

Mine action technologies, problems and recommendations

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Last time statements:

Conclusions

- Many research and development activities are still ongoing. The results of them will come soon. We need therefore the collaboration of end-users and donors in order to develop equipment and tools based on real needs and not assumed needs.
- Don't forget:
“Finding all mines in the ground without false alarm is a challenge comparable to sending a man to the moon but with much less money”

Last time statements:

A message to donors

“Technologists” need your support to establish a sound procurement process for fielding new technologies in order to have a more cost-effective mine action

Mine action technologies: a very difficult problem (1)

- Mine action solutions are not simplistic and “silver bullet” is not available
- Lack of procurement path makes fielding a technology very difficult. *Existing dead-end* when R&D as well as prototyping and test & evaluation / validation (if any) are achieved!
- Mine action solutions are not universal and often country / region specific (soil type, climate, vegetation, socio-cultural environment, etc.). A system approach needs to be used.
- Mine action technologies are diverse, e.g. IATEP recognizes 6 different categories: survey, detection, mechanical assistance, manual tools, personnel protection and neutralisation.
- Requirements on technologies are not easily set, nor satisfied

Mine action technologies: a very difficult problem (2)

- Some major advances have not been well appreciated: e.g. the very significant improvements in metal detectors, personnel protective equipment, information technology support tools.
- It is now clear that the market for mine action equipment is not large enough to support bringing products to market
- Both donors and demining organizations are naturally conservative – especially regarding safety:
 - Donors do not insist on new & more efficient technologies
 - Deminers do not change successful clearance methods (even if not efficient) as long as donors accept it
- Some of the problems of new mine action technologies are not technical (e.g. computer staff leaving once they are trained)

Mine action technologies: some answers

- Clearly, **donors** have a key-role to play especially in supporting fielding of new technologies in order to optimize their funding in the long-term (introduction of new technologies must be conditioned by faster operations, saving lives, saving money)
- **End-users** need to have a pro-active role and to be understanding and open regarding the process of introducing new technologies in the field
- **Technologists** need to understand the real needs of end-user and to go to the field *“Nothing is more important than understanding the working environment”*

Donors responsibilities (1)

- Donors must consider investing now in new technology to get future gains in efficiency (thus saving money)
- Donors need to insist on steady improvements in efficiency
- Donors need to insist that clearance contracts include participating in testing new technologies (costs re-paid by them)
- In order to solve the problem of missing market, donors should envisage:
 - Dual use technologies
 - “Leverage” of military technologies
 - Incremental improvement of existing tools

Most likely vendors are existing manufacturers (e.g. metal detector manufacturers).

Donors duty (2)

- A technology funding package needs to include:
 - A staff education package taking into account the socio-cultural environment
 - A long-term training package (for maintenance and repair of equipment)
- Donors need to understand user's real needs. Appropriate technology must correspond to appropriate needs. Mine action funding is not necessarily just a platform for selling donor's country products
- Contact and understanding must be improved between donors and technologists

Recommendations to end-users

- Demining organisations (or MACs) need to analyze the best technologies for their geographic / social / cultural / mine – UXO situation. The “bottlenecks” can then be addressed (and the areas of no problem left alone, e.g. better detectors don’t help in areas with UXO in heavy vegetation)
- End-users should make use of the International Test & Evaluation Programme (ITEP) and other institutions (e.g. EC / JRC) as a free service for asking specific questions on technology performances and for receiving information about “tried and tested tools”
- End-users should help technologists to understand their real needs, e.g. inviting them to go to the field (“Nothing is more important than understanding the working environment”)

Recommendations to technologists

- Technologists need to understand the real end-user's needs.
- Technologist must go to the field, because “nothing is more important than understanding the working environment”
- ITEP needs to be wide open to end-user's questions and has a key role in providing information about “tried and tested tools” with clear information about where, why and when they are useful
- Technologists need to understand that not only detection is important but also key technologies like:
 - Area reduction (to know where the mines are not)
 - Strategic planning using information technology tools
 - Programme management

Conclusions

- Many thanks to Sara Sekkenes (ICBL) for her valuable and fruitful contribution
- It is utmost important for the future of mine action (more efficiency while saving lives and money in the long-term) that donors apply the proposed recommendations
- The end-users need to have a pro-active role, to be understanding and open regarding the process of introducing new technologies in the field and to make use of existing tools (e.g. ITEP)
- The technologists need to understand the real user's needs and to go to the field "Nothing is more important than understanding the working environment"