

# An Interview With Colin King

Colin King is a graduate of Sandhurst. He served 14 years in the British Army, gaining extensive knowledge of explosive ordnance disposal (EOD), and served both as an instructor at the British EOD School and as the sole EOD analyst for the Ministry of Defense for six years. He founded an EOD consultancy company, which conducts assessments, training and operational trials worldwide. He is also the editor of *Jane's Mines and Mine Clearance*.

by Margaret Busé, Editor

**Margaret Busé (MB):** Can you tell me about training the Afghan deminers?

**Colin King (CK):** I think it was really the first major UN demining initiative. The deminers were all mujahideen, and they were sent to one of two training centers. I led one of two teams based in Quetta, which was just on the border in Pakistan in the southern desert region; then there was another center in Peshawar to the north. Looking back, the program was very basic. It was totally focused on training people to remove mines, UXO and booby traps. There was really no attention to the other aspects of mine action—and none of the support functions or quality assurance; none of that was really thought about in those days.

**MB:** Who did your assessments when you went in?

**CK:** This program was purely about training deminers for mine and UXO clearance. There was little thought at that time as to which areas they would be going into, prioritizing tasks or what equipment they would use. They were basically sent in with a bag of hand tools, a kid's \$10 Radio Shack metal detector and not much else.

**MB:** When did you start your demining efforts?

**CK:** My first experience with mines was the Falklands. The actual Falklands war was in 1982, and I went there two years later. Then two years after that, I commanded all bomb disposal operations on the island, including responsibility for the minefields. We basically tried to keep



■ (Left to Right) Examining Iraqi mines in the Gulf; PPE was rarely worn during military operations in those days. Colin uncovering an M19 mine in the Jordan valley, where the temperature exceeded 40° Celsius.

the minefields under control by going after mines that had moved, or were in danger of moving, and responding to emergency calls on mines and other UXO.

**MB:** You're talking from 1984 to 2003, almost 20 years. Can you tell me how mine action has changed from where it was when you first started to where it is today?

**CK:** To me, one of the most obvious changes is the adoption of PPE [Personal Protective Equipment], which just wasn't a prominent issue when I first started. It was available, but in the army, we mainly wore protective equipment for terrorist bomb disposal; we rarely bothered with it for anything to do with mines. We didn't wear it at anytime during operations in the Falklands, and I didn't use PPE for many years afterwards. It wasn't really until my friend Paul Jefferson got severely injured in Kuwait that the issue was properly highlighted.

**MB:** PPE was not used for military clearance or humanitarian demining?

**CK:** It just wasn't something that people recognized as a significant consideration in the early days. That changed, I think,

as the casualties built up during the post-war clearance in the Gulf. Paul was the first major British casualty among the clearance teams, and that incident made a lot of people stop and think.

**MB:** Could you tell me about the accident?

**CK:** Paul was a very good friend of mine. He and I were in the army together and worked in the same unit of the EOD Regiment; we also handed over commands in the Falklands. I stayed in the army when Paul left and went to Kuwait, where he was by far the most highly qualified technical expert working there. He stepped on a mine and was severely injured; he lost a leg and was completely blinded. A few years later, I was an expert witness when he brought a court case against his employers; he claimed that they failed to provide adequate protective equipment—eye protection, in particular. It was absolutely true, but then to be fair, very few people bothered with any form of PPE at that time. He won the case, but regardless of the rights or wrongs, the fact was that it



highlighted the issue from a common-sense point of view. Also from a legal perspective, it was now clear that employers could be held liable and that they needed to protect their deminers adequately.

**MB:** Do you think there is more coherence between military and humanitarian demining than when you started back in the 1980s?

**CK:** Well it's strange how demining has evolved, because in the very early days it was the military who taught it, and it was all based on the military principles of minefield breaching. Humanitarian demining techniques didn't really exist at

training, and then again sometimes you will see a person with absolutely no formal education that just has natural aptitude—good manual skills, common sense and the ability to be innovative. What I think is very difficult is to screen out the right people before the training begins; you have to be prepared to drop people from a training program if they are unsuitable. I also think there is a significant difference between the qualities you are looking for in a deminer and an EOD technician. EOD demands lateral thinking and innovation; deminers often have to follow a repetitive routine, and the last thing you want is for them to start being innovative.

