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Conclusions

The United Nations has gained more experience as a monitor of peace agreements than any other organization in history. But it is still far from maintaining an ever-watchful and attentive eye on the common interest that President Woodrow Wilson proposed in 1919 at the dawn of international organization. Though its mandates for monitoring and verification have expanded considerably, the United Nations is inadequately equipped for its evolving field operations.

Technological progress in the world has also been evolutionary, even "revolutionary" in the digital and information domains. Monitoring technologies, in particular, are advancing at a rapid rate. For instance, the new generation of unattended ground sensors incorporates video, seismic, magnetic and acoustic capabilities all in one small device. Each multisensor also includes a processor and transmitter to send analysed data by satellite. Many sensors can be dispersed by plane and their signals gathered in mobile laptop computers to determine the directions and characteristics of moving objects across large areas.

This process of technological convergence, where previously separate technologies are combined into single systems, is readily seen in the commercial cell phone market. A smartphone can contain a cell phone, a voice recorder, still and video cameras, GPS, TV viewer and Internet browser, as well as email and text messaging. Inbuilt video cameras are available in high definition and for low-light imaging. In other devices, ever-more-capable cameras are giving new forms of imagery: ultra-high definition, hyperspectral, panoramic (360 degrees – viewer controllable),

even three-dimensional. Cameras are becoming smaller (through industrially-driven miniaturization) and more integrated, with compatible digital signals and files sharable among many types of device. The outputs are increasingly shared through the Internet using social and professional media.

This revolution in commercial off-the-shelf technologies means that the United Nations can look forward to more tools with which to creatively gather information and conduct its monitoring. Modern technology offers the United Nations a wide array of monitoring systems that are continually improving in capacity while decreasing in cost. This study has examined these technologies and reviewed the relevant UN experience with monitoring and technology. It has explored the benefits and potential drawbacks of technical monitoring, including the operational, legal, political, institutional and financial challenges. From this work, four principal conclusions can be drawn.

Conclusion 1: There is no "technological fix" to the problem of human conflict. Technology can, however, be of immense value in monitoring, preventing and mitigating conflict, especially as a cease-fire or peace agreement is being implemented.

Although the human dimension of peacekeeping must always remain front and centre, technologies can be valuable tools in the hands of peacekeepers. They are key enablers.

Conclusion 2: Technical monitoring can increase the safety and security of peacekeepers, as well as the effectiveness of their mission.

Technology offers possibilities for wide-area, high-resolution and continuous surveillance, helping the United Nations to identify threats to personnel and the mission. It permits monitoring of dangerous areas where it would be unsafe or unwise to send human observers. Aerial surveillance offers vast opportunities for rapid and remote monitoring of otherwise inaccessible areas. Night surveillance, a traditional lacuna in UN peacekeeping, is made possible with modern devices. In addition, imagery can be disseminated rapidly for early warning, for in-depth analysis and as evidence in future legal or other proceedings. In complex multidimensional peace operations, modern technologies can help fill the "monitoring gap" between the demanding mandates given to field operations and the United Nations' limited capacities.

Conclusion 3: The United Nations currently lacks the equipment, resources and preparation/training needed for an effective and efficient use of modern monitoring technology, and instead relies mainly on primitive or obsolete methods and devices.

A review of UN experience in technology shows that the world organization has used *some* monitoring technologies in *some* missions but mostly in an ad hoc and *unsystematic* fashion. For example, ground surveillance radar is currently deployed by only a single mission. The United Nations has begun to employ digital and video cameras in recent years, but this is not regular practice. The world organization has yet to deploy remotecontrolled video cameras to its monitor hotspots, except in Nicosia, Cyprus. Significantly, the parties to the 2006 Nepal peace agreement asked for video monitoring of weapons cantonment sites. This was done to supplement the UN monitors already on site (see Chapter 8). The United Nations owns some 400 image-intensification systems for night viewing, but these are older second-generation devices not coupled with cameras for recording and are too few in number to meet the need. Thermal imagers are not in the UN stockpile. The United Nations has no direct experience with seismic or acoustic sensor systems. Furthermore, the organization does not routinely deploy motion sensors - a simple, cheap and readily available technology.

