

Fight Right Sustainment

Sustaining distributed operations

by Mr. Tom Russell

The robust combat capability currently used by the Marines Corps is impressive, fast, survivable, and lethal. It is unmatched by any other fighting force in the world when combined with the discipline and tenacity of the Marine and is respected throughout the globe. Yet, as the 37th and 38th Commandants have expressed, we do not possess the capability we need to be successful in the future operating environment.¹ The sustainment of the force is an important consideration in the capability gap described by the *Commandant's Planning Guidance*. This article will address the question: "How will the Marine Corps' sustain distributed operations in future austere environments that will lack developed infrastructure?"

Environment

The future operating environment is one that we will not own or dominate. It will be contested across all domains. Our mission will not be to defeat an adversary but to participate as an element of an integrated maritime defense in depth in order to contain, influence, and deter an adversary. To be successful, we will have to occupy key maritime terrain in proximity to critical sea lanes in order to control the use of those lanes. Much of this key terrain will be uninhabited or sparsely inhabited at best. To survive, we will have to be continuously mobile and deceptive while operating across these small islands.

Our current capabilities have one huge challenge: most rely upon developed infrastructure in order to be employed effectively. We need airfields with long runways and lots of bulk fuel.

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We need deepwater ports with container handling equipment in order to mobilize, generate the force, and process sustainment. We need hard surface roads that can handle heavy wheeled trucks that can handle heavy wheeled trucks to onward move and displace our force. We need hardstand, material handling equipment, and mobile electric power in order to enable operating bases to control and support combat operations. This infrastructure will be a luxury in the future operating environment and will be sparse across much of the area

that we will have to operate. Where it does exist, our adversary will be keenly aware of its presence, and it will survive at their leisure. Absent this infrastructure, the "Fight Tonight" technology that we currently own will have limited use and effectiveness to the warfighter.

Nature of Tech

"Fight Right" technology needs to be optimized for the South China Sea and the China threat. Exquisite technologies that are extremely technical and capable, but few in number, are not suitable. Such capabilities will be targeted by the adversary and will rate an arrow from their quiver. Their loss will be a tragedy from the perspective of life, capability, and national treasure. The aircraft and the surface vessels we



Fight right sustainment technologies must look like innocuous commercial shipping in order to hide in plain sight. (Photo by LCpl Trevor Rowett.)

currently own fall into this category and are capable and expensive; therefore, we own only limited quantities. Their loss will make the evening news and involve someone knocking on a door to deliver tragic notification to a family.

“Fight Right” technology needs to be acquired with attrition in mind. It needs to be a simple, low-cost COTS-based technology that may only be able to do 85 percent of what we need, but we will be able to buy plenty of it. We need to know what our requirement is for these systems and then increase that number by 40 percent. Buying only what we need is a legacy notion. A plentiful, cheap solution can be swarmed and will not rise to the level that justifies an expensive arrow from the adversaries’ quiver.

“Fight Right” technology needs to be unmanned—where practicable. The distributed maritime nature of the future operating environment will require us to lean on the air and surface domains for sustainment distribution actions more than ever in our history. Everything that flies at the ragged edge of the first island chain should be operated by an onboard intelligent system, not a vulnerable and cognitively limited human being. Our surface watercraft need to be able to accept autonomous appliques when appropriate and have



EABO will require new approaches to sustainment like “foraging” for supplies to include purifying seawater into potable water. (Photo by LCpl Trevor Rowett.)

a contested arena, we will be watched at every turn. Despite this, we must be able to endure. Our technologies must be able to hide in plain sight. They must look like common commercial capabilities that will not raise suspicion. Whenever possible, they must be able to fit inside of a twenty-foot equivalent unit ISO shelter that can be easily moved, staged, and stored in an innocuous manner that will conceal the capability and intent. Any data emis-

be considered and that influence the way we train, equip, and organize to support EABO are discussed below.

*Logistics Subsidiarity.*² Logistics subsidiarity is the principle that a central authority should have a subsidiary function, performing only those tasks that cannot be performed at a more local level.³ In this context, it is imperative that logistics requirements be resolved as close to the consumer as practical by dynamically synthesizing logistics information, materiel flow, and C2 to maximize operational effectiveness and survivability. Given adversary long-range precision fires, creating an “iron mountain” or relying on just-in-time resupply is not be a viable option. This requires minimizing the need for specialized logistics Marines and enabling self-reliance of operational entities. Self-reliant units will require certain capabilities such as foraging forward, contracting, harvesting, and composing. These are described below:

- *Foraging forward.* Units should forage for supply, within rules of engagement, by using available resources in the battlespace and eliminating the need to transmit demand or require distribution.
- *Contracting.* Local contracting provides a means to obviate distribution,

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the ability to operate unmanned or in a leader/follower format. When manning is required, we need to ensure crews are minimally configured. If we lose an air asset, it should not be mourned and quickly replaced. If we lose a watercraft, it should not impede us, and we should have replacement craft waiting to fall in and fill the gap. Hopefully, that lost surface vessel was unmanned or at least minimally manned.

