Overcoming Logistics Difficulties in Complex Peace Operations in Remote Areas[1]

BACKGROUND PAPER

ANNUAL FORUM 2014: Building Capacity for Peace Operations in Response to Diversified Threats: What Lies Ahead?

Challenges Forum, 14–16 October 2014, Beijing, China.

Introduction

Effective logistic support is crucial to enabling the civilian, military and police personnel deployed in complex peace operations to fulfill their mandates. It is also critical for the health and safety of deployed personnel, and for the operation's capacity to provide support to other actors, including the host nation government and humanitarian organizations. Moreover, the manner in which logistic support is provided can affect the host nation, potentially either supporting the peace operation's objectives or undermining them. Logistic support has therefore been an on-going focus for many international organizations, including the United Nations (UN), whose Global Field Support Strategy was introduced in 2010.

This paper begins by providing a definition of logistics support and a description of its possible sources. It then offers an overview of how complexity and remoteness exacerbate the challenges of providing logistics support in peace operations. Finally, it highlights three major challenges (rapid deployment, managing host nation impact, and assessing new technologies) and offers nine recommendations for this panel's consideration.

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[1] This paper is a commissioned background paper for the International Forum for the Challenges of Peace Operations. The views expressed are those of the author and not necessarily those of the Challenges Forum Partnership or the Host.

This paper was shaped by interviews conducted by the author with officials and logistics experts associated with the UN, NATO, the AU and some national militaries, both directly for this project and in previous research. The author would like to thank all these individuals for their willingness to discuss their insights. Any remaining flaws in the paper are solely the author's responsibility.

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Logistics Support: Definition and Sources

In the context of a peace operation, logistics is the science of planning and carrying out the movement and maintenance of the operation's personnel and their equipment.[2] This paper focuses on in-service and operational logistics, which comprise:

- The 'acquisition, storage, movement, distribution, maintenance, evacuation and disposal' of the equipment and supplies necessary for the operation to function;
- The transportation of personnel to, within, and from the mission's area of operation;
- The 'acquisition or construction, maintenance, operation and disposition of facilities' including housing, office and warehouses;
- The 'acquisition or furnishing of services' such as catering, cleaning, and postal services;
- The provision of medical support.

In contemporary peace operations, logistical support typically comes from most or all of the following sources.

Self-reliance by contingent-contributing states. States usually make provisions for the logistical support of any formed units they contribute to peace operations. Even in UN operations, where significant logistics support is provided from other sources, formed units are expected to contribute towards their own sustainment, including by storing fuel, processing food, purifying drinking water, and maintaining equipment.[3]

Provision of logistic support functions by participating states. A 'lead state' may provide broad logistic support for the whole operation or in one geographical area. Alternatively, states may provide particular logistic capabilities, including physical capabilities (e.g. medical units or engineering units) or management capacities (e.g. movement control).

Direct logistic support by the international organization coordinating the operation. This support can take the shape of materiel (e.g. tents, generators, vehicles, medical equipment, office supplies) owned by the organization. The UN maintains a Logistics Base in Italy. The African Union (AU) envisions regional and continental depots for its Standby Force.[4] Organizations can also provide logistics management capacities. Thus UN staff at Headquarters, the Global and Regional Service Centres in Italy and Uganda, and in peace operations contribute logistics planning, procurement, movement control, supply chain management and other capacities to UN missions.

Host nation support. This may include permission for deployed forces to move through the host nation's territory, waters, and airspace; to

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2 Definition adapted from NATO, Logistics Handbook (Brussels: NATO, 2012); p.20. The African Union (AU) has adopted NATO's definition with alterations. AU, African Standby Force – Logistics http://www.apsta-africa.org/documentation/APSTA_ASF%20Manuals/ASF%20Logistics%20Concept.pdf; §6.

