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# Integration of Clearance Assets

Integrating a variety of demining activities, including machines and manual support, is vital to an operation's efficiency and success. An appropriate integration plan must include analysis of context, support requirements and limitations.

by Mark Thompson [ Mines Advisory Group Iraq ]



MDDs deploy into low- and medium-risk areas that have been identified by deminers.

All photos courtesy of Sean Sutton/MAG.

**H**umanitarian demining has been around for almost a quarter of a century; however, the industry still struggles to effectively integrate clearance tools such as manual support, dogs and machines. Financial restrictions are a factor; however, even with support, demining programs and personnel still often fail to capitalize on the benefit of integrated assets.

## Why Does This Happen?

Historically, each asset has competed against the other for funding and operational superiority. The capabilities of certain methods or machines are frequently overstated when not considered within contextual requirements

and restrictions. Adopting a stance of comparative clearance rates-per-hour, for example, may be misleading and biased toward best-case scenarios that understate deployment limits and major support requirements.

Flail manufacturers will pitch the performance of the machine in ideal conditions; however, these conditions are rarely encountered. Also, almost all mechanical assets require verification by manual or dog teams, so budgeting for a machine requires budgeting for the other assets.

## How Do We Better Integrate?

Having the three asset types—manual support, dogs and machines—does not in itself represent an integrated approach to clearance. An operational structure that has individual dog, machine and manual experts focused on their own assets can indeed restrict integration. Effective integration is achieved by ensuring all individuals in the organization understand each asset's capabilities and limitations, and are thus able to benefit from integrated clearance use.

Additionally, the clearance process should be planned to emphasize the consideration of all assets and parts they can play. Of course, terrain and conditions will dictate whether an approach is suitable or not. These conditions may include metal-contamination level, mine type, vegetation type, and presence of field defenses or uneven ground. To avoid denoting a task as manual, MDD or mechanical is good practice, as this practice serves to isolate assets and tasks. Understanding that all tasks require some form of manual support or clearance is important. As an example, MAG (Mines Advisory Group), my employer, has many programs that adopt an integrated approach to ensure that manual expertise leads clearance planning and that mechanical and/or MDD assets form part of their clearance plan.



A Kurdish staff member is trained as a dog handler.

## What Has Worked?

Although a case study of a single task can show integrated-clearance success, using an operational sector with multiple teams and tasks as a measure of success is a better approach. For example, if we compare two sectors within the MAG Iraq program that have a similar number of manual assets and access to the same MDD and mechanical teams, we have a significant difference in the number of minefield tasks completed over a nine-month period (24 tasks in one sector and nine in the other). At least two different asset types, and sometimes three, were utilized on 71 percent of tasks completed in the first sector, whereas in the second sector, 55.5 percent of completed tasks used only manual assets. Although the different topo-

graphical, contamination and size characteristics of each sector's tasks contributed to the disproportionate completion numbers, other factors suggest the primary reason for the difference is under-utilization of integrated clearance in the second sector.

The sector completing the most tasks used all three assets the most frequently. However, they integrated different assets by applying the appropriate clearance methodology as the site conditions evolved. Mechanical and MDD assets were used much less, and only 25 percent of each task used the additional assets. The sector with the least tasks completed used all three assets on 80 percent of each task, indicating that it did not adapt methodology and maintained the same clearance tactic without assessing evolving site conditions.

Addressing the balance in terms of the number of teams and equipment should also be considered. Although most people would agree that you cannot have too many manual assets, you can almost certainly have too many machines and dogs, purely because of their operational limitations and the support they require to function. Having too many of one asset will only create less efficient and effective clearance methodologies.

Building an infrastructure within a program to support integration is also essential. Experience has shown that mechanical and MDD assets are very high maintenance and, due to insufficient investment, poor preparatory support and lack of sustainability can doom programs before they even begin.

In the MAG Iraq program, the infrastructure has been established and expanded in line with the

growth. MAG Iraq currently has three operational sectors, each with its own distinctive conditions that affect individual assets, and therefore integration. Mountainous terrain has the greatest effect due to machine and MDD limitations in those areas. A recent factor in determining a fourth-sector closure was that MAG could not use an integrated approach because the majority of duties were high-ground tasks.

## Conclusion

In conclusion, funding sources and equipment provision can pull operational structure in different directions. Ensuring the development and design of operational capacity to deal with clearance obstacles is important to maintain efficiency rather than changing effective planning and prioritization mechanisms to suit specific assets or achieve artificial clearance outputs. ↴



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