



The Missing Link in

ALARA and the End-State Strategy Concept for National Mine Action Planning

Planning for mine action programs has come a long way since 1989 when the United Nations first supported mine clearance under the United Nations Office for the Coordination of Humanitarian Assistance to Afghanistan (UNOCHA). The first mainstream use of the term “mine action” occurred when the Cambodian Mine Action Centre (CMAC) stood up as a national institution in 1993, with responsibilities extending far beyond clearance of mines and UXO. The world had begun to understand that solving the landmine and UXO problem would be a huge undertaking and require an incalculable amount of time and money to alleviate human suffering and restore a secure environment.

The years 1993–96 involved a global awakening that the landmine/UXO problem was pervasive and utterly destructive and also saw many dedicated people become involved in doing something about the problem. These dedicated individuals included international military and civilian advisers, legions of national deminers in the field and the Nobel Prize-winning Interna-

tional Campaign to Ban Landmines (ICBL). An amazing coalition of governments, non-governmental organizations (NGOs) and individuals was represented. The U.N. staff and many people in donor organizations also contributed. The collective efforts of these people produced an overall result that by 1998 would see put into place an organized and reasonably well-funded mine action system and an ever-growing body of mine action knowledge. This achievement

allowed application of field and management experience to the mine problem in a systematic manner and reflection on the Anti-personnel Mine Ban Convention signed in Ottawa, Canada, in December 1997.

End-State Strategy vs. Current Planning

Accurate planning requires accurate information, and trying to calculate the incalculable has

occupied many in the mine action community for years. Various approaches have been tried involving several information-gathering and planning methods. The U.N. mine action policy, first published in 1998, identified five-year strategic plans that encouraged mine action programs—in particular, those managed or supported by the United Nations. However, there was no linkage to information-gathering processes nor were most five-year strategic plans very strategic in substance.

Something was inherently missing from this approach. Given the uncertainties of donor and national funding and other variables affecting mine action programs, planners struggled to somehow make the five-year strategic plans work. The problem was that with so many uncertainties involved, the strategy produced seemed to require constant analysis and adjustment—instead of serving as more or less a steady state guide to maintain direction in the face of changing conditions. Unless the mine problem involved was very small, these plans usually wound up as shelf decorations but most often proved to be unwieldy and very difficult to harmonize with the realities of unstable resource flows, recruiting difficulties and the myriad other problems that beset mine action programs.

Many strategic planning theories are well-known and in widespread use, but somehow in the mine action community the concept of a strategy, as a relatively fixed and broad guidance for achieving a vision, was almost totally lost. This lack of understanding may have been because of a combination of realities, occasional wishful thinking and perhaps a misplaced sense that simplification of certain key notions could be

these mines in Cambodia, I attempted to bring some reason to our mine action planning dilemma in Cambodia based upon what we did know. What we did **not** know was the quantity or close location of ordnance on and in the soil, rivers and lakes of the country. The makers of mines used in Cambodia, primarily of Soviet, Chinese and Vietnamese origin, were reluctant or unwilling to provide quantity data, which was not nearly as important as knowing which areas were actually contaminated or believed to be contaminated by people living in former battle and other areas. Unlike some countries, minefield records were non-existent in practical terms and the nature of the proxy and multi-factional fighting meant there was little or no discipline in the employment of mines. UXO, on the other hand, appeared almost everywhere.

In 1997, the United States' bombing data from the 1960s and 1970s was being converted in a contractor's basement in Maryland to a format useable by mine action planners, and air photo coverage was not easily available. Much has changed since then, including the availability of U.S. bomb data, which arrived in time for the Cambodian Level One Survey (L1S).¹ The common mantra in Cambodia and elsewhere in 1997 was "it will take 100 years or more" to clear the mine problem.

The attempt to define what we did know produced a graphical depiction of a steady state condition for mine action involving the recognition that once the bulk of the mine problem was solved, some form of mine action would be required—literally in perpetuity—in any country that had experienced war on its soil, and any country that had training and impact areas on its

neering-level estimates upon which donors could base their support.

What we did not know was vaguely expressed in the popular perception that it would take 100+ years to clear all the mines; what we wanted to know was locked up in the effort required to get on the ground in a comprehensive way through survey area reduction, to verify and document the findings in useable form. As it turned out, the Canadian International Development Agency funded a National Survey Project for Cambodia—now referred to as the Landmine Impact Survey (LIS)—in 2000. The results are documented and in use within the Cambodian Mine Action Program today.