**“The primary resource in this business is people and, thankfully, we have a lot of good people making steady progress.”**

that time. You simply had military engineers trying to teach civilians how they were trained to clear mines, although many had no first-hand experience whatsoever. Then gradually, as people realized that that wasn't appropriate—and that it was completely impractical—humanitarian demining started to split away from military breaching and you ended up with a radically different approach. Now, ironically, I see the two coming together again; the military are becoming far more engaged in humanitarian operations, they are working with and learning from the demining NGOs [non-governmental organizations]. Meanwhile, the humanitarian demining community is taking a serious look at the rapid clearance options used by the military, and seeing what might be useful to them.

**MB:** What do you think are some of the challenges of training deminers?

**CK:** I think even in the days of the Afghan program, you could recognize that some people had more aptitude than others. Some people were really scared by explosives, and putting those people in situations where they would be dealing with live mines or demolitions was just the wrong thing to do. Some people had no manual dexterity and that's not exactly ideal in work like this either. Some people just don't have the ability to absorb the

**MB:** How have you seen the tools that the deminers use evolve over the last 20 years?

**CK:** It all started with whatever military tools were available, still primarily the metal detector and the probe. In many cases, the probe would be the bayonet, and there are still a lot of military units that favor using the bayonet. What we have seen is the evolution of protective equipment, metal detectors, probes and other tools for either cutting vegetation or uncovering mines, that have developed into better, more purpose-built equipment. For example, there's the initiative by Andy Smith to build tools that don't fragment because his research showed that so many deminers were injured by tools breaking up during an explosion.

**MB:** You mentioned in one case how the tools can fail deminers; you mentioned in your briefing about how PPE has failed deminers as well.

**CK:** There are a lot of issues here. There is the common sense point of whether you choose to use PPE at all in certain circumstances. If you're up against an anti-tank mine then it's going to kill you regardless of what you're wearing. Do you make the decision not to wear PPE in an anti-tank minefield? Normally, most organizations go for simple SOPs [standard operating

procedures], which state that everybody will wear the equipment in and around the suspect area. In terms of new equipment, there's been a trend away from the military combat armor where you'd have a visor, helmet and maybe a flat jacket. There's much more comprehensive protection available that also provides better comfort. Depending on your work practice, you don't necessarily need to cover the back of the body or the back of the head. If you're working in a hot climate, you now have options like a visor that doesn't require a helmet and frontal protection that allows greater mobility of the back. Still, unfortunately, a lot of military demining units will not consider—or can't afford—a change from

their issued equipment.

**MB:** What about the tools in the toolbox and how they all integrate in their ability to assist the deminer? What are they evolving into?

**CK:** There's a lot of talk about the toolbox approach, but in many cases, it's meaningless; in reality, most deminers simply have to use whatever they've been issued. You don't often see a program manager going to an area saying, “Ah, right, I see we have this kind of vegetation, this terrain, these mines, so we won't use that equipment—we'll use this.” That doesn't happen in many programs. As far as the international demining community goes, certainly there are a number of different tools and techniques available. But although each program will try to get the best tools, PPE and detectors they can afford, they then tend to be stuck with them for a long time. At the moment, the closest thing to a true tool-box approach happens where you have a number of demining agencies operating in a region and swapping resources among themselves. If the program is big enough, the mine action center [MAC] may also have some centralized assets to loan out.

**MB:** There is a lot of new technology that's emerging—everything from the ground penetrating radar to the bees and so on.

Where do you see the new technology going? Do you think that's money wasted or do you feel that's money spent in a good direction?

