
Bullets in the bricks
Urban operations training
By Grant McDonald

Training for urban operations is finally a higher priority for armed forces. MT&SN's Grant McDonald examines the latest developments in this topical training activity.

Another day, another insurgent attack in an Iraqi city by the likes of Ansar al-Islam or former cells of Saddam's M-14 intelligence section. The latter have mounted asymmetric attacks as part of the 'Challenge Project' to complicate stabilisation and democratisation, according to a Pentagon report. Too few troops hasn't helped was what one American implied at a recent IQPC conference on Asymmetric Warfare.

And it is in urban areas that insurgents can be effective despite numerical inferiority. Insurgents are excelling at asymmetric tactics such as Improvised Explosive Devices (IED) and suicide bombing at any time, any place in preference to head-on engagements. Civilian dressed insurgents are difficult to spot without intelligence. Force protection is therefore vital but difficult as urban terrain degrades a force's sensors, communications and situational awareness.

Towns and cities are the likely setting for future conflict as some 75% of the world's population will live in them by 2015. "The challenge is to be proactive, get inside the decision loop of our adversary and deny him sanctuary. That's very difficult but we realise that's what we need to do," says Duane Schattle, Deputy Director, Joint Urban Operations Office at Joint Forces Command (JFCOM).

The focus in Iraq is on lower intensity Internal Security Operations (ISO) and Peace Support Operations (PSO). But following US Marine Corps (USMC) General Charles Krulak's three block war idea, different types of urban operation can occur concurrently, so it might be ISO in Baghdad but Fighting In-Built Up Areas (FIBUA) in Fallujah, where the role of the urban sniper became evident during combat earlier this year.

"Snipers are extremely effective and I think it's a tribute to USMC marksmanship. Since the Marine pulling the trigger can see that the other person is armed, it's hard for insurgents to claim we're indiscriminately killing people," says Gary Anderson, a former US Marine. Precision strikes reportedly had more mitigated results.

Speaking generally, Schattle says, "the impact of collateral damage on strategic goals is not lost on US military thinking. It's not a matter of

just teaching combat skills. We have to broaden the way young people are prepared as they are at the tip of the spear in urban areas because Decisions they make can have operational and strategic impacts, which often will end up on the six o'clock news."

Also at the sharp end in Iraq are a host of private companies. Vinnell, part of Northrop Grumman, trains the new Iraqi Army while others such as Aegis Defence Services Limited and Kroll provide security assistance to the Iraqi government and organisations involved in reconstruction. Increasingly, Iraqi VIP close protection team training is seen as a potential market.

"We run training consisting of foot drills, vehicle drills and also medical skills and a Chinese parliament each week to discuss how things ought to go," says Peter Hogg, Director of Operations Support at Kroll, a former instructor in the British Army. "To keep a low profile, we use normal saloons and tint the windows which means people looking for you, like they were in Northern Ireland, find it harder to target us," continues Hogg.

Northern Ireland has led to UK forces acquiring experience in working with local communities, developing networks of agents to produce actionable intelligence, raising awareness of asymmetric threats and conducting raids. Assuming terrorist ceasefires hold, a peaceful Northern Ireland will soon mean fewer UK troops will be based there. The UK MoD intends to cut four infantry battalions when pressure on the infantry is high and urban operations are likely to increase in the future.

"With the UK's defence posture increasingly based around expeditionary operations and power projection, collective training for high readiness, support and enabling forces will continue to play a vital role, based on scenarios in which they are likely to fight, including the urban environment," states the UK MoD report 'Operations in Iraq - Lessons for the future.'

In the British Army, "urban operations training is getting a higher profile and there is a debate as to how more will be done," says Major Tim Hutchinson, Officer Commanding, Urban Operations Wing, British Army Land Warfare Training Centre (LWTC). Beyond the framed picture of Saddam behind Maj Hutchinson's desk in his Church tower¹ office lies Copehill Down, the major site for British Army FIBUA training.