“Fight Right” technology needs to win the hider/finder competition. In

sions must be controlled and signatures managed. Everything we do needs to have a deception or decoy aspect to it in order to continuously thwart those that are trying to discern and disrupt our intentions.

Change in Philosophies

Along with new and different capabilities, the EABO environment demands new operating approaches to persist and sustain operations. Some of the different conceptions that must

with the caveat that forces must be in an operating area where there are means to contract with a supplier. Contracting is an element of the unit's information signature but can be decoupled from the unit's physical maneuver.

- *Harvesting.* Commodities like water and fuel transported to the forward edge of battle increases costs exponentially and entails risk to supply convoys. Technology to harvest what is available and convert it to something usable instead of transporting forward reduces risk by eliminating information flow and distribution cost but at the expense of additional equipment burden to the forward unit.
- *Composing.* Units should have the ability to assemble or compose capabilities at point of need. Modular systems, software-defined capabilities, and additive manufacturing all provide tools to accomplish this function that internalizes and reduces information and materiel flows.

Logistics subsidiarity challenges conventional logistics assumptions based on efficiency and risk minimization with new assumptions to achieve survivability and agility. While this ambition may not be immediately feasible, it is nevertheless operationally desirable, and the tenets of logistical subsidiarity should undergird all future force development as intermediate or stretch goals. When these tenets are incorporated into the wider elements of force design, logistics will support enabling and expanding operations, rather than appended to our overarching operational design as a constraint.

Logistics subsidiarity requires the development and acquisition of capabilities that can be operated and troubleshot by the user. It will require diversity in training to broaden the scope of warfighter talents to enable them to not only perform their warfighting function but be able to sustain themselves as well. Smaller support elements comprised of logisticians capable of performing multiple specialties will be available to other EAB elements. The bulk of EAB sustainment will be provided by organic personnel using simple, maintainable hardware, and logistics will be pre-planned.

*Informatized Sustainment.*⁴ Accurate and responsive situational awareness and optimal logistics operations will be essential in the ability to sustain Fleet operations in the distributed, maritime, and contested challenges inherent with the EABO environment. This will be achieved through sensing the battlespace to monitor consumption of critical supplies such as subsistence and water, fuels, ammunition, and parts. The prognostic and diagnostic condition of systems will need to be sensed and monitored to ensure the health and viability of capabilities. This will involve the conversion of operational characteristics into data or information that can be transmitted for consumption and analysis by algorithms that understand what is normal, what micro patterns indicate impending concerns, anomalies that likely need attention, and supply stockage levels that need replenishment. A fusion of this logistics data with intelligence and operational data will impact the machine generated list of recommended courses of action forwarded for consideration by the logistician.

Informatized sustainment will require free use of the "internet of logistics things" and assured connectivity. Emission signatures will have to be managed. The integration of logistics, intelligence, and operational data will have to be coordinated. Algorithms regarding the association between performance parameters and associated maintenance concerns need to be investigated, discovered, and documented.

Different Rather than Better

If what we have is inadequate, why do we spend so much time, effort, and money trying to make it better? Replacing a Light Armored Vehicle with an Advanced Reconnaissance Vehicle represents only incremental improvement to what we have. Replacing a CH-53E with a CH-53K lacks any recognition that what we have today is not what we will need tomorrow. Relying upon the overseers of our current capability to define a new frontier of capability, often results with identifying something that is better instead of something that is different. This may correctly be described

as modernization, but it is not innovation. Making improvements to what we currently possess will never allow us to move to the next transformation.

The capability we require in our future is going to be different than what we currently own. Finding that different capability should be our focus. We need to recognize that our inherent inclinations are programmed to improve and modernize what we recognize and understand. That is what we naturally want to do. The notion of pursuing things that are different from what we know is a risky endeavor and will upset the natural order of things. That is something we want to avoid. Regardless, different is what is required.

Conclusion

If your capability is effective and you are sure that it will continue to support your requirements, there is no need for innovation. Your focus should be on incrementally improving your current condition. But if what you have persistently fails to meet the operational need, your energy is wasted pursuing marginal improvements. Your efforts should be focused on innovation and significant change from the status quo. Significant change calls for new technology and operating concepts. However, as we embrace change, we need to maintain the discipline and tenacity of the individual Marine but equip them with fundamentally different technologies and approaches.

Notes

1. Gen David H. Berger, *38th Commandant's Planning Guidance*, (Washington, DC: 2019).
2. Headquarters Marine Corps, *Draft TM Manual for Expeditionary Advanced Base Operations (EABO)*, (Washington, DC: June 2018).
3. Art Corbet, "NEXLOG Newsletter," (Arlington, VA: NEXLOG, October 2019).
4. *Draft TM Manual for Expeditionary Advanced Base Operations (EABO)*.