Another major effort to survey mine problems was under development in the Vietnam Veterans of America Foundation that would result in the concept of the LIS. More than 12 of these surveys have now been conducted. The process has been evolving steadily and in 2004 reached relative maturity with completion of the Afghanistan LIS, the process for which incorporated, for the first time, personnel with landmine/UXO survey experience. The result was the estimated number of suspected contaminated areas in the country. All previous LIS' had increased the amount of suspected area, sometimes by a factor of 10 or more. This result called into question the true worth of the survey, which was actually aimed at understanding the landmine/UXO impact upon the people involved, their livelihoods and the country, and not the measurement of the size of the problem in terms of mine-/UXO-contaminated area alone. The availability of its data represented a major step forward in our ability to strategize.

Strategic Planning

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achieved for the sake of making the planning process easier to understand and use.

Planners in training courses and in mine action programs grappled with the conundrum of expressing meaningful goals and objectives such that they were smart and funded. Yet this approach ignored a vital planning step and another key feature of strategic planning: the effective input of constraints and national approaches to problems often found in countries struggling to normalize their situations for the benefit of their populations. The result—a series of plans and a renewed emphasis on actual operations, in this area presented the best "real" planning opportunities and therefore stood the best chance of attracting funding from donors.

In 1997, during a time when popular estimates of 100 million landmines worldwide were prevalent, and with an untold number of

own soil to prepare for fighting in other countries. The resulting diagram shows a build up of mine action capacity, a working period and a decrease to a steady state capacity was submitted to the Canadian government in a final mission report following departure from Cambodia in 1998. This graphic simply plotted the human and financial effort needed for mine action against time, with the primary objective to illustrate the residual capacity needed for permanently existing explosive ordnance disposal and related capabilities. Accepting this notion, however obvious, put a boundary around the mine problem that was less than 100 years (see FIGURE 1, next page).

Also included in the 1998 report was a strong recommendation for funding a National Mine Survey for Cambodia aimed at producing estimates of the problem. The survey would facilitate long-term planning and enable planning for engi-

Meanwhile, CMAC was a burgeoning entity with over 2,400 mine action personnel, which by 1997 required—but did not have—a more comprehensive planning system. Mine clearance operational planning was proceeding, but based on perceived and direct needs to do something, mainly using an unspoken strategy of "let's clear our way to success." This process was complicated by prioritization dilemmas and lack of a comprehensive approach to intended outcomes for beneficiaries such as internally displaced persons (IDPs) and small landowners. I introduced the notion of including mine awareness as it was then known, victim assistance and resource mobilization plans together with the supporting activities needed to accomplish all mine activities in a single coordinated CMAC Integrated Work Plan (IWP). This IWP approach has survived in the CMAC and has been much augmented and

improved by successive staff and adviser effort. An understanding based on the evolving U.N. mine action system, survey data and experience within in the country has emerged in response to these efforts.

What was also missing in 1997 was a comprehensive understanding of the linkages between establishing national mine action legislation, treaty implementation legislation and national mine action policy, a national mine action strategy, and the long-, medium- and short-term plans needed to implement the strategy. Prior to the

ernment. Adding applicable key assumptions and/or constraints, guidelines to be observed during national implementation and, finally, clear direction to an executing agency to prepare flexible implementation plans completes the process entailed in the Strategy for Mine Action concept.

The ESS contains government guidelines for implementing the ESS at the government level through specific direction to an appropriate entity (normally the mine action coordination organization). Actions are undertaken to realize the strategy through a series of long- and/or medium-

factors. Some of these changeable conditions can be assumed and planned for, while others will be unforeseen and necessitate considerable flexibility in the long- and medium-term plans. This process forces the application of risk management, a process that can be assisted by application of the "as low as reasonably achievable" (ALARA) principle to determine the desired levels of clearance and other activities.

The ESS lends itself to the coordination and optimum use of resources and the pursuit of national goals on a unified basis. This strategy is more effective and highly preferred to the often-seen implementation of short-sighted programs or projects, which frequently lack national direction, coordination, and a unified national vision and goal, and reflect the lack of a clear strategy.

The aim of a humanitarian mine clearance program is arguably to alleviate human suffering caused by mines and UXO and to enable development of functional infrastructure, industry, commerce and growth of the economy while meeting environmental and other concerns. The alleviation of human suffering caused by

mines is thus the first step in a continuum that will enable people to resume normal lives in a sound economic environment.

