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Breaking new ground: Afghanistan's response to landmines and unexploded ordnance

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ABSTRACT *Operating since the late 1980s, in an environment of shifting wars, the Humanitarian Mine Action (HMA) programme in Afghanistan has nonetheless been highly successful in reducing the impact of landmines. This article discusses three factors that have contributed to its success: the building of national capacity; the systematic application of surveys; and the ability to act flexibly and innovatively. Having operated under the auspices of the UN, but in the absence of a functioning government, the programme faces new challenges with the potential transition to peace in Afghanistan. Ultimately, however, the programme is a world leader in its field, and as one of the best functioning sectors in economic and humanitarian assistance to the country, it represents a key resource for a new internationally recognised Afghan government.*

Afghanistan's programme in Humanitarian Mine Action (HMA) has long been perceived as the best programme of its kind in the world. The Afghan programme, initiated in 1988, was also the first of its kind. The development of the HMA sector, with its short history, owes a lot to the experience gained in Afghanistan. This success was gained during a time when the country was still in a state of civil war, with no functioning government, and stands in marked contrast to the mixed results gained in other sectors of assistance to Afghanistan within the same period. This article will seek to identify the reasons for the success of the Afghan mine action programme, placing it in the context of the emergence and evolution of a new sector of humanitarian assistance, while also addressing possible shortcomings in the programme. The article aims first to establish the scope of Afghanistan's landmine problem, as well as the impact of the mine action programme. It will then proceed to deal with three central aspects of the programme: the building of national capacities; the systematic application of survey; and the capability for innovation and flexible programming. In addition, consideration will be given to the challenges faced by the programme in the aftermath of 11 September and the US-led war against Al-Qaida and the Taliban, before offering some concluding remarks on the role of the Afghan programme for the evolution of HMA globally.

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Legacy of landmines and UXO

The bulk of Afghanistan's problem with landmines and unexploded ordnance (UXO) stems from the 1979 to 1992 war between, on the one hand, the Soviet-backed government of the People's Democratic Party of Afghanistan (PDPA) and, on the other hand, the resistance movement, in large degree operating from exile in Pakistan and Iran.[1] The Soviets and the government forces stand responsible for the majority of the mines laid. Mines, both anti-personnel and anti-tank, were used extensively to protect armed positions, around towns and villages, as well as in order to block transport routes. There was widespread use of air-dropped mines, so-called 'butterfly' mines.[2] The resistance also deployed mines, mainly anti-tank, in order to hinder the transport of soldiers and supplies (Isby, 1989: 238– 240).

Mines continued to be used following the fall of the PDPA government to a coalition of Mujaheddin groups in 1992. The Taliban movement, which emerged in late 1994, and took control of the capital in 1996, adopted a principled stand against the use of mines as 'unislamic',[3] while the officially recognised government, under the leadership of Burhanuddin Rabbani, continued to use landmines, although in general, deployment of mines during the 1990s was thought 'not to be substantial' (ICBL, 2001: 499). Mines laid during the latter half of the 1990s, however, have had the most impact in those areas that were subject to the most intense fighting, such as the Shamali plains north of Kabul, and the Gormach and Murghab districts in the northwestern province of Badghis. These areas have in large part been inaccessible, and as at early 2002 the scope of the problem remains unknown.

Similarly, at the time of writing, knowledge is scarce about the impact of the fighting between US-led coalition forces and the Taliban regime (from October 2001), in terms of new landmine or UXO contamination. The US forces have used cluster bombs, which contain small bomblets with a failure rate of 5% or more. The effects of unexploded bomblets are similar to those of mines. Rae McGrath, long-term anti-landmine practitioner and activist, has estimated that 18 000 unexploded bomblets lie behind as a result of 600 cluster bombs having been dropped (McGrath, 2002). According to the Mine Action Centre for Afghanistan (MACA), the coalition forces have provided extensive information on the cluster bombs, facilitating planning of operations. MACA has no knowledge of mines being used by coalition forces, in spite of reports indicating that the USA has used air-dropped mixed-mine systems.[4]