3 The UN typically reimburses maintenance costs through the UN Contingent Owned Equipment system.

4 AU, African Standby Force – Logistics; §59

use host nation ports, airports, roads, and rail tracks; to access military bases, accommodation, office space or warehouses. The host nation may also provide supplies (water, fuel…) and services (waste, medical, engineering…).[5]

Donor support. Donor states may provide individual personnel-contributing states with major equipment, self-sustainment assets, strategic or tactical lift, and other logistic support. They can also provide mission-level support: in 2011, for example, Germany's Federal Agency for Technical Relief directed construction for civilian personnel living quarters for the UN Mission in Sudan.[6] International organizations can also be donors of logistic support, as the UN and NATO have been for the AU mission in Somalia.

Commercial contractors. Contractors can be based within the host nation or outside it, and they can vary considerably in size and capacity. They may be engaged by personnel-contributing states, by donors (e.g. in 2010 NATO contracted DynCorps International to provide strategic lift for the AU Mission in Somalia[7]), or by international organizations. In 2013, the UN's peacekeeping procurement expenses exceeded $2.4 billion.[8] NATO's contracts with Afghan contractors alone totaled $14 billion in 2010.[9]

The question is therefore not just whether the appropriate logistics support capacities are being provided for contemporary peace operations but whether different actors are each fulfilling their tasks under a division of labour that is appropriate given the circumstances of the mandating international organisation.

Outlining the Challenge: Logistic Support for Complex Peace Operations in Remote Areas

Complex peace operations are characterized by multidimensional mandates, multinational participation, and volatile/hostile operational environments. Each of these characteristics raises logistic support challenges.

Multidimensional mandates mean that complex peace operations are large and include military, police and civilian personnel, each of which have different equipment, transport and supply needs reflecting their mandated tasks. Civilian personnel, military observers and individual police officers generally deploy without major equipment or self-sustainment capabilities. They must be provided with transport, offices, and supplies as well as rations and accommodation or the means of acquiring these in the host nation10. Multidimensional mandates also

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5 Valentin Marginean, 'Host Nation Support during operations and exercises' powerpoint presentation from NATO Logistic Branch, SHAPE, https://www.diils.org/system/files/05_HNS.pdf

6 Bundesanstalt Technisches Hilfswerk, *THW unterstützt UN-Friedensmission im Süd-Sudan* (*24* May 2011).

7 NATO, *NATO Provides Airlift Support to African Union Mission in Somalia* (18 March 2010).

8 UN Procurement Division statistics, www.un.org/Depts/ptd/procurement-by-country-table-detail/2013

9 Dave Clemente, Ryan Evans, *Wartime Logistics in Afghanistan and Beyond,* Chatam House Report, p.23, (January 2014).

10 The UN pays Mission Subsistence Allowances for this purpose.

often include tasks (e.g. expansion of state authority) that entail a need to provide logistics support to other actors, including the host nation government and non-governmental organizations. The multiplicity of actors requiring support can lead to competition for scarce logistics resources, including transport and engineering assets.

Multinational participation. When the militaries and police forces of participating states use different materiel, the quantity of equipment, spare parts, and supplies to be transported and distributed increases. Self-reliance by personnel-contributing states does not resolve the issue as state supplies to contingents have to travel over the same (often limited) transportation infrastructure within the host nation.

Self-reliance also creates new challenges. During the start-up phase of UN operations, contingents are often delayed because they do not have the required self-sustainment capabilities (see below). States may also compete for local resources such as gravel for construction. In on-going missions, relying on states to provide their own logistics support can create challenges for a mission's ability to maintain operational readiness for high-tempo operations. States can be reluctant to move their contingents once they have invested in establishing national logistic support systems in a particular location. Moreover, some units may fail to provide adequate maintenance for their equipment, avoid costly materiel replacements, and/or minimize equipment use to limit maintenance requirements.[11] UN Contingent Owned Equipment inspections reduce these risks, and the UN has recently introduced an additional penalty for missing/unserviceable equipment.[12] Yet inspections create additional logistics demands (notably for personnel and transportation), and while they can make the mission leadership aware of logistics gaps within contingents, remedying such gaps ultimately remains the responsibility of the contributing states.