When MT&SN visited the site, the Black Watch regiment was carrying out Operation Telic PSO pre-deployment training. Although Copehill Down's training function is FIBUA, the Black Watch had priority as an operational unit which also suggests that OPTAG, the usual venue for such training, was full. Training the 16,000 troops that pass through Copehill Down per year was seriously disrupted due to foot and mouth disease outbreak in 2001 and the firemen's strike in late 2002 when the British Army was diverted to help

which may have affected Operation Telic preparations.

Maj Hutchinson says, "there are a lot of issues such as who directs training and how many troops do how many days. The infantry are not directed to have an [urban] instructor or advisor in their formation, if they were they would conduct training outside this facility and you would get round the problem by ensuring everyone has qualified urban instructors within their units."

In terms of training ammunition, John Crosland at manufacturer UTM says that "our non toxic Low Energy Reduced Round (LERR) has reduced infrastructure damage by 83% at Copehill Down." Copehill Down training is also being improved.

The new Urban Battle Tactics Trainer (URBATT) II for constructive Battle Group (BG) Command and Control (C2) training is in service. "URBATT 2 helps training by validating a commander's planning process and radio communications message sending to a command post HQ," says Captain Toby Barrington Barnes, manager of the nine systems plus Exercise Control (EXCON) post.

Maj Hutchinson says, "there is no procedural trainer for a formation or assistance to a Brigade commander for an urban environment. Obviously with unlimited funding we could build a new facility with enough booths to run a formation level urban trainer." He suggests URBAT II software could be cost-effectively incorporated into the Combined Arms Tactical Trainer (CATT) and the Command And Staff Trainer (CAST).

Supplied by Newman & Spurr, URBATT II will receive "a number of future developments," says Cpt Barrington Barnes, "that could include different weapon systems, UAVs, grey force element, asymmetric threat modelling, civilian crowds with enemy forces in civilian clothes and 3D visualisations." The Copehill Down URBATT II system will benefit at no cost from improvements in the version for Sennelager, Germany.

Another training enhancement comes on line in Autumn 2005 and is the new instrumented \$4million Low Level Urban Skills Trainer (LLUST) made by a Cubic / New Swede Corporation (NSC) team. Four LLUST systems will be procured with two based at Copehill Down, one at Catterick and a final one in Sennelager, Germany. The system will be used to hone Tactics, Techniques and Procedures (TTP) at section level at Copehill Down and at platoon level at the other two sites.

LLUST uses red tooth/radio frequency identification communications technology to plot the movements of players to 0.5 metre accuracy, who will wear sensors that will indicate e.g. if they are standing or prone, in addition to sensors that indicate weapon direction.

Shoot through the wall capabilities will be rendered possible by realistic algorithms, e.g. for systems such as the Light Anti-Tank Weapon (LAW). Charge breaching will also be possible. New weapons including the Minimi will also be integrated.

The LLUST Project Officer is Captain Mike Briant. "We should have the After Action Review (AAR) about thirty minutes afterwards for a section and about an hour for a platoon on the PC-based system," says Capt Briant. The Urban Operations Wing is keen for units to train using the new system whose true value is in the quality of the impartial, detailed AAR where the training mission can be replayed showing what soldiers did when and how.

A similarly sophisticated AAR is part of another solution this time developed by C-ITS which has won the Swedish Army MOUT Level 2 facility contract. "Although this is a high resolution solution it's scalable in terms of how much information you can have, so customers can choose their own level of fidelity," says Joakim Brandin, Marketing & Sales Manager at the Swedish company. The deployable indoor player tracking solution uses communications technology from Osmar.

"The system is not dependent on existing hardware so you can use whatever communications system and TES you want," continues Brandin who says it will be operational in September 2005 and can be expanded to meet requirements for the larger Swedish MOUT Level 3 project.

But the larger the facility, the larger the cost of instrumentation. For instance, back at Copehill Down instrumenting all 80 plus buildings has been estimated at around \$50 million. Maj Hutchinson is seeking to create a light industrial area built with 50 movable containers, which would have a minimal environmental impact and should not run foul of local planning regulations.

One company that supplies such containers is Anteon, which has held discussions with the UK but has supplied several non-instrumented containers in the US to the National Training Center (NTC) at Fort Irwin, Ft. Lewis, the Ft. Polk Joint Readiness Training Center (JRTC), Ft Stewart, and to the USMC at 29 Palms.