Knowledge about the full scope of Afghanistan's problem with landmines and UXO is dependent on further surveying, to map the areas that have either been inaccessible for some time, or that have been affected by the warfare post-11 September. Ongoing initiatives aim at responding to the need for fuller information.[5] However, recent figures from the Mine Action Programme for Afghanistan (MAPA)[6] indicate that 732 square kilometres are known still to be affected by mines, while it is suggested that another 500 square kilometres are affected by UXO, and an additional 100 square kilometres may prove to be mine-infested (ADB *et al*, 2001). Furthermore, before 11 September it was estimated that mines and UXO caused 150 to 300 casualties monthly. Not disregarding the

importance of impact data that goes beyond square metres and victims, this is sufficient to establish Afghanistan as one of the most heavily mine-affected countries in the world, with the only possible parallels being Angola and Cambodia.

Impact of HMA

Since its inception in 1988, the Afghan mine action programme has drastically reduced the threat posed by landmines. By the end of 2001 a total of 938 square kilometers of mine-affected land had been identified since the inception of the programme. From this total, 559 square kilometres had been classified as high priority, with 220 of these being cleared. In other words, 40% of the area classified as high priority had been cleared. The annual rate of clearance has increased steadily, from 6.4 square kilometres in 1990 to 34.2 square kilometres in 1999 (Byrd & Gildestad, 2001: 7–9). This increase in output relates in part to an expansion of the programme, but also to a significant increase in productivity. Before the recent US-led war, MACA estimated that remaining high priority areas would be cleared within seven to nine years. In the expectation of revitalised reconstruction and development efforts under a new government, MACA has since been developing alternative scenarios, and its newly established ambition is to clear high priority areas within seven years, assuming a significant growth in capacity which will require a massive expansion in funding.[7]

When it comes to casualties, there is no nationwide registration system for mine victims, hence existing figures are highly inaccurate. MACA has estimated that the reduction in casualty rates has been about 50% since the inception of the programme. Human Rights Watch has suggested an even more dramatic decline (from 600 casualties estimated in 1993 to 130 recorded in 1999), claiming that this 'can largely be attributed to successful mine survey, marking, clearance, and awareness programs' (HRW, 2001, note 5). A 2001 evaluation of MAPA, however, highlights problems with the use of existing victim data as an indicator of impact, pointing to both the highly incomplete and fluctuating quality of the recording procedures, and to emerging contradictions when seeking to analyse the existing data (Mohammad *et al*, 2001).[8] Nevertheless, what is irrefutable is that HMA has had a significant impact by reducing casualties in Afghanistan. Ultimately, however, ongoing efforts by the International Committee of the Red Cross (ICRC), MAPA and the World Health Organisation (WHO) to launch a comprehensive data collection system on casualties are long overdue (ICBL, 2001: 513).

Perhaps the most positive estimates of impact come from recent cost–benefit assessments of the programme. A 2001 World Bank report concludes that the returns to mine action are generally positive, with a so-called Internal Rate of Return (IRR) of 28% (Byrd & Gildestad, 2001: vi). The report models cost–benefit ratios for various techniques (manual team; mechanical team; dog team), and for various types of tasks (agricultural land; irrigation systems; grazing areas; roads and transportation systems; residential areas), finding negative results for certain combinations, such as in the case of mechanical teams for all tasks except irrigation systems.[9] A recent evaluation, based in large part on the analysis of the World Bank report, also emphasised the positive returns to the programme, but

pointed out that returns may be declining. Overall team productivity is falling as a result of stricter safety precautions, and costs are increasing, largely because of institutionalised salary growth. The report concludes: 'Demining in Afghanistan has yielded very significant economic and humanitarian benefits … The evidence suggests demining continues to deliver benefits that substantially exceed expenditure' (Mohammad *et al*, 2001: 8). A third cost–benefit analysis, by Geoff Harris, also found strong positive results for the Afghan programme, in stark contrast to the negative results identified by his analysis of similar programmes in Cambodia and Mozambique (Harris, 2002). However, despite the positive results indicated by cost–benefit analysis, an approach applied to HMA only in the past couple of years, there is a need for caution. The factors used are largely confined to the economic field, and a range of benefits normally associated with HMA falls outside the calculations.[10] More generally, assessments of the impact of the Afghan programme still suffer from the lack of more fine-grained baseline data on individual tasks, an issue that will be considered below.[11]