After meeting humanitarian mine action needs, economic and social development are the long-term goals in countries where large-scale mine clearance operations are required. Defining where humanitarian and development needs begin and end takes understanding of the overall situation. In Afghanistan, for example, establishing an effective economic base requires basic initial reconstruction and development efforts with inherent and profound macro-humanitarian benefits.

The ESS will facilitate achievement of a stated national vision, but the comprehensive strategy and the various concomitant action plans that are developed to implement it will not completely eradicate risk to human life and limb for undiscovered mines and UXO. The factors contributing to continued danger include the level and length of the conflicts in an area, the quantity and variety of mines, minefield design, ordnance deployed, and perhaps severe natural environmental factors that hinder or negate discovery and recovery.

There must eventually be embedded mechanisms within the national government and/or other entities that will take appropriate action to mitigate the risks associated with undiscovered mines and UXO. There will also be a need for an effective national UXO disposal capability and for

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**A MINE ACTION PROGRAM LIFE CYCLE DIAGRAM
USING NATIONAL TIME SCALE AS DERIVATION for END-STATE STRATEGY CONCEPT**

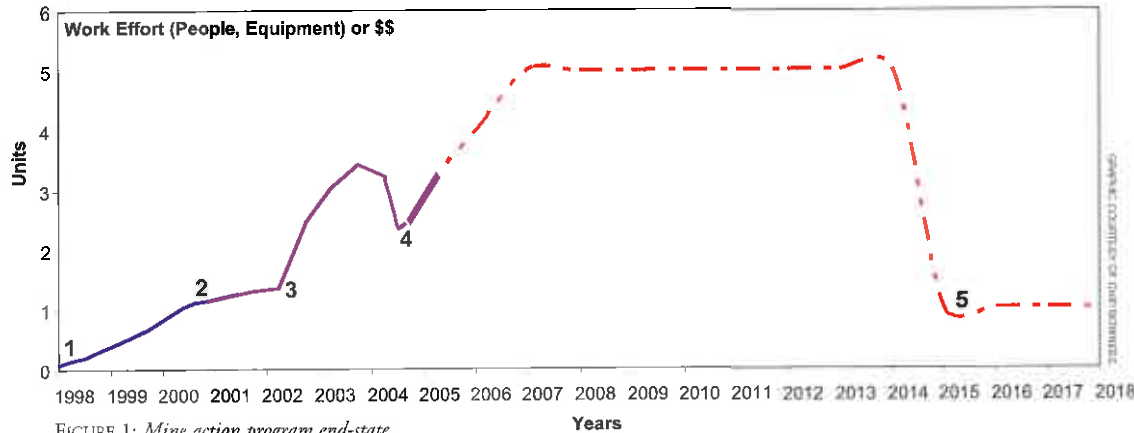


FIGURE 1: Mine action program end-state.

introduction of the IWP, there was only an "Annual Work Plan," which focused entirely on clearance.

The concept of the five pillars of mine action (demining, mine risk education [MRE], mine victim assistance, advocacy and stockpile destruction) had been generally introduced via the Ottawa Anti-personnel Landmine Convention, based on the accurate premise that only a comprehensive international and national effort could eliminate the landmine/UXO problem. If all activities under each heading were carried to their logical conclusion, the goal of a "mine free" world could be achieved.

The process of developing a strategy and its associated plans can be enhanced using the concept of the five pillars of mine action, regardless of whether or not a country may have adopted the Ottawa Convention and/or other existing or successive agreements. Through the addition of certain vital enabling activities, a comprehensive "big picture" of what must be done to defeat the mine problem is much easier to develop.

ESS for Mine Action

The End-State Strategy (ESS) concept for mine action is based on strategy and planning work originally conducted in Cambodia in early 1997–98 as described above, and later in Lebanon in 2003–04. ESS defines clearly the conditions that will exist when a mine action program has been satisfactorily completed in accord with the vision statement developed by the national gov-

term plans—formulated with options—that depends on the associated risks. These multi-year plans are based on a clear understanding of the end-state conditions and use reasonable sub-goals defined from the end-state goals and objectives. As a result, employment of less risky information than what would be necessary in making a single "strategic plan" to solve the whole problem is often attempted. The long- or medium-term plan is realized using annual integrated work plans containing the totality of work needed to achieve the intermediate mine action goals for a given year, which are normally funded completely and which provide a practical basis for modifications to the longer-range plans based on the reporting, audit and assessment processes.

