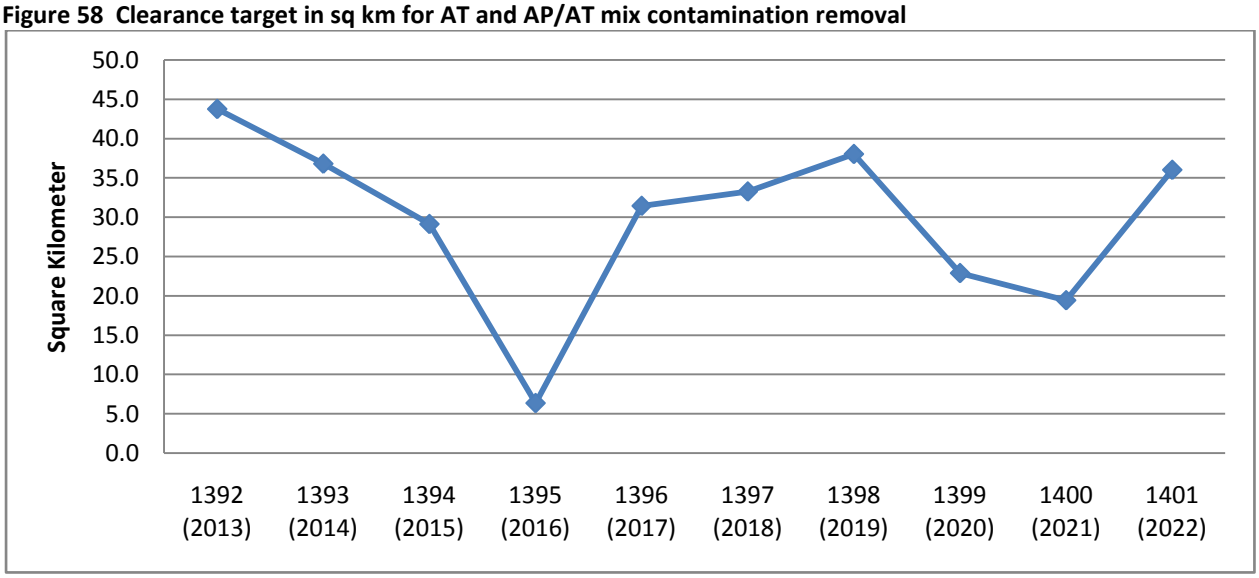


Figure 58 Clearance target in sq km for AT and AP/AT mix contamination removal



The table and graphs below give details for BFs

Table 74 Calculation for teams required for BF contamination removal

Year	BF area (sq km)	BF area after 10% area reduction (sq km)	Team months required (manual)	Team months required (mechanical)	Total team months	No of teams per year
1392 (2013)	8.6	7.7	83.97	11.42	95.39	7.95
1393 (2014)	1.3	1.1	12.36	1.68	14.04	1.17
1394 (2015)	1.5	1.3	14.22	1.94	16.16	1.35
1395 (2016)	-	-	-	-	-	-
1396 (2017)	1.4	1.3	13.74	1.87	15.61	1.30
1397 (2018)	12.3	11.0	120.23	16.36	136.58	11.38
1398 (2019)	0.2	0.2	2.11	0.29	2.39	0.20
1399 (2020)	1.7	1.5	16.83	2.29	19.12	1.59
1400 (2021)	-	-	-	-	-	-
1401 (2022)	-	-	-	-	-	-
Total	26.9					

