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

Search

TECHNOLOGIES

Agenda
Summary Report
Meeting Report

HOME > Intersessional Work Programme > Sept., Dec. 1999 & Jan. 2000 > Technologies >

Printer friendly version

MEETING REPORT

Co-chairs :	Cambodia	Mr. Ieng MOULY, President, C-MAC
	France	Mr. Samuel de BEAUVAIS, Ambassador, Mine Action
Rapporteurs :	Germany	Mr. Ernst Joachim DÖRING, Auswärtiges Amt, Berlin
	Yemen	Major Mansour AL AZZI

In accordance with the relevant decisions of the First Meeting of States Parties to the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of anti-personnel Mines and on their Destruction, the Standing Committee of Experts on Technologies for Mine Action (SCETMA) held its first inter-sessional meeting on 13-14 December 1999 at the Geneva International Center for Humanitarian De-Mining (GICHD). More than 100 experts, including representatives of States Parties, international organizations, the International Campaign to Ban Landmines (ICBL) and other non-governmental organizations, national mine action centers or programs, universities, research centers and industries took part in open and in-depth discussions on all the issues relevant to the SCETMA.

In conformity with the mandate and guidelines agreed during the Maputo Conference, the SCETMA focused, for its first inter-sessional meeting, on the analysis of the needs expressed by the end-users and, taking into account the constraints as they are perceived by both the deminers and the researchers, tried to draw practical conclusions in term of priorities.

1. Expressing the needs of end-users

1.1 Asia

Cambodia: Following the analysis of its environment (nature of soils, land surface levels, abundant vegetation, poor road infrastructure) and its current capacities (3200 people, 2 flails, 1 bush-cutter etc), the C-MAC has put forward its needs:

- short-term needs: dogs, light-weight bush-cutters, support for surveys, mechanical equipment, protective equipment;

- long-term needs: quality assurance support, remote mine detection, improvement of techniques for close mine detection (differentiation).

Because of the large number of refugees and the presence of deep buried minimum metal mines, the priorities set out by the MAP for Afghanistan are as follows: giving support for informing the population, for collecting data and for mine marking; providing dogs for minimum metal mine detection; improving existing detection equipment; light-weight mechanical equipment (excavation, clearing vegetation).

1.2. Africa

The NDI set out its needs in relation to the situation in Mozambique: end-user friendly computer systems for managing information and quality assurance (IMSMA type); dogs, in particular for quality assurance; mechanical equipment (in particular for road mine clearance). Priority should be to give victim countries access to technologies which are already available on the market.

Chad put forward its needs within the framework of the implementation of its mine clearance program, covering vast areas of mainly sandy or rocky areas: training resources, mine-resistant reconnaissance vehicles, dogs for minimum metal mines, mechanical excavation equipment.

1.3 Latin America

Nicaragua put forward its specific needs for mine clearance operations in areas which are difficult to reach and on high ground: airlifted transport, detectors, protective equipment, dogs.

1.4 Europe

Croatia: CROMAC presented its approach for mine clearance and its corresponding technological needs: support for level 2 surveys, digitized maps, mechanical equipment (bush-cutters, flails), use of dogs and the development of sensors for minimum metal mines and quality assurance.

2. Identifying end-users' needs

Cranfield University put forward its project, on the basis of data collected by end-users in the field, aimed at finalizing a computing aid which provides assistance in the choice of technology at different stages of mine action.

Certain operators have stressed that collecting enough reliable data is difficult (problem due to the difference between recommended standards for use and real use in the field).

UNMAS however underlined the benefits of this approach which would enable a better knowledge of the real use of equipment and lead to the selection of more effective equipment, and would also help to lay down guidelines for the researchers.

3. Analysis of constraints

3.1 Technical constraints linked to mines

The representatives of the Ministries of Defense (France, Germany, United Kingdom, Belgium) as well as the deminers' representatives (MINETECH, Sayed Aqa), stressed the problem of the co-existence of a wide variety of types of mines in the same area : metallic/minimum metal, bounding mines, mines with trip wires etc. This problem cannot be solved through the individual clearance of each mine (tedious), nor through the global clearance of the area (quality control). The main problem is therefore to detect the different types of mine and to discriminate between them and other buried objects or residues.

The operators therefore insisted on the need to improve adaptable and polyvalent equipment which should be tested under real conditions. Germany presented the first edition of a catalogue of equipment and material for mine clearance and has invited all interested parties to supply additional information for a second edition scheduled for Summer 2000.

3.2 Environmental constraints (human, geographical, climatic, organizational)

MAG and NPA presented their experience acquired in the field in different mined areas: conditions could vary enormously (frozen/waterlogged/dry soils; sandy/rocky etc), and certain technologies could be very effective on a specific type of land and not on others. They pointed out that it was necessary to consider above all the mobility and modularity of teams and equipment in order to ensure that they adapted rapidly to the land they were working on.

Handicap International underlined that in order to enable increased mobility, it was important to make efforts as regards regulations: making operators aware of established regulations, implementing preferential regulations for technologies for mine action.

3.3 Information Availability and Management; the use of software

UNMAS, the GICHD and the JRC presented the characteristics and the operational functioning of the Information Management System for Mine Action (IMSMA) which enabled all the operators in a mine clearance program to instantly share information collected in the field. This system was improved in order to facilitate use by deminers in the field. It was currently being used by the body of mine clearance operators in Kosovo. Operators have stressed their interest in using the IMSMA system in other areas (Mozambique, Azerbaijan, Chad, Croatia, Yemen etc).