Building national capacity

When the UN initiated a response to Afghanistan's landmine problem in 1988, the expectation was that the Geneva accords, in which the Soviet Union had committed to a withdrawal of forces from the country, would lead speedily to a change of government, initiating a new phase of peace and reconstruction, and to a massive repatriation of refugees from Iran and Pakistan. A key premise was to build Afghan capacity, and while this continued to inform policy making during the first critical years when the programme was shaped, it remained unclear what that meant in the absence of a government counterpart. Nonetheless, it remains one of the most notable qualities of the Afghan programme that it has succeeded in significantly reducing the threat of landmines to civilians despite operating in the midst of war. In fact, the programme gained considerable support from all warring factions during the shifting conflicts of the 1990s.

When the programme was established, landmines were not internationally perceived as a humanitarian problem, and the Afghan programme was the first of its kind, with little experience to draw on. Hence the challenges were enormous. Building upon Afghan capacity was quickly established as a primary objective, albeit it was somewhat unclear what this would mean in operational terms. A first attempt was the so-called 'spontaneous de-mining' initiative, where it was assumed that Afghans trained and equipped as de-miners would return to their communities to start clearing mines (Eaton *et al*, 1997: 10–11). There would be no monitoring and no recording of clearance. Increasingly, it was realised that very few of those trained ever undertook de-mining activities, furthermore it was recognised that there would be unacceptable levels of risks, given the absence of supervision and medical back up. Altogether 13 500 people had been trained when the programme was discontinued in 1991.[12]

The approach that was soon taken by the United Nations Office of the Coordinator of humanitarian and economic assistance programmes relating to Afghanistan (UNOCA), which was heading the programme, was to establish Afghan NGOs to implement the programme, with UNOCA itself only maintaining a

co-ordinating role. Five Afghan NGOs were established between October 1989 and September 1990, three of which were in de-mining, one in mine awareness, and one in planning and quality control. It is particularly interesting that UNOCHA[13] proved willing to subcontract vital planning functions to a separate NGO, functions over which UNOCHA might easily have preferred to maintain strict control.[14] At the time, the possibility of having Afghan directors of NGOs work with expatriate counterparts was also discussed but, again, this was thought to be counterproductive. The Afghan NGOs still constitute the bulk of the capacity in the Afghan mine action programme, but are complemented by several international organisations, the most important being HALO Trust, which has engaged in de-mining in the country since 1989.[15]

When compared to other HMA programmes of a comparable size, the Afghan programme has had a remarkably low national to expatriate staff ratio. By late 1996 a programme of 3500 employees had only five expatriate positions in its organisational chart (Eaton *et al*, 1997: 24). By late 2001 the programme had grown to an estimated 5000 employees, but continued to have levels of expatriate presence below 10. By comparison, the Cambodian programme, which is similar both in budget and scope, has regularly had between 50 and 70 expatriates in the same period. Beyond a core of senior management within MACA—the co-ordination centre—expatriates have largely been drawn in for delimited periods to build up competence in particular fields. The relatively independent management of the NGOs in the programme is a foundation for robustness and comparatively low expenditure levels.

However, as pointed out by a recent evaluation, one can also question whether more should have been done to build Afghan capacity, particularly at the senior management level (Mohammad *et al*, 2001). The evaluation suggests that the Afghan NGOs in the programme remain relatively weak in terms of accountability and corporate governance, a problem which in part stems from the close integration of these NGOs with the UN and MACA, but which is also commonly seen among Afghan NGOs more broadly (West, 2001: 119–120). Even more critically, there has been insufficient investment in developing an Afghan programme management capacity, maintaining full dependence on expatriate staff at the centre.[16] With a central authority in Kabul, which should gradually assume control also for the mine action centre, the building of a national management capacity is now a key challenge.