Figure 59 Teams required for BF contamination

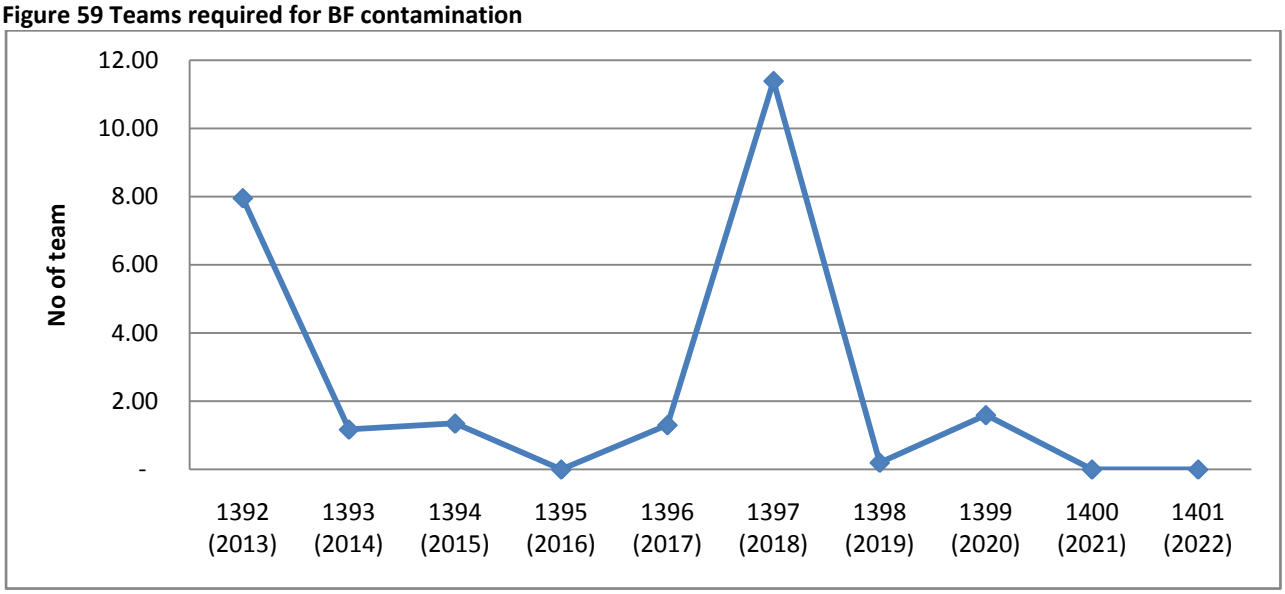
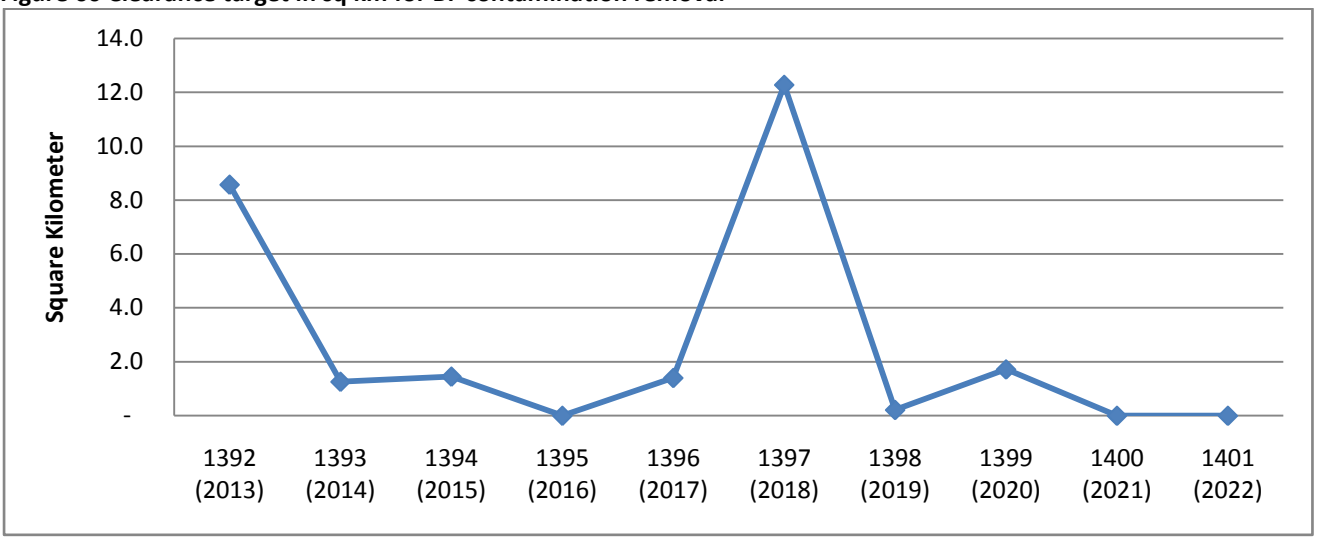