Relying on particular states to provide logistical capacities for the mission also raises challenges. The entire mission may be affected if a state cannot deploy a promised capacity on time or places restrictions on its use. The UN Mission in South Sudan, for example, was severely hampered when a South Korean military engineering company deployed 18 months late and a Japanese one was restricted to the city of Juba.[13]

A hostile or volatile operational environment raises force protection challenges for logistics support elements. The risk of ambush and/or Improvised Explosive Devices on roads increases the demand for air transportation assets (especially helicopters), which the UN struggles to secure in sufficient numbers from member states.[14] They are expensive to lease commercially, and civilian aircraft may not be available for use in hostile environments. A hostile operational environment also creates demand for additional military and civilian capacities (e.g. rapid

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11 Katharina Coleman, *The Political Economy of UN Peacekeeping: Incentivizing Effective Participation, pp.20-21 (New York: International Peace Institute, May 2014).*

12 United Nations, General Assembly (UNGA), Resolution 67/261, 6 June 2013.

13 Arthur Boutellis and Adam C. Smith, *Engineering Peace: The Critical Role of Engineers in UN Peacekeeping,* pp. 11-12 (New York: International Peace Institute, January 2014).

14 Jake Sherman, Alischa Kugel and Andrew Sinclair, 'Overcoming Helicopter Force Generation Challenges for UN Peacekeeping Operations,' *International Peacekeeping*, 19:1 (2012)

response, mediation), which require logistic support. Moreover, in hostile environments critical logistics infrastructure (roads, buildings, bridges) tends to be damaged, missions may be denied access to the existing resources, local supplies are scarce, and humanitarian needs are intense. This creates vast logistics demands for a range of capabilities including electricity generation, water purification, vertical and horizontal construction, and transportation.

Remoteness has two dimensions in the context of peace operations.

External remoteness captures the accessibility of the host nation from the point of view of personnel and materiel providers. It reflects both absolute geographical distance and the proximity of available debarkation points (deep-water ports, air bases, rail nodes). External remoteness makes the transport of personnel and materiel in and out of the host nation time-consuming and expensive. It also creates the need to negotiate access, over-flight and potentially basing rights with states neighbouring the host nation, making the mission vulnerable to political changes in these transit states, especially when there are no accessible deep-water ports in the host nation and few available disembarkation points in the region. The UN operation in South Sudan has struggled with persistent difficulties in moving materiel through Sudan, and NATO has faced similar challenges moving supplies to Afghanistan through Pakistan.

Internal remoteness refers to the accessibility of the main area of operations within the host country. Armed conflicts often occur in regions that are distant and/or difficult to reach from the national capital. This means that tactical lines of communication are long and potentially vulnerable to attack, theft and/or corruption. It also means that the available host nation support is typically limited. Internally remote regions are often underdeveloped and under-served in terms of national infrastructure, so transport, communications and medical infrastructure may be scarce. Thus internal remoteness increases the operation's need for air transportation assets, engineering units (including road construction and airfield engineers), and heavy transport companies, all of which the UN often struggles to secure from states (especially in a timely manner) and which are expensive to procure from contractors.

Three Critical Challenges

Logistics Support for Rapid Deployment

The start-up phase of a peace operation raises immense logistics challenges. Large numbers of personnel and materiel must be transported to the host nation, where their arrival and onward movement must be supported (typically by leasing land and buildings as well as infrastructure engineering for camps, roads, airfields, and warehouses) and where they have to be sustained. As noted, this is especially difficult for complex peace operations in remote areas. Yet there is often a political and humanitarian need for rapid deployment, making speed a central challenge. As one UN official put it, 'eventually we always get what we need – the problem is to get it fast.'[15]

[15] Telephone interview with Gérard Hauy, deputy chief of DPKO's Force Generation Service, August 12, 2014.

International organizations have a key role to play in meeting this challenge, including by rapidly but accurately assessing the extent of available host nation support in order to plan for the delivery of the necessary additional logistic support from other sources. The UN currently depends partly on inter-mission cooperation to achieve this: experts from existing missions are temporarily reassigned to conduct host nation support assessments for new operations.[16] There are limitations to this system. Administratively, the Advisory Committee on Administrative and Budgeting Questions (ACABQ) has objected that reassigning experts constitutes unacceptable cross-mission subsidization unless receiving missions bear all associated costs.[17] Practically, existing missions may be reluctant to release their experts, or to release them for sufficiently long time periods. Heavy reliance on temporary expert reassignments can create a lack of continuity and duplication of effort, especially if technical assessment team members are no longer available for mission start-up.