More generally, the future relationship between the mine action programme and the national government is subject to reconsideration with a new internationally recognised regime in place in Kabul. As a well functioning programme, with an essential role to play in reconstruction, the mine action programme could be seen as an obvious candidate for early transfer to government control (Suhrke *et al*, 2002: 46–47). On the other hand, it could be argued that other sectors are in a more critical state, and that the new government should concentrate on strengthening these, rather than tampering with what works well. Relationships between MACA and various authorities have been limited, albeit cordial, in the past, and initial steps taken by both parties to establish a transition plan represent a significant change that must be pursued with vigour. Some of the solutions that are thought to have been conducive to the success of the

programme in the 1990s, such as the reliance on NGOs in implementation, represent dilemmas that will need to be creatively handled in order to build a truly national programme while maintaining existing capacity.

Systematising survey

The Afghan programme has been a pioneer in the systematic application of landmine surveys (Harpviken *et al*, 2002). When the Mine Clearance Planning Agency (MCPA) conducted the 1993 National Survey of the Mine Situation, it was the first nationwide landmines survey ever.[17] As the report was released in March 1994, a total of 456 square kilometres of mine-affected area was identified, and the survey results have continuously been updated to take account of new reports, as security has allowed previously inaccessible areas to be visited. Reflecting changing perceptions of the mine problem, it was argued in the report that 'the quantity of mines in a given area is largely irrelevant. The important issue is the area of land made unusable or unproductive due to the presence of mines' (MCPA, 1994: 5). While this insight seems indisputable from today's perspective, and is in part bypassed by approaches that place the social and economic impact of landmines at the centre, it was a significant statement in the context of landmine responses back in 1994.

The general survey, as represented by the 1994 MCPA report, gave only quite approximate data. Starting already in 1990, however, the Afghan programme had used so-called technical surveys before launching clearance operations, in which the mine-suspected area is precisely mapped and marked, following a delineation of its outer boundaries—often referred to as 'area reduction'.[18] Technical surveys also aim at establishing a solid basis for designing the response, with data ranging from types of mines and soil character to transport networks and medical facilities. Certainly, the collection of detailed technical data, as well as mapping and marking, can take place in conjunction with the conduct of a general survey, rather than as a separate survey. Nonetheless, the systematic use of technical surveys is seen by many observers as an essential factor in the success of the Afghan programme, encouraging a more effective allocation of the resources at its disposal (McGrath, 2000: 117). Other countrywide programmes have suffered from not similarly collecting technical data before launching individual operations.

A countrywide effort to collect post-clearance data took place in 1998. Surveyors visited all 5513 minefields that had been cleared by the Afghan programme, to find out the impact of clearance on the community living in the vicinity of the minefield, and beyond—as when seeking to establish the regional and national impact of reopening major routes of traffic (MCPA, 1999). Again, this was a pioneering event; the so-called Socio-Economic Impact Study (SEIS) was the first national post-clearance assessment ever made. In a multi-country study authored by Shawn Roberts and Jody Williams and published in 1995—in which Afghanistan figured prominently—issues of impact had been addressed, but this study was not based on precise data by task, as was the SEIS (Roberts & Williams, 1995). The SEIS data, which in the original report was only undergoing a rather general economic analysis, have since formed a major part of the data in the

recent World Bank cost–benefit analysis of Afghan mine action (Byrd & Gildestad 2001).

By early 2001 Afghanistan had not yet undergone a fully-fledged impact survey, of the kind currently conducted in several countries with a methodology devised by the Survey Action Centre (SAC), a consortium of NGOs and UN agencies active in mine action.[19] As was suggested in a 1998 Danish evaluation, this may be in part because the programme already had a much more solid survey foundation than comparable programmes (Danida, 1999: 43). Nonetheless, plans have been prepared for an impact survey to start in 2002. The Afghanistan survey is a modified version of the impact surveys conducted elsewhere, both because it will be a so-called retrofit survey aiming at complementing existing data, and because it will aim at a more thorough categorisation of reconstruction priorities. In spite of the existing qualities of the Afghan programme, the survey will inevitably imply a major revision of the way it sets priorities. On a more general note, surveys have increasingly come to be seen as essential for sound planning, execution and monitoring of mine action programmes (Kjellman *et al*, 2002). Throughout its lifespan, the Afghan programme has spearheaded global progress in landmine surveys. In spite of the deficiencies in impact data, this is a programme that stands out as a world leader in conducting comprehensive surveys and applying the data gained for sound programming.