Figure 60 Clearance target in sq km for BF contamination removal

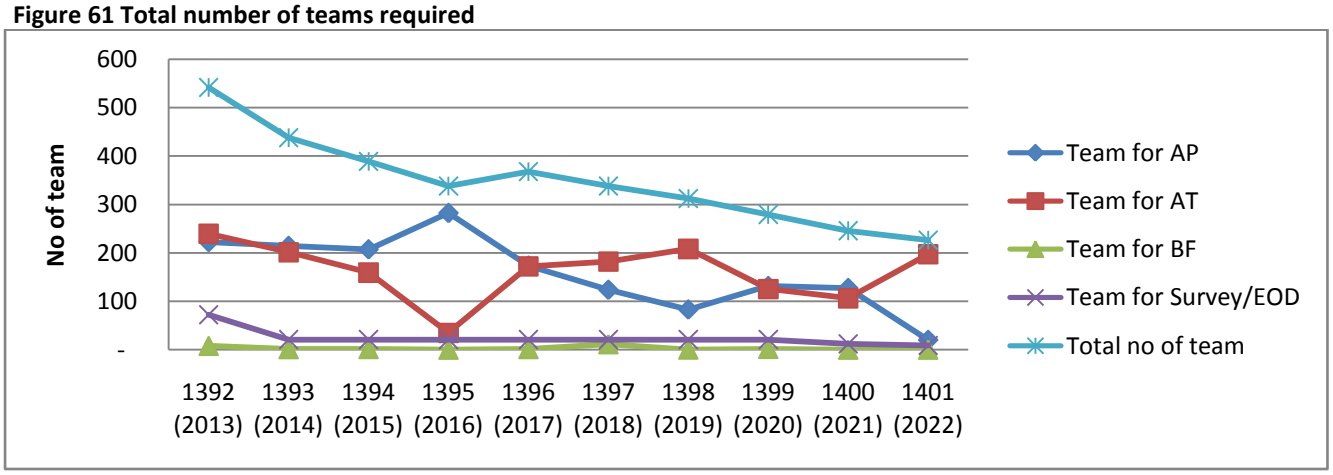


The table and graph below summarizes the information above and show the total number of teams required to deliver the work plan.

Table 75 Total number of teams required

Year	No of teams for AP MFs	No of teams for AT and AP/AT mixed MFs	No of teams for BF	No of teams for survey and EOD	Total no of teams
1392 (2013)	222	239	8	72	541
1393 (2014)	214	201	1	21	437
1394 (2015)	207	159	1	21	389
1395 (2016)	282	35	-	21	338
1396 (2017)	173	172	1	21	368
1397 (2018)	124	182	11	21	338
1398 (2019)	83	208	0	21	312
1399 (2020)	131	125	2	21	279
1400 (2021)	127	106	-	12	245
1401 (2022)	20	197	-	9	226
Total	**1,583**	**1,625**	**25**	**240**	**3,473**

Figure 61 Total number of teams required



A large number of teams will be required at the beginning of the work plan as priority hazards are mainly AP MFs which require manual clearance, whereas later in the work plan more AT MFs will be targeted using mechanical assets and therefore requiring less demining teams. Also, as the annual target for clearance becomes less and less, fewer teams will be required. As can be seen year 6 onward of the extension request there will be more teams focusing on AT MF removal than AP MF removal. Overall the number of teams will reduce from 541 in 1392 to 226 by year 10 of the extension request.

Please see Annex 24 Work Plan for details of all projects which will be delivered throughout the extension request. The annex shows the name of the project, its location, which Ottawa ranked hazards it includes, the number of hazards, total area, the year it will be completed, the type of contamination, the security situation and the expected number of beneficiaries.

17.6 Non technical survey and EOD village by village (VbV) search

MAPA will conduct a non-technical survey and EOD village by village search beginning of April 2012. Both processes will take two years (April 2012 – April 2014) and will be undertaken concurrently and cover the whole country. The aim of the non-technical survey is to survey all impacted and non-impacted communities to update and finalise understanding of the extent of the contamination. The focus of EOD search is to perform EOD village by village (VbV) search in all impacted communities and 20% of non-impacted communities. Given past experience, to date sporadic ERW has been found in 22% of non impacted communities. A similar figure is anticipated in the future and thus the target has been set at 20%.

Table 76 Number of communities (impacted and non impacted by region/province

Region	Province	Number of impacted communities	Number of non-impacted communities
Central	Bamyan	12	1647
	Daykundi	0	1647
	Kabul	155	710
	Kapisa	37	385
	Logar	65	415
	Maydan Wardak	157	1493
	Panjsher	28	177
	Parwan	140	693
Total		**594**	**7,167**
East	Kunar	6	480
	Laghman	4	480
	Nangarhar	55	977
	Nuristan	2	168
Total		**67**	**2,105**

North	Balkh	53	801
	Faryab	14	677
	Jawzjan	3	344
	Samangan	97	474
	Sari Pul	9	574
Total		**176**	**2,870**
North East	Badakhshan	26	1902
	Baghlan	185	750
	Kunduz	27	401
	Takhar	84	691
Total		**322**	**3,744**
South	Hilmand	58	1099
	Kandahar	117	1901
	Nimroz	10	426
	Uruzgan	4	582
	Zabul	29	1390
Total		**218**	**5,398**
South East	Ghazni	112	2497
	Khost	29	557
	Paktika	40	970
	Paktya	51	621
Total		**232**	**4,645**
West	Badghis	11	637
	Farah	40	824
	Ghor	0	1790
	Hirat	66	1542
Total		**117**	**4,793**
Grand Total		**1,726**	**30,722**
1391 Plan		**863**	**15,361**
Target for 1392		**863**	**15,361**

MAPA has found in some cases communities which are not in the gazetteer. To allow for this in planning a 5% increase in the number of communities has been factored in to the calculation. The survey will require 58 cross-trained (Survey/EOD) teams. The target is to survey and EOD search ten communities per month and the target for non-impacted community is to survey 40 communities per month. A small survey capacity of 3 teams per region i.e. 21 teams in total will be retained throughout the extension period to conduct regular survey of the recorded hazards, assess the new requests for mine clearance , conduct assessment for large-scale development projects and respond to call out EOD response. The number of teams will be reduced to 12 teams for the last year of the extension request.