Recommendation 1: The UN is considering creating a roster of logistics experts potentially available for mission start-up teams that would both conduct the technical assessment and deploy for mission start-up. The roster would include logistics experts with UN experience who are retired or no longer UN employees, thereby decreasing UN dependence on staff from existing missions. The creation of this roster should be supported. Since UN staff often go on to work as contractors, consideration should be given to including contractors in the roster.

Recommendation 2: The UN begins gathering information about host nation support only once the possibility of a peace operation arises. By contrast, NATO facilitates logistics planning in advance of a crisis by encouraging Members and Partners to develop a 'Capability Catalogue' of support they could provide as host or transit nations for a NATO operation.[18] The UN should consider implementing a similar system. It should begin the process with states in regions experiencing extensive instability. The sensitivity of the process may be mitigated by stressing that it focuses on states' potential contributions as transit as well as host nations.

Commercial contractors also play a role in facilitating logistic support for rapid deployment of UN and other peace operations. Case-by-case contracting is time consuming, but global systems contracts that specify the delivery of particular goods or services for potential missions and can be activated when required enhance the UN's ability to deploy rapidly. They provide an important alternative to seeking similar capacities from states. However, global systems contracts are expensive and contractors may refuse to deploy (or increase fees) in especially dangerous conditions. Thus contractors are not a panacea to the UN's early deployment needs.

Donated support by civilian state entities capable of delivering logistics capacities has been less explored in the UN system. Yet, for example, Germany's Federal Agency for Technical Relief maintains a Standing

[16] For example, a technical expert from MONUSCO completed initial airport assessments for MINUSMA.

[17] United Nations ACABQ, *Observations and recommendations on cross-cutting issues related to peace-keeping operations*, A/68/782; §71, 5 May 2014.

[18] NATO, *Allied Joint Host Nation Support Doctrine & Procedures*, AJP-4.5, May 2005.

Engineering Capacity specialized in camp construction for peace operations.[19] As noted, it deployed to Sudan in 2010 but disagreements over the modalities of its deployment have prevented more recent deployments for UN missions.

Recommendation 3: The UN should work with states that maintain civilian disaster relief or other crisis capacities to improve mechanisms for states to make these capacities available to the UN for mission start-up.

Ultimately, however, there is no viable substitute for state readiness to provide both critical logistics elements and contingents capable of self-sustainment during the mission start-up phase. The UN provides remarkable logistics support for its operations, including key supplies (rations, fuel, raw water…) and vehicles and other equipment through its Strategic Deployment Stores at the UN Logistics Base. It assumes financial responsibility for transporting personnel and materiel to host nations and reimburses states for the costs of deploying Contingent-Owned Equipment. Nevertheless it cannot substitute for state readiness. Supply systems take time to establish, so contingents are asked to be self-sufficient for an initial period of up to ninety days. The Strategic Deployment Stores support civilian and police staff and can fill some military gaps (e.g. when troops from another organization are 're-hatted' for UN missions), but they cannot adequately equip contingents deploying for a new mission. The Contingent-Owned Equipment system also fundamentally relies on states having the necessary equipment ready for deployment.

Deployment delays due to insufficient major equipment and/or self-sustainment capacities in promised units are common in the UN system. This is partly because the UN draws most of its peacekeepers from developing states, some of which do not maintain all UN-required equipment and self-sustainment capabilities for national use within their militaries or police forces. They are reluctant to invest in acquiring these resources until a unit has been accepted for a UN mission, which leads to deployment delays after acceptance as states seek to acquire necessary capacities. National procurement processes are time consuming, as is negotiating donor support or commercial contracts to fill capability gaps. In all cases, the equipment then has to be delivered, and deploying personnel must be trained to use it.