Flexibility and innovation

In terms of innovative ability, the evolution of surveys within the Afghan programme is in itself the primary illustration. Nonetheless, there are other notable aspects in which the Afghan programme has pioneered new approaches and techniques—just as there are areas in which progress has been lagging behind.

The use of mine detection dogs has received increasing attention in recent years. Dog teams have proven to give better value for money, although it needs to be born in mind that dogs are not suited for all types of tasks (Horwood, 1998). The 2001 World Bank investigation from Afghanistan states that the dog teams give four times the value for money compared to manual clearance teams, and recommends the use of dogs wherever possible (Byrd & Gildestad, 2001: vi). Ronco, a US company contracted by USAID, used the first mine dogs in Afghanistan. When Ronco left in 1994, a new Afghan NGO was set up—the Mine Dog Centre (MDC), and the dogs were transferred to the new organisation. By 1996 dogs represented a main resource in the programme, which already had 40 dogs working with 10 teams (Eaton *et al*, 1997: 36–37). Survey teams have been working with dog sets, with the primary purpose of so-called area reduction, delimiting the mine-suspected area as much as possible before launching the clearance operation.[20]

Another area for innovation is technology. In Afghanistan early attempts were made with the Aardvark flail, a specially designed machine for mine-clearance. This was discontinued, when it became apparent that there were massive problems with transport, maintenance, and with reliable operation in general. Low-key technology, however, has been more successful. Most notable is the use

of a protected backhoe, which was introduced for clearance of rubble in residential areas, a type of task that had proved extremely risky and resulted in a high number of de-miner casualties.[21] While there are different opinions as to whether the backhoe is more or less cost-effective than its alternatives if seen in isolation, there is little doubt that it does play an important role within wider sets of tools, and contributes to the ability to tailor responses to the character of each individual task.

More broadly, the programme has proven able to adapt to new challenges at relatively short notice. In April 1995, following three years of intense warfare in the capital Kabul, fighting was discontinued. Minefields as well as large areas affected by UXO presented a serious threat to the population, some of whom were returning from camps for the internally displaced. At short notice, an estimated 25% of the mine action capacity was redirected to deal with what was called the 'Kabul Emergency', including survey, clearance and mine awareness teams. Clearance teams were retrained to respond to the UXO problem (Eaton *et al*, 1997: 20). By the end of July the following year, the UNOCHA mine clearance programme claimed to have cleared four and a half square kilometres of minefield and 23 square kilometres of battlefield, resulting in a decrease in the number of accidents caused by mines and UXO from 50 to five per week (UMPC, 1996). The ability quickly to respond to new types of challenges, even when requiring retraining of staff, is an essential quality, particularly when operating in a war situation.

However, whereas the programme has proven relatively innovative when it comes to technology, and relatively flexible when it comes to adapting organisationally to new priorities, there has been considerable resistance to trying out fundamentally new organisational models. One example is the need for smaller-scale, locally based, quick response units able to tackle mines and UXOs that appear in limited numbers, occurrences that lie outside the high priority list, but where a relatively small effort can make a significant difference. Such a capacity will be needed in Afghanistan for the foreseeable future, and was in fact discussed in a report by the programme manager as early as 1995 (van Ree, 1995). Ideas have been circulated about placing such a capacity at the district or provincial level, possibly in association with units of the police or military, and have re-emerged in recent documents concerning future programme plans (2001). One organisational experiment has emerged, however, in the form of the community-based de-mining programme of the Agency for Rehabilitation and Energy Conservation in Afghanistan (AREA) (Harpviken, 1999). The programme runs low-cost operations with de-miners recruited within the district in which they work, and aims at offering de-mining in parallel with other reconstruction programmes.[22] After a slow start, caused in part by resistance from other organisations within the programme, the experiment has been running since early 1999. Experiences gained from this programme may in time constitute vital lessons for the future organisation of mine action, in Afghanistan and beyond (Mohammad *et al*, 2001: 50).