17.7 Preparation of the annual plan

In the past, MACCA issued policies and guidelines along with the entire dataset of all minefields which remained to be cleared. Implementers would then design their projects in line with these policies and create their annual plans which would be evaluated by MACCA and then consolidated across all implementers to make the annual programme plan, called the Integrated Operational Framework.

From now on, the annual work plan will be based on the work plan submitted as part of this extension request, though the process of coordinating of who will implement which part of the Ottawa work plan will remain basically the same as before. The process will be as below.

1. In July, the MACCA Plans Section will make sure the dataset is up to date; this involves releasing minefields or projects which were planned for the previous year but not actually cleared back into the dataset and incorporating any hazards which have become high priority for example due to recent local authority requests, hazards associated with IDP camps/resettlement, etc;

2. DMC/MACCA will review national strategic goals, planning influences and priority policies. This process will include consultation with regional authorities and will test the continued validity of the Ottawa work plan;

3. DMC/MACCA will issue the project list from the Ottawa work plan for the following year sorted by priority;

4. The implementers will agree between themselves which Ottawa projects or which hazards within a shared Ottawa project each implementer will clear. Implementers will then submit an "aspirational" plan of Ottawa projects they propose to clear.

5. On receiving aspirational plan, MACCA Plans Section will conduct a macro level assessment to ensure that there is no project overlap and that projects which will be shared by implementers require the assets suggested. If necessary MACCA and implementers will negotiate changes. MACCA Plans Section will update the Plans database to show which projects/hazards will be cleared by which implementer.

6. Implementers will conduct field assessments to cross check the priority of their proposed hazards and make sure that the impact classification derived from the database is indeed the priority on the ground; they will also make sure that their equipment is fit for the proposed

hazards and also check the security, community and authority support and make sure there is no land dispute affecting the proposed hazards.

7. Implementers will develop project proposals to cover their plans.

8. Implementers will submit to MACCA their proposals for review through the Proposal Review Team (PRT) who will endorse the proposals if/when they are satisfied with the outputs, outcome and budget.

9. Implementers will use proposals and endorsement letters to seek bilateral funds and will advise MACCA Plans Section when funds are secured at which point the Plans Section will update the database to show that an implementer's "aspiration" is now funded and will go ahead.

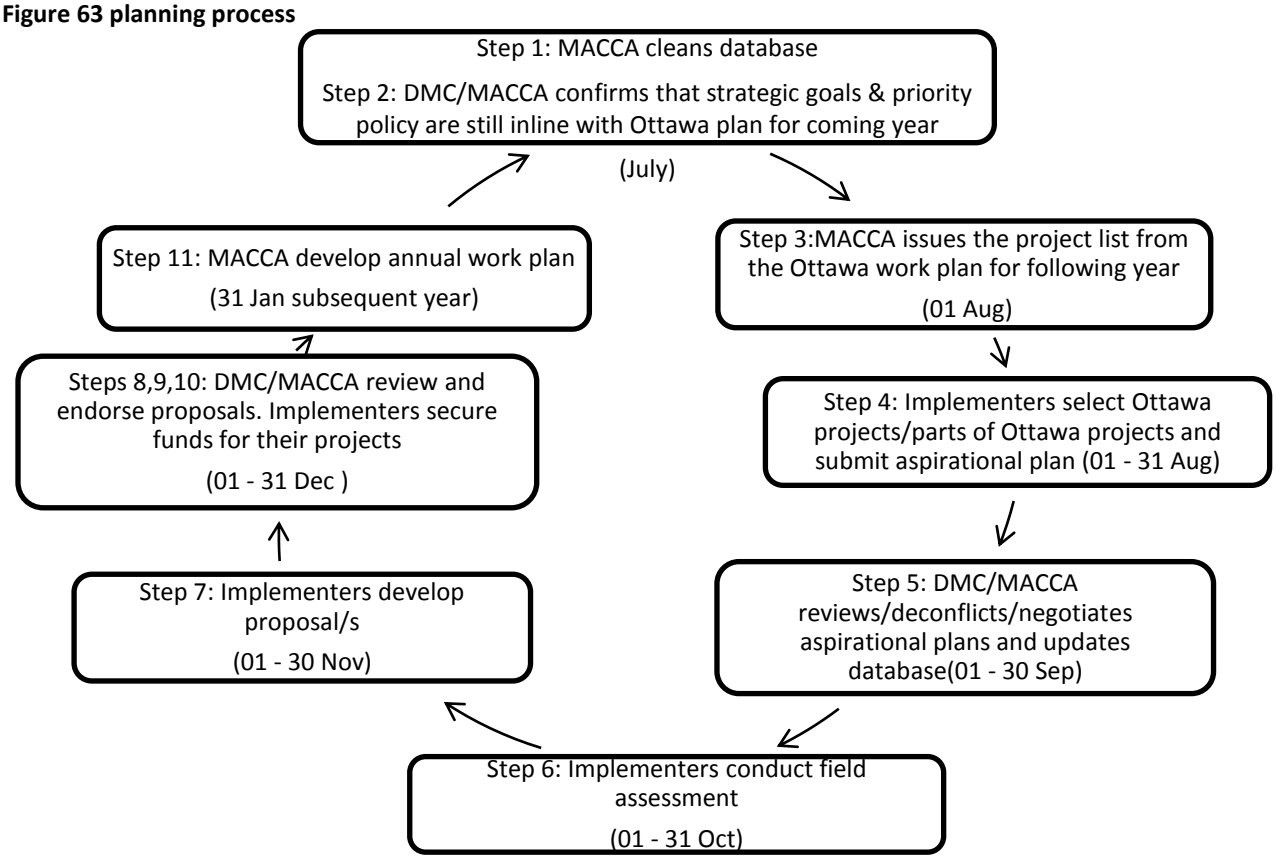
10. UNMAS/MACCA will resource mobilize for the VTF and when funds are available will either pre-select implementers to clear priority projects or will run a competitive process for priority projects. Again, when funds are allocated against specific projects Plans Section will update the planning database accordingly.