JMU stated that one of the continuing problems was the lack of truly interactive databases which could integrate all relevant information relating to mine clearance programs. This information should not simply be collected in databases but should also be systematically transmitted to teams in the field.

The JRC pointed out that an important first step would be to create, in one place, an inventory of existing databases, and to examine how these instruments could be interconnected.

3.4. Constraints due to the political and economic context

3.4.1. Research and Development

The JRC compared the military programs, with their pre-defined clear objectives and outcomes, with research carried out for humanitarian demining which lacks guarantees and direction. Besides defining guidelines, it is important to work to establish quality criteria and to facilitate the availability of material for mine clearance bodies. The possible merging of military and humanitarian programs seemed more difficult to implement (problem of cost sharing, the classification of documents etc).

Handicap International presented its report on the mechanical assistance for mine clearance by stressing the need to adapt equipment to the environment in which it is used. The main principles set out are: simplicity, modularity, flexibility, adaptability, reliability, mobility, security and protection. Making sure that the equipment is suited to its allocated task (area reduction, ground preparation, neutralization, quality assurance) is also an important factor. Furthermore questions regarding the access to sites (heavy mechanical equipment) and on-site maintenance should be taken into account.

The MAG emphasized this last point which justified its choice of not using military equipment considered to be too heavy and difficult to maintain. The use of mechanical equipment- in particular that which can be constructed and repaired on-site- could on the other hand be useful for moving obstacles or for clearing vegetation (multi-functional armored tractor).

Mr Acheroy (RMA) and Mr Daniels (ERA) pointed out that basic research should not be neglected as it was often a low-cost option. However in order to launch research programs it was necessary for researchers and investors to have more information relating to needs, results of the techniques currently employed, the potential market, purchasing program etc. It was therefore essential to multiply contacts and information exchange between researchers and end-users.

Mr Nivelle (Detexis) stressed that military and humanitarian mine clearance were not systematically at variance in the field of research. While the end products were generally different, a number of technologies developed for military use could, with slight adaptation and cost reduction, prove to be useful for humanitarian mine clearance (metal detectors, multi-sensor systems, remote detection, protective equipment etc).

3.4.2. Capacities for Funding and Purchasing

C-MAC presented the Cambodian situation: for a program funded almost exclusively by foreign donors, purchasing heavy mechanical equipment was difficult. The only way to guarantee transport, operability and the maintenance of this equipment was through the direct supply of equipment by donors. C-MAC teams therefore were mainly dependent on manual mine clearance techniques.

The JRC questioned the poor distribution in the field of existing technology. This stems from a problem of funding and of the choice between using manual operators or using mechanical equipment, but it was also a cultural problem, the deminers often being hostile towards high technology. The idea of creating an agency specialized in technical standards, the distribution and maintenance of equipment (clearing house) should be examined.

UNDP and UNMAS representatives emphasized the necessity for rationalization, on the part of donors as well as the victim countries: greater coherence in the criteria for operation funding, long-term planification of credit dedicated to mine clearance, optimizing the distribution of equipment within the framework of national plans, strengthened training for those in charge of planification and purchasing, technology lending and/or supporting structures responsible for using and maintaining equipment.

4. Operational conclusions

In expressing their needs, the representatives of the demining community shed light on the role technology can play at different stages of mine clearance activity:

- operation planning (level 1 survey, integrated plan of national development priorities)
- preparation of the environment (deployment, removal of the vegetation and other obstacle)
- mine clearance (area reduction, detection, removal/destruction)
- protection of deminers (individual equipment, mechanical devices)
- post clearance activities (quality assurance, evaluation, feed-back to databases…)

The end-users also made clear that there is a need for technologies both today and tomorrow:

- Simple, end-user friendly technologies, based on improving existing material, are essential to ease the burden of deminers and speed up ongoing programs.
- High-tech innovations will be critical to save lives, time and money in the longer term.

Given the different climates and nature of soils and the various types of anti-personnel mines laid that mine action teams have to face, there cannot be a single solution for mine clearance: the widespread opinion is that a "tool box" approach is necessary. Meanwhile, some technologies that proved not to be effective in a particular context may give positive results in a different one: key elements are 1) adaptation of technology to the field, and 2) adaptability of this technology, so that it can be used on as many fields as possible. This can be achieved only if all actors are provided with appropriate information, notably through:

- information exchange between users (e.g. between MACs)

- more systematic testing of new technologies in the field, in order to provide researchers with a better view of the improvements needed and to increase deminers' awareness of new technologies.
- fostering exchange of equipment through the implementation of "demining friendly regulations".
- development of integrated databases such as the IMSMA. Compatibility/merging of the different existing databases shall be fostered.
- development of software, using information contained in these databases and assisting those responsible for mine action in their choice of adapted technologies.

Participants discussed the differences and possible synergies between research and development for military programs and humanitarian demining oriented research and development. Representatives from the industrial sector also pointed out that in order to engage and further research and development, they needed to have a clearer picture, not only of ongoing activities (through data collection), but also of future developments of mine action, developments which will mainly depend on the long-term commitment of donors. Donors therefore need to make their funding policy more rational and predictable in the long term. On the other hand, demining authorities in affected countries should give more guarantees to the donors on the efficient use of resources: improved management, long term planification, better coordination of the different mine clearance activities at the country level.

Looking for ways to close the gaps between researchers and end-users, participants also tried to define common approaches for testing and assessing new technologies, in particular by:

- setting up international testing centers and/or networks of probing facilities.
- defining common standards for testing in the field.
- defining mechanisms and procedures in order to allocate new technologies to mine action teams for testing in the field./.