Post-Taliban challenges

By mid-2002, with the potential for an emerging peace process, including large-

scale reconstruction and development programmes, the set of challenges that the Afghan mine action programme will meet may be very different from those of the past. Fundamentally, we need to take note of the fact that the war that led to the fall of the Taliban also had a serious impact on the program in terms of a halt in operations and loss of equipment and capacity, so that bringing the programme back to previous levels is in itself a job to be done. Ultimately, however, the Afghan mine action programme is robust, and given its long, varied and successful experience, there are likely to be few sectors of aid to Afghanistan better prepared for making the transition to what will hopefully be a new era with a legitimate government.[23]

The transition from working in what has effectively been a stateless situation of war, to being responsive towards a legitimate government, is in itself likely to imply certain challenges. On the one hand, such a well established mine action programme, with a relatively sound funding base, should have been an ideal candidate for the government to take over. Preliminary indications, however, are that the programme will continue to operate as it does at the present, while being transferred from UNOCHA to the UN Mine Action Services (UNMAS), and that a transition plan is about to be worked out for the gradual transfer of the programme to the government's Department of Mine Clearance under the Office of Disaster Preparedness, over a period of two to two and a half years.[24] One among many problems likely to emerge is the question of salary structure. Since existing salaries within the NGOs implementing the programme are well beyond what an Afghan government is likely to pay, flexible arrangements will need to be developed; otherwise there is a real danger that the programme may be drained of its human resources.

At the same time, there is a need to develop smaller-scale, flexible capacities to deal with mines and UXOs, capacities that hitherto did not exist. This may be complicated by the fact that it will take place during a period when the transition to the government is likely to place considerable stress on the programme, but will in itself be a type of capacity that should be well suited once the government is actually in charge. In fact, this is one aspect of the programme where the UN and the implementing NGOs have so far demonstrated little capacity to act, and it may be that a constructive government intervention is required to trigger the development of a capacity that will be required for the foreseeable future.

One concern in mine action generally is that the field has been dominated by the technology and expertise of industrialised states, at the cost of developing local and sustainable approaches (Beier & Crosby 1998). In-kind contributions of equipment that is not serviceable locally is one example, but here the Afghan programme has increasingly been successful in converting such offers either into cash or into more useful equipment. On the other hand, there could have been a greater investment in developing Afghan senior management, as well as in transferring programme-level authority from expatriate to national staff. The new challenge, however, is that with renewed international interest in the country's reconstruction there may be increased pressure for bringing in sophisticated equipment and new actors, and it will be a challenge for both the government and for the UN in a key co-ordinating role to resist initiatives that could undermine the chief distinctive qualities of the programme.

In 2002 the Afghan programme, which has been a pioneer in the systematic use of surveys—including the 1998 post-clearance impact survey—will be taking a further important step in implementing the general impact survey in collaboration with SAC. This takes place in parallel with establishing a new database, and new planning procedures, and places considerable strain on key capacities within the programme at a time when work is already plentiful because of the changing political situation. It will be interesting, however, to follow the implementation of the survey, and to see its effects on prioritisation and organisational practice within the internationally acclaimed Afghan programme.

Conclusions

Looking at the Afghan mine action programme from a global perspective, what are the key lessons to be drawn? Fundamentally, as successive evaluations have pointed out, the Afghan programme has been a vital and inspiring force in HMA internationally (Danida, 1999; Eaton *et al*, 1997). This inspiration has been almost across the board, ranging from de-mining techniques to the role played in advocacy through its contribution to the International Campaign to Ban Landmines (ICBL). As discussed throughout this article, there are three areas in which the lessons from Afghanistan have proven especially valuable: building of national capacities, systematic information gathering and variegated responses.