11. MACCA will develop the annual national work plan which will detail the implementers combined work plans for the year.

The following diagram illustrates the process and timeline

Figure 62 Process for annual work plan preparation

Figure 63 planning process



17.7 Milestones

1392 (2013)

- 712 hazards removed
- 78.09 sq km released
- 277 communities, 17 districts and 1 province declared impact free
- Survey of 863 impacted communities and 15,361 non impacted communities
- Survey complete; preparation of revised work plan if necessary
- VbV search in 863 impacted communities and 2,295 non impacted communities
- VbV complete; EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1393 (2014)

- 706 hazards removed

- 64.57 sq km released
- 242 communities, 24 districts and 1 province declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1394 (2015)

- 654 hazards removed
- 55.40 sq km released
- 185 communities, 28 districts and 2 provinces declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1395 (2016)

- 528 hazards removed
- 40.18 sq km released
- 116 communities, 25 districts and 5 provinces declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1396 (2017)

- 407 hazards removed
- 53.62 sq km released
- 114 communities,17 districts and 4 provinces declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1397 (2018)

- 376 hazards removed
- 60.34 sq km released
- 165 communities, 19 districts and 5 province declared impact free from known hazards
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1398 (2019)

- 273 hazards removed

- 48.17 sq km released
- 124 communities, 10 districts and 1 province and 1 region (Northern) declared impact free from known hazards
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1399 (2020)

- 331 hazards removed
- 40.36 sq km released
- 130 communities, 18 districts, 1 province and 1 region (Eastern) declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1400 (2021)

- 373 hazards removed
- 34.68 sq km released
- 172 communities,56 districts, 9 provinces and 2 regions (Northeast and Southeastern) declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

1401 (2022)

- 91 hazards removed
- 38.42 sq km released
- 12 communities,6 districts, 4 provinces and 3 regions (Central, Southern and Western) declared impact free
- EOD teams will work on spot UXO clearance, support DTs and small hazard clearance

By implementation of this plan the following achievement will be made:

- Removal of 4.442 hazards
- Releasing of 513.83 sq km contaminated area
- 1,537 communities, 220 districts, 33 provinces and 7 regions declared impacted free
- Survey in 1,537 impacted communities and 30,911 non impacted communities

- VbV search in 1,537 impacted communities and 4,590 non impacted communities

The table below details the text above.

Table 77 Milestones

Milestone		1392 (2013)	1393 (2014)	1394 (2015)	1395 (2016)	1396 (2017)	1397 (2018)	1398 (2019)	1399 (2020)	1400 (2021)	1401 (2022)
No of hazards removed	AP	483.00	438.00	510.00	492.00	341.00	198.00	112.00	159.00	207.00	42.00
	AT	195.00	241.00	127.00	36.00	41.00	165.00	156.00	169.00	165.00	49.00
	BF	34.00	27.00	8.00	0.00	25.00	13.00	5.00	3.00	1	-
Area released	AP	23.96	26.06	24.82	33.81	18.70	14.81	9.93	15.74	15.24	2.40
	AT	43.72	36.83	29.13	6.37	31.44	33.26	38.03	22.89	19.44	36.02
	BF	10.42	1.68	1.45	0.00	3.48	12.27	0.22	1.72	-	-
Number of communities declared impact free		277	242	185	116	114	165	124	130	172	12
Number of districts declared impact free		17	24	28	25	17	19	10	18	56	6
Number of provinces declared impact free		1	1	2	5	4	5	1	1	9	4
Number of impacted communities surveyed		907	Small survey and EOD capacity conducting periodic Confirmation Assessment of recorded hazards, assessing new requests for mine clearance, conducting assessment for large-scale development projects and response spot ERW tasks.								
Number of non impacted communities surveyed		15,361									
Number of impacted communities VbV searched		907									
Number of Non impacted communities VbV searched		2,295									
Region impact free								NA	EA	NE, SE	CA, SA,WA

17.8 Budget

The total budget required for the period of the Ottawa extension request is shown in the table below. Figures are in millions of US$.