Deploying multiple sensors (for example, infrared and radar systems) on advanced mobile platforms such as light reconnaissance vehicles and unmanned aerial vehicles (UAVs) can offer great benefits. But the United Nations does not deploy these standard sensor systems in its operations. In fact, UAVs have yet to be deployed by the United Nations, although they were brought by a partner (the European Union Force) to temporarily support the UN operation in the Democratic Republic of the Congo (DRC) in 2006.

More alarmingly, there is an absence of policies, doctrine, Standard Operating Procedures (SOPs) and training materials regarding high-tech monitoring equipment. For example, the United Nations has no policies or procedures for any type of radar use – whether for aerial or ground surveillance, or for locating artillery and underground probing. The equipment guidelines in the draft SOPs, written for traditional peace-keeping, are out of date by at least a decade. The SOPs have not kept up with either technological advancement or the more proactive UN approach used in some field missions. Many recommendations have been made in this book to further development in this area.

Fortunately, a framework has been established in recent years to create, update and improve peacekeeping doctrine and the policy directives

of the Department of Peacekeeping Operations. A policy on monitoring technologies was finally developed in 2010. This could be of immense value as new technologies are being considered, tested and deployed.

Because of the United Nations' "relative backwardness" in military equipment, many developed nations prefer to deploy their forces under other organizations and alliances (for example, the North Atlantic Treaty Organization and coalitions of the willing). In order to encourage these nations to re-engage in UN peacekeeping, the United Nations and its member states should encourage the deployment of at least some of the advanced tools that have long been standard "kit" for modern militaries.²

Conclusion 4: The United Nations has proved capable in the past of innovation in peacekeeping and it has incorporated some new and relatively advanced technologies into its operations.

The United Nations has impressively evolved its peace operations over many decades. Yet, while the functions have multiplied, the tools have not kept pace. Great political innovation has occurred with little technological innovation. However, there are some areas where the United Nations has demonstrated substantial technological progress.

It has developed a world-class communications and information technology (CIT) system. Given the difficult operational environments and the urgent demands for instantaneous communications in the field, the United Nations has achieved, if not set, a global standard for rapid CIT deployment to remote conflict areas.

There have also been a few success stories with monitoring technology. The Carlog system is deployed in most PKOs to track where UN vehicles have been and how they have been handled, thus improving fleet awareness, increasing accountability and efficiencies in time and fuel, and also reducing accidents. Real-time tracking is an option that could be pursued in the future for high-value or high-risk vehicles or convoys. Similarly, the United Nations' use of geographic information systems has increased dramatically in the past decade, though much more can be done. Highresolution commercial satellite imagery (including that supplied through the United Nations Operational Satellite Applications Programme) is now routinely used to create more accurate and up-to-date maps, although not to inform real-time operations. Aerial reconnaissance has been deployed in several missions to great effect. For instance, forward-looking infrared devices in helicopters in the eastern DRC and East Timor have helped to save the lives of peacekeepers and civilians. Also, useful radars were brought into the United Nations Interim Force in Lebanon in 2006 by troop-contributing countries, mostly through their National Support Element

More generally, the United Nations has built up extensive experience with equipment handling and accounting in PKOs – whether the equipment is UN owned or contingent owned. For instance, the system of inspection for Contingent-Owned Equipment in the field is well established and should be capable, with some of the improvements suggested in this work, of handling more advanced technologies.

With a host of activities to monitor - from elections to disarmament to sanctions and a myriad of threats - the world organization needs to broaden its technology base and explore innovative monitoring strategies. Technical monitoring may be just one component of UN operations, but it is an essential one that gives the United Nations greater "information power". Monitoring technologies are legitimate tools – legal under international law - that host states and conflicting parties should welcome because these tools allow the United Nations to do a more effective job as an impartial observer of commitments. The United Nations can thereby help create a more sustainable peace in war-torn areas. These devices can also enhance the safety of UN civilian and military personnel. Finally, technology could help the United Nations take a more proactive approach - moving from a "culture of reaction" towards a "culture of prevention". For proactive peacekeeping, superior situational awareness is essential. Monitoring technologies are particularly important tools of this trade. They can help the United Nations to develop a much more watchful and attentive eye to serve its mission for peace.

Notes

- 1. The United Nations Interim Force in Lebanon currently deploys several types of advanced radar (as described in Chapter 8). In the past, the Quick Reaction Force in the United Nations Mission in Liberia used ground surveillance radars.
- In Western military jargon, a major part of deployed capability is referred to as ISTAR ("Intelligence, Surveillance, Target Acquisition and Reconnaissance").