Inter-mission cooperation offers a partial solution: personnel and equipment already deployed in one mission can be transferred to a new operation to provide the required capacities. Assets surplus to requirements in one mission are also sometimes transferred to another mission.[20] However, practical experiences have shown that there are limitations to the potential of inter-mission cooperation. It requires sufficient capacity in the sending mission, which cannot be assumed to exist, especially given persistent pressure on UN operations to 'do more with less' given the economic difficulty of some key financial contributors.

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[19] Bundesanstalt Technisches Hilfswerk, 'Standing Engineering Capacity' www.thw.de/SharedDocs/Einheiten/DE/Ausland/SEC.html?nn=2061858

[20] United Nations ACABQ, *Observations and recommendations on cross-cutting issues*; §§135-140.

Transferring military or police units to another mission also requires the consent of the contributing member state, which, depending on the state's internal approval process, may take considerable time. Moreover, inter-mission cooperation is most likely to be productive when it involves inherently mobile capabilities such as air assets. For other capabilities, the difficulties of moving deployed units may cancel the benefits of geographic proximity. Contingent-owned equipment may be worn out and transport containers defective after years of deployment in a hostile environment, and if a deployed unit is using equipment that belongs to the mission, moving the unit separates it from its equipment. Moving personnel and equipment out of an internally remote area raises the challenges of poor transport infrastructure, and assets sometimes require export permission from the host nation. These factors can make the generation of new units more time-efficient than inter-mission cooperation.[21]

It is therefore essential for organizations to provide incentives to member states to invest in readiness both in terms of units' self-sustainment capacities and in terms of fully equipped logistics support units. The UN has long lacked such incentives. In 2013, however, the General Assembly endorsed a premium for 'key enabling capabilities' in UN peacekeeping operations, as recognized by the Secretary-General.[22] In 2014, it endorsed adding a readiness dimension to the premium, differentially rewarding deployment of the capacity within 30, 60, and 90 days.[23] This premium is an important step forward, but there is room for further improvement.

First, the existing premium has several limitations. The available funds are modest as total premium payments are capped at 'an amount equal to a 15 per cent premium paid to 20 per cent of the average number of contingent personnel deployed during the peacekeeping fiscal year,' or approximately $40 million at 2013-2014 rates.[24] Moreover, the General Assembly specified that premium payments must be made 'from the accounts of the qualifying missions' rather than from a separate account as proposed by the Secretariat.[25] This may create a financial disincentive for missions to propose premium payments unless budgets are smoothly adapted to finance these payments. In addition, it seems that the readiness dimension of the premium will now be based on when a unit arrives in its intended area of operations, rather than when it is ready for shipment or even when it arrives the host country. Member states that see transportation time to and within the host country as beyond their control may therefore not respond to the readiness incentive.[26]

Recommendation 4: The implementation of the current key enabling capabilities premium should be monitored over the next budget year. The

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21 Telephone interview with Gérard Hauy, August 12, 2014.

22 United Nations, General Assembly, Resolution A/RES/67/261, 6 June 2013. The GA also endorsed a premium for individuals from units operating without caveats and facing exceptional risks.

23 United Nations Secretary-General, *Results of the revised survey to establish the standard rate of reimbursement for troop-contributing countries*, A/68/813; §66, 26 March 2014. United Nations, General Assembly, Fifth Committee, Draft Resolution—Rates of reimbursement to troop-contributing countries, A/C.5/68/L.44, 30 June 2014.

24 UN Secretary-General, Results of the revised survey; §58.

25 UNGA Fifth Committee, Draft Resolution—Rates of reimbursement; §5

26 Telephone interview with Gérard Hauy, August 12, 2014.

payment cap, readiness definition and funding for premium payments should be revisited if they are found to impede the premium's intended effect.

Second, overcoming the logistics challenges of rapid deployment requires states to invest in *both* key enabling logistics capabilities *and* in readiness (including for self-sustainment) of all units. Readiness and key enabling capabilities are thus separate though overlapping issues.