Table 78 budget

Year	AP cost (including annual inflation 4%)	AT and AP/AT mixed cost (including annual inflation 4%)	BF cost (including annual inflation 4%)	Total clearance cost (including annual inflation 4%)	Survey and EOD cost	MRE cost	MACCA coordination cost	UN Project Office cost	4% annual inflation (for Survey, EOD, MACCA and UN)	Sub Total	Total cost
1392 (2013)	35.1	34.1	1.2	70.4	3.5	0.4	6.0	4.0	0.6	14.4	84.8
1393 (2014)	35.2	30.4	0.2	65.7	1.0	0.4	6.0	3.0	0.8	11.2	76.9
1394 (2015)	35.4	25.7	0.2	61.2	1.0	0.4	6.0	3.0	1.2	11.6	72.8
1395 (2016)	48.4	8.8	-	57.2	1.0	0.3	5.0	2.0	1.3	9.6	66.8
1396 (2017)	28.2	25.2	0.2	53.7	1.0	0.3	5.0	2.0	1.7	9.9	63.6
1397 (2018)	20.8	27.6	2.0	50.4	1.0	0.3	4.0	1.0	1.5	7.8	58.2
1398 (2019)	14.4	32.5	0.0	47.0	1.0	0.1	4.0	1.0	1.7	7.8	54.8
1399 (2020)	23.5	20.2	0.3	44.0	1.0	0.1	3.0	1.0	1.6	6.7	50.8
1400 (2021)	23.5	17.7	-	41.2	0.6	0.1	3.0	1.0	1.7	6.4	47.5
1401 (2022)	3.8	33.7	-	37.5	0.4	0.1	2.0	1.0	1.4	4.9	42.5
Total cost	268.3	255.9	4.2	528.3	11.5	2.2	44.0	19.0	13.5	90.3	618.6

The cost for each year of AP, AT and BF removal was calculated by considering the number of team months per asset type (manual, MDD, mechanical) required to remove the annual targets described in paragraph 17.5 above and multiplying by the cost per month of each type of team. For example, 2,096.8 team months of manual teams were required for AP removal in year one. The monthly cost to deploy one manual team is $12,500, so 2,096.8 team months would cost $26.21 million. The average cost of each type of team was discussed and agreed by all members of the work plan committee at a meeting on 20th December 2011 held at ATC headquarters. The monthly cost for a

10-lane demining team was agreed to be $12,500 per month, a Mine Dog Set cost was agreed to be $5,000 per month and the cost of a mechanical demining unit was agreed to be $8,000 per month. The monthly cost for a survey team was agreed to be $3,000 and an EOD team was agreed to be $9,000 per month. These costs also include associated overhead costs to the NGOs.

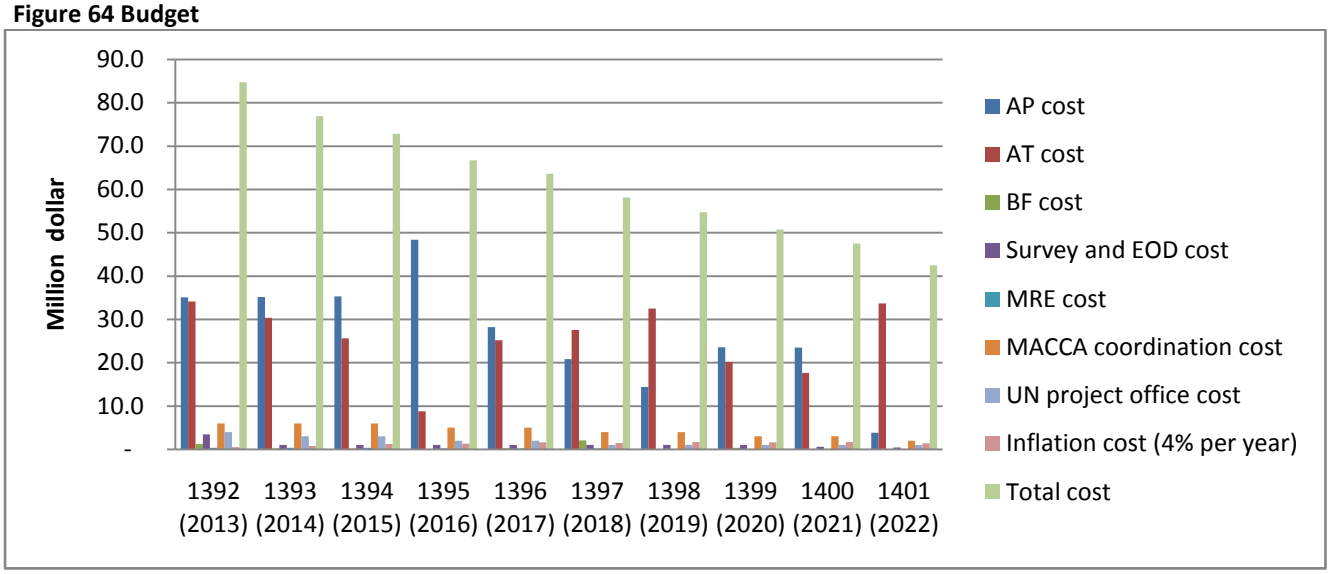
The committee also agreed to incorporate inflation into the budgeting process. Given past experience it was agreed that Afghanistan could expect an increase in costs (salaries, fuel, basic running costs) of 4% per annum. This increase was factored into the calculation.