"Some of these MOUT sites have good facilities but we needed to create quickly urban sprawl," says Fred Prince, Business Development Manager for the company's mobile Military Operations in Urban Terrain (MOUT) trainer.

Future sales of the system will probably go to law enforcement for counter-terrorism and SWAT training, but Anteon's instrumented systems have been sold to the US Army for service in Afghanistan and Northern Kuwait.

In Iraq itself the US Army Program Executive Office for Simulation, Training and Instrumentation (PEO STRI) is seeking new training capability. "We're procuring a facility in Iraq for sustainment training and unit collective training as well as smaller facilities out at the Forward Operating Bases (FOB). The facilities will be more geared to mission rehearsal and preparation," says Major Jon Rickey, Assistant Project Manager TRADE, PEO STRI.

Jerry Tussing is Group Senior VP, Business Operations, Information Systems Group at Anteon confirms discussions with PEO STRI on this matter. A number of trends may affect the design of this new facility. Dr. Thomas Crosby, a Military Analyst, PEO STRI says, "our training has been flexible enough to react quickly to observations we're seeing in Iraq and we've adjusted the training centres accordingly."

Maj Rickey says, "we're finding most casualties occur when moving along the streets rather than during a building search. We are trying to incorporate narrower streets and an 'urban valley' with multi-storey structures. Intersections, alleys and courtyards need to be incorporated too."

Lessons have been fed into training at the JRTC which is a principal training site with MOUT training areas for troops deploying to Iraq. Cubic provides a range of services from assisting with mission AAR to providing 1,200 roleplayers.

"In my opinion, the whole aim is to assist them the first 30 days in theatre. If we can make them more alert to potential threats, get them used to the operational tempo, we've done our job," continues Cubic's Bill David, a veteran of Mogadishu.

"The exercise is designed to stress to the unit to accomplish to diverse mission sets simultaneously. The first is to undertake a series of activities designed to support the establishment of a safe environment for law enforcement and the second set is the need to capture or eliminate former regime loyalists in a manner that does not alienate the population," says David.

In addition to homestation courses, "cultural training is done not to inflame opinion during raids as well as negotiations training because this is something most military personnel are not trained to do and there's an art to it."

At the tactical level, a number of lessons learned are taught such as how to conduct a raid in a built-up area and minimise collateral damage, how to establish effective base camp security, convoy security and predictive analysis for the next IED attack.

There is now one training rotation per month of a 6,000-8,000 brigade size force. Every exercise includes air support and transport and there is also more training between regular and special forces. The FY04 US special operations forces training budget is up 50%.

Australia is also boosting its special forces training by building new training facilities in Sydney that will be ready in 2006.

"The new facilities will include indoor and outdoor multi-level electronic and live firing ranges as well as a variety of training and targeting environments for the Tactical Assault Group (East) and 4 RAR Commando," says Australian Defence Minister Robert Hill.

On a larger scale, the Australian Land 134 programme won by Osmar with Cubic and partner BAE SYSTEMS will include a MOUT training capability.

Although the special forces market may be a source of future LLUST sales, Ray Barker, Senior Vice President at Cubic is not confident about the size of the market. "It is our belief that NSC has the most mature tracking solution but how robust is demand for the type of precision that NSC provides [in LLUST]?"

The UK is increasing the size of its own special forces and investing in their equipment, but training was an absent word from a recent UK MoD review.

In the Middle East, Israeli Military Industries (IMI) is developing its Anti-Terror Training Academy, while Jordan is procuring a new special forces training centre that will feature some urban training facilities, for example, a state of the art Close Quarter Battle (CQB) house at Aqaba for specialist maritime counter terrorist teams.

The prime contractor is Raytheon Technical Services with Advanced Interactive Systems (AIS) as a subcontractor. The UK side of the American group has great expertise in designing training facilities for a range of customers.

Stephen Bird, International Sales Director, says, "Most of our customer activity is in the Middle East. We advise them on what they could do because of the changing threats and so develop with them a multifunctional solution rather than a templated off the shelf one."