Recommendation 5: UN member states should maintain the key enabling capabilities premium but also create a separate readiness premium to reward the rapid deployment of any peacekeeping unit designated by DPKO as required in the initial phase of a new peacekeeping operation.[27]

Finally, the financial incentives for states created by UN reimbursement payments cannot fully reflect UN needs and priorities as long as they are anchored by a uniform reimbursement rate for personnel contributions supplemented by separate reimbursements for contingent-owned equipment and the recently-introduced premiums.

Recommendation 6: To create incentives for states to provide scarce but especially valuable units – particularly logistics units ('enablers')—the UN should move towards reimbursing states for integrated units delivering particular capabilities, and adjust these reimbursement rates to reflect its operational needs.[28] This would provide more calibrated incentives that could not only facilitate rapid mission start-up but also incentivize on-going operational readiness in established missions (see above) by rewarding only capacities that remain available and free of restrictions/caveats. UN Secretariat members should elaborate, and member states should endorse, a pilot project introducing unit-based reimbursement of key logistic capabilities. Developing states that currently struggle to contribute fully equipped units may resist this development. Their concerns could be addressed by mobilizing donor and UN support for efforts to establish the designated units. Options include a premium for the first deployment of a new unit, increased efforts to match potential unit-contributing states with equipment donors, and allowing the Secretariat to commit to keeping a unit deployed beyond a single budget year.

Of course, financial incentives are not the only mechanism for encouraging states to invest in readiness and in key capabilities. NATO engages its members in long-term planning cycles that encourage multi-national cooperation to create logistics capacities, highlight gaps in deployment capabilities, and create political pressure for states to live up to alliance commitments. However, such political incentives and pressure are less achievable in the current UN context.

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27 Coleman, 2014.
28 Coleman, 2014.

Logistics Support, Procurement, and Host Nation Impact

International organizations have become aware that logistics support not only enables personnel in peace operations to fulfill their mandate but can also directly impact mission objectives such as stabilization and economic reconstruction in the host nation. Decisions about whether and where to build roads, airfields and wells and how to generate electricity, acquire supplies and manage waste can have profound effects in internally remote, conflict-scarred areas.

One implication is that providing the right logistics capabilities also means providing them from the right sources. A 2006 UN report noted that 'peacekeeping operations' spending has the potential to kickstart the local economy' and suggested that 'increasing field procurement is the best way to increase local impact.'[29] The UN's Global Field Support Strategy defines the full utilization of 'local and regional investment and capacity' as a mission impact objective.[30] One of the aims of the Regional Service Centre in Uganda is to facilitate local and regional contracting. The UN procurement system also recognizes certain 'essential goods and services which, by their nature, lend themselves to local procurement and are not available from HQ [headquarters] Contracts.'[31] NATO similarly sought to enhance the local benefits of its procurement spending through its 2010 Afghan First Policy.[32]

However, there are two challenges to using local procurement to produce a positive impact in the host nation. One is that international organizations' member states have a political and economic interest in securing procurement contracts for their own nationals. In the UN system, this has led to a focus on procurement from vendors in developing countries and countries in transition rather than strictly from host nations. The UN Procurement Division has consequently tracked the percentage of contracts to this group of these vendors. However, this category is very broad. In 2013, contracts in this category totaled $1.67 billion (representing 69% of peacekeeping procurement), but this includes $276 million in contracts with Russian companies, $313 million with vendors in the UAE, and $72 million with Kuwaiti companies.[33]

Recommendation 7: The UN Procurement Division should track separately contracts to 1) vendors in states in categories D to J of the current peacekeeping budget scale (i.e. states for whom a discount in financial contributions to peacekeeping is deemed appropriate); and 2) vendors in host nations of UN peace operations.

The second challenge is that procurement from local vendors is not always in the interest of the host nation. Where local resources (e.g. food, construction materials…) are scarce, procurement by peace operations

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29 Michael Carnahan, William Durch, and Scott Gilmore, *Economic Impact of Peacekeeping,* UN Peacekeeping Best Practices report, pp.1-3, March 2006.