In addition to running costs and inflation the work plan committee considered the cost of replacing vehicles and equipment, purchasing new equipment which would be required and considered the cost of explosives. The committee agreed that 60% of the currently held "general" demining equipment (detectors, PPE, etc) would need replacing over the period of the extension request and 30% of the currently held vehicles and communication equipment (VHF radios, etc). The HALO Trust has been successfully deploying a Raptor for AT MF clearance in the west. The committee agreed that purchase of three new Raptors and replacement of machines worth US$ 3 million would need replacing and should be included in the budget for AT MF clearance. These costs were factored into the budget from years one to four of the extension request, based on the rationale that new and replacement equipment would not be required towards the end of the extension request when the work would be almost complete.

The budget also shows the annual cost for EOD, survey and MRE activities. The cost for coordination which will be undertaken by MACCA has been included. Please note costs associated with a UN Project Office have also been budgeted for; this "split" of the current MACCA into an all-Afghan coordinating body supported by a UN Project office is explained in Chapter 5.

The graph below represents the same data as in the table above.

Figure 64 Budget



As can be seen the funds required to complete the work plan generally decrease over time. The funds required annually were taken into consideration by the work plan committee in agreeing the duration of the extension request. Clearly if Afghanistan were to receive double the current funding for mine action for the next five years for example, a 10 year extension would not be required. However, the committee agreed it would be better to prepare a plan based on what could reasonably be expected to be secured for mine clearance. The drawdown of international support to Afghanistan is likely to begin in 2014, when many international military will depart. In addition there is a global financial crisis which is already affecting donor funding of the programme (reductions from three major donors to the VTF have already been advised for next year). The committee finally agreed a 10 year extension request was affordable on an annual basis given these financial implications.

17.9 Risk factors and assumptions

The following risks to delivery of the work plan have been identified

- Insecurity is one of the major factors which could affect the plan. The situation in Afghanistan is not stable and although the work plan committee considered both the UNDSS security level system and the committee's firsthand knowledge and experience of managing insecurity if the situation worsens then the plan may change. The potential withdrawal of international forces from 2014 onwards could impact on the security of many areas of the country. In addition the transition of security responsibility to the Afghan security forces may not be successful in some areas.

The first potential problem may be access for the survey teams; it may not be possible for the teams to access all 32, 448 communities and thus confirm the extent of the hazard. It may be that the survey requires additional time or has to be suspended.

Similarly access for clearance may be compromised. The first three to four years of projects are located in currently secure/accessible places. If security worsens some of these projects may not be accessible. In addition if security does not improve in the first three to four years those projects planned in areas which are currently insecure (for years four to ten) may not be possible.

Regional conflict resulting from political tension neighbouring countries could impact negatively on projects which are located in border areas and may result in closure of border crossings making equipment importation difficult.

A change in sentiment towards demining by anti-government elements may result in demining teams being targeted (killed, kidnapped etc). It is also possible that as a result of some demining agencies potentially becoming involved in the removal of abandoned IEDs the perceived neutrality of MAPA is compromised. Recruitment of deminers by anti-government elements/use of demining equipment, resources (explosives/mines etc) or vehicles to mount an attack on GoA or IMF forces or compounds, could resulting in a damaged reputation of MAPA.

Increased lawlessness, lack of government control and civil unrest may result in banditry, violence and theft which could directly affect MAPA personnel and equipment and impact on access.

The worst case scenario is a breakout of civil war that renders the whole programme unfeasible.

- The next significant risk is lack of sufficient funding. Consistent and sustained financial support will be required throughout the extension request to enable its success. If MAPA does not secure the predicted funds for each year, the plan will not be achieved; the maximum allowable reduction in funding year on year has been assumed to be 6%.