**CK:** I think there has been a tremendous amount of money wasted. But it's not bad science; there has been a fundamental misunderstanding of the needs of the deminer. It's unfortunate that there was such a gap between the scientific community and the operational community. Too much has been designed from the top end down, things that people thought would be useful but have no real place in the field or have little prospect of any operational application. Whether some of that research investment will pay off in the long term is difficult to say, but from the operational perspective, high technology hasn't contributed a great deal. It hasn't fulfilled some of the promises it made or, perhaps, the expectations that people had for it, and that's a shame. What I think is likely to happen is a gradual, incremental trend—as we've been seeing—towards better detection sensitivity combined with selectivity; more capability, better performance from the enhancement of existing tools. At some point, perhaps, we will get usable multi-sensor detection, which might just be the big step forward that everyone has been waiting for.

**MB:** You mention that there has not been a lot of communication from technologists on down to the field personnel. How do you think communication between users and the R&D [research and development] community can be improved?

**CK:** There have been a lot of conferences and a very good annual user-focus workshop organized by the Department of Defense [DoD]. The European Union has done similar work, so I think that communication is well-in-hand. At last, the equipment designers and program managers are getting out into the field and seeing for themselves the problems faced by deminers.

**MB:** After 20 years, you've seen a variety of demining programs and mine action, what do you feel needs to be in place for an effective demining program?

**CK:** There are a lot of elements, really. Another thing that has changed over the last years is that mine action is no longer seen as a stand-alone activity. It has to be integrated into an overall regional development plan. There are the major issues such as political support, coordination and funding; then you get down to the fundamental issues of understanding the problem. The better you understand it, the more focused and surgical your approach to the solution can be. That revolves largely around survey, which is something else that has developed over the last 20 years—even though people don't necessarily agree on what it means. What is agreed is that it makes good sense to have a regional overview before you launch into a program where you can't see the wood for the trees. You have to have some good socio-economic impact data available in order to begin prioritizing tasks and allocating resources, and area reduction is critical to making the best use of those resources. In the last few years, we have seen that the survey side is absolutely fundamental to mine action.

The MAC has to create a capable and well-supported indigenous capability. Rwanda is a great example, even though it's a military program. There you have really high-caliber, dedicated people being supported within their own region and by the U.S. State Department. Many of the national programs rely on outside assistance from specialists who can channel their experience and resources into addressing problems. Having said that, one of the things I have a real problem with is a “one-size-fits-all” approach to different programs. One of the things I try to illustrate in my assessment visits and presentations is that the diversity of the environment and the mine threat will dictate differing approaches. There's no point in training someone to probe in an area where a probe cannot possibly be used, which is precisely what is being done in some of the programs. It just shows poor regional assessment followed by an inability to adapt to an obvious problem.

**MB:** Is it just too difficult or are there too many time and financial constraints for organizations to tailor their training programs?

**CK:** It tends to happen when non-specialists, like U.S. SOF [Special Operations Forces] teams, are given basic instruction and then sent to train deminers. When the situation no longer fits the template and they need alternatives, they may not have the depth of knowledge or experience to fall back on. It's always risky to be just one step ahead of the people you're training. In some cases, the people they're training have actually been demining for some time, and it's the trainers who are behind the curve, because most have no practical experience at all. I have to say that the SOF trainers I have seen have been consistently high-caliber people who are clearly dedicated to their work, but they are sometimes put in an impossible position, faced with situations way outside their area of knowledge.

**MB:** I'm sure you've got a tremendous number of lessons learned in the amount of time you've been working in the field. Where do you think demining will and should go in the next 10 years?

**CK:** Mine action is being refined constantly. Lessons are being learned and it's becoming more focused, more surgical. It's also being better managed and there's better integration. And all of those trends seem set to continue. The international flavor, the application of lessons from one region to another, the transfer of experience, mostly by personalities moving around. The community will continue to make steady progress and you will gradually see more and more regions listed as “mine safe.” There may be the odd technical innovation that makes a major contribution, but above all it will be the constant and largely unpublicized work of the in-country programs and their donor support. The primary resource in this business is people and, thankfully, we have a lot of good people making steady progress. ■

*\*All photos courtesy of Colin King.*

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