In terms of national capacity building, no other major programme has had a similar degree of success. One consequence arising from this is that of senior Afghan staff being offered generous contracts internationally, with the significant attendant risk that the programme loses key capacity. Ultimately, even the Afghan programme, with its expatriate staff numbers, could have been nationalised further, had there been a greater will and capacity at the central level to educate Afghans in the management and development skills needed to fill all positions, and to transfer responsibility to Afghan staff.

The diverse responses developed by the programme, with a combination of manual teams, dog teams and mechanical clearance, has also been influential outside Afghanistan. Technological innovation, as demonstrated in the development of the armoured backhoe used for residential clearance, has to quite an extent embarrassed the massive investments in advanced technology favoured by military research establishments in the West. Whereas the so-called 'tool-box' approach to mine action seems to have been formulated by several people at about the same time, the ability of the Afghan programme to prove that it works in practice has been vital for the gradual application of what today is broadly accepted as common sense.

Finally, and perhaps most importantly, the Afghan programme has firmly established the vital role of systematic information in mine action programmes. The experience from Afghanistan has demonstrated that investments in survey are key to setting priorities and allocating resources, as well as to co-ordinating with other actors both within and outside the context of mine action. Implicitly, it has also highlighted the importance of baseline data for monitoring the impact of mine action efforts, an insight that is now inspiring new initiatives in impact assessment globally. Ultimately, the Afghan landmine programme has been

a huge inspiration for mine action across the world, proving that HMA can make a difference, even in the midst of ongoing war. By mid-2002 the main challenge may lie in adapting to peace, and in finding ways to work constructively within the framework of a new and internationally recognised Afghan government.

Notes

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[1] The removal of UXO is often as important as the removal of mines, and the two problems are almost unequivocally addressed by the same capacity. When the term HMA is used in this article, it is to imply responses to both landmines and UXO. ICRC data for Afghanistan 2000 indicates that the number of UXO-related casualties was higher than the number of landmine-related casualties (46% and 49% respectively, with 5% 'unknown') (ICBL, 2001). A recent report on the impact of UXO is Moyes *et al*, (2002).

[2] Formally called the PFM, this mine gets its nickname from the wings that stabilised its movement to the ground. The mine self-activates upon hitting the ground. A modified version, the PFM-1s, is equipped with a self-destruction mechanism (with a considerable failure rate, like most self-destruct mechanisms).

[3] In spite of widespread allegations from the Rabbani government, no landmine use by the Taliban was documented after the leader of the Taliban, Mullah Omar, issued an edict banning mines in 1998. For the full text of the edict, see ICBL (1999).

[4] The reports concerned the so-called CBU-89 Gator, containing both anti-personnel and anti-tank mines (HRW, 2001).

[5] A Conflict Contamination Assessment was due to be conducted in the first months of 2002 as a collaboration between the Mine Action Programme for Afghanistan (MAPA) and the Vietnam Veterans of America Foundation (VVAF), with the Mine Clearance Planning Agency (MCPA) as the implementing organisation. MACA expects the results of this assessment to be ready for presentation in the latter half of July 2002.

[6] The whole programme, including the implementing agencies, goes by the name of the Mine Action Programme for Afghanistan (MAPA), while the UN-led co-ordination centre is known as the Mine Action Centre for Afghanistan (MACA). Before 1997 the programme was named the UNOCHA Mine Clearing Programme (UNMCP), with the change of names being reflective of a broader trend, whereby the concept of mine action replaced the concept of mine clearing, in order to emphasise the integrated character of the responses to landmines, including clearance, survey, mine awareness, victim assistance and advocacy.

[7] The assumption that clearing high priority areas will largely eliminate the impact of landmines in Afghanistan challenges what has long been a fundamental premise in the debate about landmines, namely that nothing less than the total elimination of all landmines is satisfactory.

[8] Correspondingly, the victim estimates in a recent World Bank report also underline the fact that available figures may be interpreted differently—this report estimated 92 (civilian) victims in 1995, and between 150 and 189 victims in the years 1996–99 (Byrd & Gildestad, 2001).