A significant development with urban training is the use of Public Private Partnership (PPP) contracts. French Defence Minister Michele Alliot-Marie announced at Eurosatory 2004 that the Centre d'Entrainement en Zone Urbaine (CENZUB) could be a PPP.

François Lureau, head of the Délégation Générale pour l'Armement (DGA),

tells MT&SN that "we have the advantage of having the British experience for lessons but we're not putting all our eggs in the same basket as there could be other solutions."

Industry has responded to an online PPP questionnaire. "The way forward for a CENZUB PPP may become clearer towards the end of the year. But key questions need to be resolved such as how to introduce a new platform and how you modify the contract," says Michel Masselin Sales & Marketing Director for France and Europe at Thales.

Marc Moreau is the Intelligence and Simulation Manager at the DGA's Service des Programmes d'Armement Terrestre (SPART). "CENZUB will be very evolutive with the arrival of new systems and this is one of the risks of a PPP as it's difficult to foresee all the risks over ten years," says Moreau.

PPP activities could see companies providing maintenance services and assisting with exercise preparation. But some areas are off limits. "The French Army have made it clear that the OPFOR and instructors should be from the French Army in order to maintain their tactical competencies," says Moreau.

But Défense Conseil International (DCI)'s army branch COFRAS could perhaps find a role in a PPP as its staff include French Army personnel on detachment. The company works with the Gendarmerie already in providing training to foreign forces. In terms of third party training, "looking at French Army schedule requirements, the centre will be very busy," says Moreau.

Masselin at Thales says, "we'll have to look at third party training but it would be quite limited due to the work needed to equip their vehicles with TES." The company and rival Saab with Capgemini France have each won a separate study contract for CENZUB to define the actual system.

"Our success in the area of instrumented training centres has led to the development of our urban training capability enabling units to train the full spectrum of warfighting and peacekeeping from urban to open terrain," says Johan Ohlson, Saab Training Systems CEO. EADS GDI has lost out for the moment but will probably be involved through TES equipment in CENZUB. Equally, pyrotechnics company Etienne Lacroix is confident of being a supplier to the programme.

Following technology demonstrations, an instrumentation contract could be awarded by the end of 2005. CENZUB will potentially feature 100 buildings by 2015 but the DGA is concentrating on providing an initial capability as soon as possible.

Looking to the future, initiatives are underway which will impact training. A study is being undertaken by RAND Corporation on behalf of the US Department of Defense (DoD). "We were asked to look out at plotting out a training strategy for US forces for the period 2005-2011 to include looking at fiscal requirements," says Senior Analyst Dr. Russell Glenn at RAND.

Dr. Glenn interviewed military and civil personnel in Iraq, Afghanistan and visited the British Army too, while his team extensively researched published materials. "For 2005-2007 what can we do immediately in terms of urban training to enhance capabilities?" asks Dr. Glenn.

JFCOM recently co-sponsored with USMC Joint Urban Warrior 04 wargame, which has 190 participants from the US, UK, Canada, Australia, Sweden, France, Germany and Finland.

Schattle at JFCOM says, "one of the key findings [from the wargame] was we needed to pay a lot more attention to urban operations and couldn't consider urban operations as an elective since it needs to become part of our core training strategy. This means we need to train personnel from entry through Primary Military Education (PME) Service Schools and Joint Primary Military Education (JPME)."

JFCOM is also trying to identify Joint Tactical Tasks at tactical, operational and strategic levels which has not been done before for urban operations.

Schattle says, "what are the things we have to accomplish? What kind of facilities do we have? What are we planning across the services? With these answers we can then we can identify recommendations to accomplish JTT for the joint force."

The holy grail is the Joint National Training Capability (JNTC) that will enable higher fidelity training by merging the Live, Virtual and Constructive (LVC) domains. PEO STRI is following what Anteon's teaming with Atlantis Cyberspace produces concerning their live to virtual linkage work using a game called America's Army.

Ingenuity in war time is no substitute for preparation in peace time, noted the chairman of the IQPC Defence Asymmetric Warfare conference. Defence ministries should take note too when it comes to urban operations training.