The government issues the national ESS, which is based on national mine action policy and laws. The mine action centre or national coordination body produces the execution plans and implementing partners complete the scheduled work. The cycle closes on itself with improvements and adjustments made as necessary.

The ALARA Principle

The ESS concept embodies a comprehensive strategy based on end-state conditions that remains constant. The long- and medium-term plans are modified as required in accord with changing conditions. These conditions may include finances, available personnel and assistance, available and changing technology, political and environmental considerations, and other



PHOTO COURTESY OF RONCO

A RONCO EOD team conducts demolitions near Basra, Iraq.

homegrown version of a survey that was accurate enough to direct someone to a minefield, but fell short of international standards. While simplistic, this improvised survey capability actually worked quite well, and individual maps could be rather impressive. Once the technology for a survey that included a global positioning system element and would comport to Information Management System for Mine Action standards became available, though, its implementation became a priority. Although implementing such a system has been impacted by a shortage of Afghan engineers, national survey capabilities are making good progress.

Iraq. After the initial QRDF tasking in Iraq, RONCO's efforts focused on developing a national capacity in the country. This task has proven particularly challenging since humanitarian landmine/UXO clearance was never a priority of the Saddam Hussein regime; a demining infrastructure had to be built up from scratch and government personnel had to be convinced of the effort's importance. The proliferation of mine action organizations entering Iraq after the war presented RONCO with another challenge: helping the interim government organize the various national and international non-governmental organizations (NGOs), commercial companies, and military units into one coordinated effort. To this end and on behalf of the U.S. Department of State, RONCO helped develop the National Mine Action Authority within the Iraqi Ministry of Planning. This organization has since developed national mine action standards, accredited all mine action organizations in Iraq, created a national mine action strategy, and drafted a national budget and work plans.

Conclusion

RONCO's experience over the last decade highlights changes and developments in the field of humanitarian demining. Once manual deminers were the principal capability; however, fully integrated MDD, mechanical and manual demining capabilities are now imperative. While standards were once variable and incomplete, the IMAS are now the operating environment. While humanitarian demining and mine clearing were once considered separate missions and doctrines, RONCO's experience in Afghanistan now shows that they are, in fact, two sides of the same coin. While humanitarian responses once took time to organize and deploy, the QRDF has demonstrated the impact and usefulness of a highly trained rapid-reaction force. And, while humanitarian demining was once strictly a peacetime endeavor, Iraq and Afghanistan have demonstrated that such operations will sometimes have to take place in dangerous and even hostile environments. Throughout its experiences, RONCO has demonstrated that governments, international organizations, private companies and NGOs can cooperate, learn from each other, and coordinate their efforts to better ensure a future free from the scourge of landmines. ♦

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public education with respect to the dangers of undiscovered mines. Ideally, all citizens will be able to react and initiate a successful response through established governmental structures. Coordination remains vital even with the much-reduced mine action requirement at end-state and needs to be accounted for within the normal government coordination mechanism and structure.

A key element in the successful implementation of an ESS and the long- and medium-term plans for implementing it will be the successful training of personnel at all levels. This training will include not only the technical field level, but program and project management skills along with careful computational-backed administration and records keeping, budgeting and financial administration, and other essential elements of modern management and administration.

Program achievements will require continued successful interface with all of its donors, which requires a strong public-relations capability. While the local language is essential for most operations and for communicating with the various government agencies and authorities, all aspects of the program must be capable of being communicated to the international community. ♦

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cleared and 1,400 items of UXO were destroyed that year. In July 2004, in compliance with the requests from the government of Azerbaijan and Baku-Tbilisi-Ceyhan (BTC) Oil Pipe Line Company, ANAMA began surface and sub-surface UXO clearance operations on the main oil pipeline route in Agstafa district. A part of the BTC pipeline crosses a UXO-contaminated area in Saloglu village that is located in close vicinity to former Soviet army ammunition warehouses. Clearance operations were carried out on a 32-kilometre-long (19.88 miles) route that was 60 metres (0.04 mile) wide. The project was completed at the end of August 2004 and 121 items of UXO were found on the depth of up to 3 metres (3.28 yards) and destroyed. ♦

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