30 United Nations, Secretary-General, *Global Field Support Strategy*, A/64/633, p. 3, 26 January 2010.

31 United Nations, *United Nations Procurement Manual—Revision 7 July 2013*; Chapter 1

32 NATO, NATO Afghan First Policy, 23 April 2010, http://www.nato.int/cps/en/natolive/official_texts_62851.htm

33 United Nations Procurement Division statistics, www.un.org/Depts/ptd/procurement-by-country-table-detail/2013

may deprive local populations of access to necessities. Even drilling a new well can be problematic if it interferes with irrigation systems (e.g. early NATO wells in Afghanistan[34]) or taps fossilised water sources (e.g. in northern Mali). Moreover, local contractors may engage in practices that undermine a peace operation's goals, as the UN experienced with the 2010 Haiti cholera outbreak.[35] NATO found that Taliban forces were benefiting from its local contracts in Afghanistan.[36]

To address this challenge, the UN has the benefit of a centralized procurement system. However, the UN Procurement Manual does not explicitly list host nation impact as one of its guiding principles, focusing instead on 'best value for money', 'fairness, integrity and transparency,' 'effective international competition' and 'the interest of the United Nations.'[37] There is flexibility in this system, notably in determining what constitutes 'best value for money.' The Manual identifies non-cost factors (including the competence of the vendor), market environment, risk factors, and 'competitive, fair, ethical and transparent sourcing' as affecting this measure. Moreover, when procurement takes the form of a Request for Proposals inviting vendors to outline how they would meet an identified need (as opposed to simply bidding to supply a specified product), proposals are evaluated on both their technical and their financial merits. Yet the broad definition of 'best value for money' has raised concerns among UN member states, who have asked the Secretary-General to provide further details about its application in practice.[38] Questions include how interpretations of 'best value for money' may affect vendors in developing countries and countries in transition, and whether more sustainable/green procurement should be encouraged.[39]

Recommendation 8: The General Assembly has asked the Secretary-General to submit another comprehensive report on UN procurement activities for consideration during its 69th session.40 The Secretary-General should consider using this report to propose changes to the Procurement Manual that highlight host nation impact more explicitly as a guiding principle for peacekeeping procurement, either within the Best Value for Money category or as a separate principle.

Using Technology to Reduce Logistic Support Challenges

Technology intersects with logistics support in multiple ways, and can be used to alleviate some logistic support challenges. For example, it can facilitate supply chain management by improving information about the movement of people, goods and services to, from and within the host nation. Within the UN, electronic systems for fuel, inventory, and rations

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34 'Finding water in the heart of darkness: Afghanistan's on-going water challenges', *EARTH Magazine*, July 2009.

35 Alejando Cravioto, Claudio Lanata, Daniele Lantaggne and Balakrish Nair, *Final Report of the Independent Panel of Experts on the Cholera Outbreak in Haiti*, 2011.

36 Dave Clemente, Ryan Evans, 'Wartime Logistics in Afghanistan and Beyond'; pp.22-24

37 United Nations, United Nations Procurement Manual; §1.3.C.

38 United Nations, Advisory Committee on Administrative and Budgetary Questions, *Comprehensive Report on United Nations Procurement Activities,* A/67/801, 18 March 2013.

39 United Nations, A/67/801, 18 March 2013.

40 United Nations, General Assembly, *Resolution 68/263*, 28 April 2014.

management are being developed.[41] The UN has also developed its use of Geographic Information Systems, including for finding new water sources for its missions,[42] and is exploring solar energy generation.[43] However, other technologies that could alleviate logistics support challenges remain underexploited or underexplored.

For example, monitoring technology such as fixed cameras, cameras on airborne platforms (including unmanned aerial vehicles), and ground surveillance radars can supplement the efforts of human monitors.[44] Their use may permit a greater concentration of personnel deployed in internally remote areas into bases from which mobile patrols can be conducted. This would ease the challenges of providing logistics support to this personnel. The UN has begun using some of these technologies (including unmanned aerial vehicles) and could extend and routinize their use.