  It is anticipated that international financial support to Afghanistan may reduce in the period post 2014 when many international troops will leave. Furthermore, donor interest may be diverted to other regions/countries as conflicts develop and/or evolve in countries.

  The current financial global crisis may worsen and contributions to Afghanistan for demining decline.

An increase in the levels of corruption may result in lack of confidence to invest in Afghanistan and concerns that funds for demining will be abused.

It should be noted that the work plan committee considered a realistic annual budget in determining the length of the extension request.

- There is a risk that the amount of new mine contamination identified in the survey is considerable and significantly affects the clearance plan.

- Reduction or lack of support from the government could impact on the plan. This risk could result in increased regulations and complications in importing demining equipment. Furthermore, especially after 2014 it is likely that the government will need to mobilize resources on behalf of the programme, for which MAPA will require strong government ownership of the problem and extension request work plan.

- There is a risk that explosions in ammunition storages could result in widespread ERW removal adding to the work of the programme.

- Natural disasters (such as large earth quake) may require demining teams and assets to be diverted to assist in the recovery impacting negatively on the plan.

- Unusual weather conditions (most likely related to unexpectedly large snowfalls) could affect the plan and/or productivity.

- Collapse of coordination mechanisms which currently enable centralized information/data management and coherent planning which results in the most effective use of resources.

- Loss of data/records held by NGOs/AMACs/MACCA resulting in the need for re-survey and re-population of IMSMA.

- Strike action undertaken by demining personnel for example in response to unhappiness with salaries or disagreements over HR issues, dismissals, etc.

The following assumptions were made in the preparation of the work plan and budget

- The clearance rate for the manual teams is assumed to be 8,000 sq m per month, for Mine Dog Sets 12,000 sq m per month and for machines 13,000 sq m per month in AP MF, 7,000 sq m per month for AP mixed with AT, 15,000 sq m for BF and 30,000 sq m for AT MF. BF clearance for

manual teams ia assumed to be 100,000 sq m per month. Although these assumptions were made based on past experience over the last ten years if the teams face MF with higher slopes or too much fragmentation these clearance rates may be reduced.

- 10% area reduction has been assumed; the plan and budget have been prepared based on this assumption. Currently analysis of the database shows that 10% area reduction is occurring generally, though in some cases the area covered by the hazard is more than originally suspected. If many of the hazards are larger than suspected or if area reduction of 10% is not achievable then the time required to complete clearance will not be sufficient.

- The plan was developed by assuming that 70% of the area of each AP MF would be cleared manually, 10% by Mine Dog Sets and 20% my mechanical assets. Similar assumptions were made for AP AT mixed MFs, AT MFs and BFs. (See table in paragraph 17.5). If these assumptions are not correct the plan may be impacted.

- 863 impacted communities and 15,361 non-impacted communities are planned to be surveyed during 2013. This plan assumed surveying 10 impacted and 40 non impacted communities per month. If this is not achieved the survey plan will be compromised.

- In budget preparation average costs for each type of team asset (manual, dog, machine) were made (see paragraph 17.9 for details). Though these figures were derived from current known costs it is possible they may change and affect the budget.

- 4% increase due to inflation was considered for each year; if inflation is more than this then the budget may require revision.

- Three new Raptors are planned to be purchased and are central to the plan for clearing AT MFs; if purchase is not possible the annual target will be affected.

- The budget assumes a maximum reduction of 6% of the annual budget year on year.

- The budget assumes replacement of 60% of demining team equipment i.e. mine detector and personnel protective equipment, and replacement of 30% of vehicles and 30% communication equipment. In addition $3 million has been budgeted for replacement and modification of mechanical demining assets. If more replacement/modification is required the budget will increase.

18. INSTITUTIONAL, HUMAN RESOURCE AND MATERIAL CAPACITY

As has been demonstrated within this document MAPA has grown and matured since 1989 when landmine clearance first started. The MAPA is structured in such a way to deliver an efficient and effective mine action response; this will continue during the period of the extension request.

18.1 Structure

Chapter 5 provided full details regarding the structures which are in place and the roles and responsibilities of all MAPA stakeholders which enable the effectiveness of the programme. During the period of the extension request the basic structure of the programme will not change dramatically; a reduction in the size of the programme is expected, as the contamination is removed and as the financial resources required diminish.

18.2 Coordination

There will be constant attention to improvements in efficiency and it is expected there will be some alterations in the modalities between the Government of Afghanistan and the United Nations in terms of coordination, though the activities delivered by the DMC/MACCA will not change. The possible models for future sharing of responsibilities between the Government and UN have been discussed in chapter 5.

18.3 Implementers of mine action

As has been shown in the previous chapter the human resources required for clearance operations are expected to reduce over time, as the contamination is removed and as the financial resources required diminish.

18.4 Material resources

Chapter 17 outlined equipment required; most is held in the programme already, replacement equipment has been budgeted and new mechanical assets which are required have been explained.

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