[9] The use of mechanical clearance, which in Afghanistan implies almost exclusively the use of an armoured backhoe, is an integrated part of the tool-box, and is aimed mainly at reducing risk to staff during particularly dangerous tasks. Henceforth it may make limited sense to analyse its cost-effectiveness separately.

[10] In the recent World Bank report, for example, it is pointed out that 'important but difficult to quantify benefits are left out in the calculation of the socio-economic benefits of demining' (Byrd & Gildestad, 2001). There is reason to be concerned, however, that cost–benefit analysis alone will serve as the basis for excluding certain techniques or certain types of tasks in the future, as suggested also in the World Bank report.

[11] For a discussion of various approaches to impact assessment in HMA, see Harpviken *et al*, 2002.

[12] Interestingly, when the first evaluation of the Afghan programme was conducted in June 1990, a different model for community-based de-mining was suggested, in which village volunteers conduct

the actual de-mining under qualified supervision—meaning both a lowering of programme cost and a strengthening of local ownership (Freedman, 1991).

[13] UNOCA was later renamed the United Nations Office for the Coordination of Humanitarian Assistance to Afghanistan (UNOCHA).

[14] Control over information being vital for control within the programme, the planning and database functions of the relevant agency, MCPA, stayed within the MACA headquarters in Islamabad when the former moved their offices in 1999.

[15] By late 2000 the following Afghan NGOs were involved in mine action in Afghanistan: Afghan Red Crescent Society (mine awareness); Afghan Mine Awareness Agency (mine awareness); Afghan Technical Consultants (de-mining); Agency for Rehabilitation and Energy Conservation in Afghanistan (de-mining); Demining Agency for Afghanistan (de-mining); Mine Clearance Planning Agency Survey; Mine Dog Centre (de-mining); Monitoring, Evaluation and Training Agency; Organization for Mine clearance and Afghan Rehabilitation (de-mining; mine awareness). International agencies involved in the programme were: Ansar Relief Institute (mine awareness); BBC Afghan Education Projects (mine awareness); Danish Demining Group (de-mining); HALO Trust (de-mining); Handicap International (mine awareness); Save the Children—US (mine awareness).

[16] This issue was also raised in a 1997 UN report on the building of local capacities (Eaton *et al*, 1997).

[17] A forerunner of the MCPA survey was a partial survey conducted by the Mines Advisory Group (MAG), an organisation that was initially set up in Afghanistan by Rae McGrath, but that later established its headquarters in the UK, and developed into one of the world's leading HMA organisations. See MAG (1991).

[18] The new UN International Mine Action Standards (IMAS) have introduced a new vocabulary for surveys, replacing the former reference to survey levels one to three. The new terms are: general (former level one); impact; technical (former level two); and hand-over documentation (former level three) (UNMAS, 2001).

[19] For more on SAC see: www.sac-na.org

[20] The recent multi-donor evaluation, contrary to established wisdom, questions the cost-effectiveness of applying dogs for survey, but concludes that the productivity of a dog-team in area clearance is two and a half times the productivity in survey-related area-reduction (Mohammad *et al*, 2001).

[21] The frequency of de-mining accidents has been alarmingly high in the Afghan programme, but has been brought down substantially, according to the figures of a 2001 multi-country evaluation, from a total of 71 accidents in 1996, to a total of nine accidents in 2000. *Ibid*.

[22] One of the basic ideas of this programme was to let communities prioritise their needs, with de-mining assistance being only one among several alternative outputs—an ambition that has in part been undermined by the inertia of existing funding structures.

[23] A new area within mine action which must now be addressed in new ways relates to advocacy. MACA is already in the process of working with the government on Landmine Convention issues, and it is expected that the Afghan government will announce its principal position at the Fourth State Parties Meeting in Geneva in September 2002. In parallel, the issue of stockpile destruction has now been placed on the agenda (UNOCHA, 2002: 38).

[24] Furthermore, ideas as of early June 2002 are that two to three government staff will be working at the Mine Action Centre in order to prepare for the transition, and that a new UNDP officer will co-ordinate the whole transition process.

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