Another example is the cellular phone technology, which has spread dramatically in the developing world, including in remote areas.[45] It is more reliably available than the Internet, and has the potential to facilitate safer and more transparent local sourcing of some supplies and services. For local sourcing, missions require information about vendor capabilities, and vendors need information on the mission's requirements. In Eastern Africa, services that provide market information via cellphone text messages have been developed and are being used by farmers to gain information about crop prices.[46] At the same time, cell phones are being used to receive and make payments. Vodaphone's M-Pesa, for example, has 19 million customers in Kenya.[47] The technology thus exists to both to inform potential local vendors of a mission's procurement needs and to pay them electronically, which can speed payment, help protect vulnerable vendors (including women[48]) from theft, and limit corruption as transfers are documentable and direct.

In the longer term, '3-D printing' (a.k.a additive manufacturing) is likely to revolutionize key aspects of logistics support. The technology already exists to print objects in metal as well as plastics, opening up the possibility of personnel deployed in remote areas printing a large variety of items ranging from spare parts to custom medical devices. The technology's impact on logistics is already recognized in the US military, especially Navy.[49] For multinational peace operations, 3-D printing offers

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41 United Nations, Secretary-General, *Overview of the Financing of the United Nations Peacekeeping Operations,* A/68/731, 31 January 2014.

42 *New challenges spur UN peacekeeping to become 'a force for the future'* (UN Daily News, 29 May 2014).

43 United Nations, Secretary-General, *Fourth Annual Progress Report on the Implementation of the Global Field Support Strategy*, GFSS Report, A/68/637, 4 December 2013.

44 Walter Dorn, *Keeping Watch: Monitoring Technology and Innovation in UN Peace Operations* (Tokyo: United Nations University Press, 2011).

45 *Ethiopia and Kenya: Doing it my way, (*The Economist, 2 March 2013). *African Huts Far from the Grid Glow with Renewable Energy* (New York Times, 24 December 2010).

46 *Five Ways Cell Phones are Changing Agriculture in Afirca* (Food Tank, 12 April 2013).

47 Matt Twombey, *Cashless Africa: Kenya's smash success with mobile money* (CNBC 11, November 2013).

48 The UN is committed to 'incorporate[ing] a gender perspective in its peacekeeping operations.' UN Security Council, Resolution 1325, 31 October 2000, S/RES/1325(2000); §5

49 *US Navy explores 3D Printing's Ability to Facilitate Logistics* (The Engineer, 7 July 2014). Jon Drushal and Michael Llenza, *3-D Printing revolution in Military Logistics*, (New Atlanticist, 20 November 2012).

the benefit that diverse national equipment and service parts needs can be met simply by altering the print design. 3-D printing is unlikely to replace conventional supply chains in the near future, but it can drastically decrease the need for extensive materiel stockpiles by providing the capacity to produce at least an interim solution to a local need, which can then, if necessary, be more permanently filled through the conventional supply process.

Recommendation 9: The UN has recently convened an Expert Panel on Technology and Innovation in UN Peacekeeping, whose report is expected in November 2014.[50] The Panel's deliberations should include consideration of technologies facilitating logistics support. In the longer run, however, a more permanent body should be created within the UN Secretariat to monitor and assess technologies that could benefit UN peace operations, including by mitigating logistics support challenges.

Conclusion

Logistics support is crucial in enabling the personnel deployed in peace operations to fulfill their mandated tasks, and the manner in which logistics support is provided also directly impacts the host nation. In contemporary peace operations, logistics support emanates from a variety of sources, including the self-reliance capacities of deployed contingents, logistics capabilities contributed by states, the coordinating international organization, the host nation, commercial contractors and donors. However, the logistics support needs for complex peace operations, especially those deploying into hostile environments in internally remote areas, are enormous and include capacities such as air transport and engineering that the UN often struggles to secure in sufficient quantities. Logistics support for rapid deployment, optimizing the impact of logistics support provision on the host nation, and incorporating new technologies to facilitate logistics support remain key challenges, including for UN operations. The nine recommendations proposed above are intended to help address these challenges.

[50] United Nations, 'USGs Announce Expert Panel on Technology and Innovation in UN Peacekeeping' Press Release 4 June 2014. Telephone interview with Walter Dorn, Professor, Department of Defence Studies, Canadian Forces College, 7 August 2014.