

Sustainment Through Science and Leadership

The 68Rs Contribution to Food Safety and Operational Readiness in Large-Scale Combat Operations and Multi-Domain Operations

by Staff Sergeant Tyler Lowery, USA



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Land Warfare Paper No. 172, February 2026

**Sustainment Through Science and Leadership:
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Large-Scale Combat Operations and Multi-Domain Operations**

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In Brief

- The Army's ability to sustain both large-scale combat operations (LSCO) and Multi-Domain Operations (MDO) depends not only on ammunition, fuel and transportation but also on an element often taken for granted—safe, reliable food.
- Within this critical domain, the 68R Veterinary Food Inspection Specialist serves as an essential sustainment leader, bridging the gap between science, doctrine and operational necessity, strengthening the Army's capacity to maintain combat effectiveness under the most demanding conditions.
- Food safety failures can degrade operational strength as severely as enemy action. Conversely, preventive sustainment led by competent, trusted NCOs preserves combat power, maintains morale and reflects the moral obligation leaders have to protect their Soldiers.
- Food protection is not a support function; it is a readiness multiplier. To fight and win across domains, the Army must integrate food safety into operational planning, treating it as both a scientific discipline and a leadership responsibility.

Sustainment Through Science and Leadership: The 68Rs Contribution to Food Safety and Operational Readiness in Large-Scale Combat Operations and Multi-Domain Operations

Introduction

Senior leaders recognize that readiness is more than numbers on a slide—it is the health, trust and adaptability of the force. Yet, the sustainment enterprise still undervalues preventive functions that keep Soldiers in the fight. Food safety, when neglected, can halt operations faster than a kinetic strike. During distributed combat, a single contaminated ration shipment could incapacitate dozens of Soldiers and derail a mission. In an environment with contested logistics, recovery and resupply may not come quickly.

Commanders must therefore view 68Rs not as inspectors operating in the rear, but as tactical sustainers who protect the fighting force. To realize this shift, three imperatives emerge:

1. **Empower NCOs to act with disciplined initiative.** 68Rs operating forward of the Brigade Support Area must have authority to make independent decisions in degraded environments, consistent with the principles of ADP 6-0: *Mission Command*.¹
2. **Integrate science into leadership.** Leaders must treat food safety as a preventive science directly linked to readiness. Investment in biosurveillance and portable testing capabilities will enable faster, data-driven decisions under combat pressure.
3. **Institutionalize preventive sustainment.** Just as maintenance metrics track equipment health, readiness systems should measure preventive food safety performance—inspections, temperature compliance and rapid response rates.

These priorities will allow commanders to sustain combat power through trust and foresight. Food safety is not logistics administration; it is leadership in its most protective form.

Background

Throughout military history, armies have fallen not only from enemy fire but from disease, contamination and neglect. Napoleon's army famously lost more soldiers to starvation and illness than to battle.² The U.S. military has long understood that logistics win wars, but the human component of sustainment, nutrition, sanitation and health remains its foundation. In modern LSCO and MDO, where supply lines are contested and distributed across domains, food safety becomes an operational variable.

As an infantryman attached with the Counter Joint Special Operations Task Force in Afghanistan, I witnessed firsthand how a preventable foodborne illness nearly crippled our small detachment. At our isolated camp, a handful of Soldiers, myself included, became violently ill due to improper storage and handling of rations by local contractors. Within 48 hours, six Soldiers were out of the fight. Our 18D Special Forces medic and 68W combat medic were diverted from mission preparation to treat us, while mission planning and base security were disrupted. It was not enemy fire that had degraded our combat power that week; it was bacteria.

Our team eventually recovered, but the experience left a lasting impression. The absence of trained food-safety NCOs in austere combat outposts represented a critical gap in the sustainment chain. A single 68R could have mitigated or prevented the incident entirely. Years later, as a reclassified 68R, I realized how unseen yet indispensable our role is. Food inspectors rarely receive recognition, yet their work silently prevents the very scenarios that cost units their readiness.

Sociologically, this dynamic reflects the moral dimension of military service. In his sociological framework, Émile Durkheim described a collective conscience, the shared moral values that bind a group.³ Within the Army, this includes the obligation to protect one another's health and well-being. Similarly, Max Weber's rational-legal authority further clarifies that institutional legitimacy depends on expertise and procedural reliability.⁴ When Soldiers trust that their food is safe, they are not only nourished physically, but they also reaffirm trust in their institution.

In future LSCO and MDO environments, that trust will be tested, as it has been in every past conflict. Prolonged engagements against near-peer adversaries will strain sustainment systems, disrupt supply chains and force units to improvise subsistence sources. The Army must adapt by empowering technical experts (the 68Rs) to operate forward, applying science and judgment in real time to protect the fighting force.

Methodological Note

This paper combines doctrinal analysis, sociological theory and personal operational experience to examine how food safety functions as a readiness enabler in LSCO and MDO. Primary doctrinal references include Field Manual (FM) 4-0, *Sustainment*, Army Doctrine Publication (ADP) 6-0, *Mission Command*, and Army Regulation (AR) 40-657, *Veterinary/Medical Food Inspection*.⁵ Sociological frameworks from Weber, Durkheim and Talcott Parsons provide theoretical grounding for legitimacy, collective trust and institutional function.⁶

Empirical data from epidemiological studies contextualize the operational consequences of foodborne illness in military populations.⁷ These findings are interpreted through a leadership lens, arguing that preventive sustainment depends on empowered NCOs who bridge technical knowledge and moral leadership.

The analysis is also informed by firsthand experience from both combat and sustainment perspectives: first as an 11B infantryman stationed at Fort Benning, Fort Bliss, and Vilseck, Germany; and being attached to a Special Operations Task Force ODA (Operational Detachment Alpha) team in Afghanistan, and later, as a 68R, leading inspection operations across multiple duty stations, including San Diego, Korea and Fort Gordon. The intent in sharing all of this is not to offer anecdotes for sentimental purposes, but to demonstrate how lived experience aligns with doctrine and theory to form a cohesive argument: Sustainment through science and leadership defines the future of readiness.

The Evolving Role of the NCO in LSCO and MDO

The NCO has always been central to the Army's effectiveness, bridging the space between command intent and Soldier action. In the environment of LSCO and MDO, this role expands beyond supervision to include decision-making authority that sustains the operational tempo. NCOs no longer simply execute orders; they must interpret doctrine, assess risk and lead under conditions of degraded communication and uncertainty.

For the 68R Veterinary Food Inspection Specialist, this evolution is particularly pronounced. Historically confined to static inspection facilities or large installations, the 68Rs future lies forward, embedded with sustainment and maneuver units. These NCOs will not merely enforce standards, but will also make critical decisions that protect combat strength. As outlined in FM 4-0, *Sustainment*, mission success relies on continuous logistics support in contested environments.⁸ In such conditions, the empowered NCO becomes both guardian and innovator.

Weber's rational-legal authority helps explain why this empowerment is essential.⁹ The legitimacy of NCO leadership depends on procedural consistency and technical competence. When 68Rs apply regulatory expertise under field conditions, whether inspecting food shipments or assessing water sources, they exercise lawful authority grounded in expertise rather than hierarchy. Durkheim's idea of a collective moral order further complements this.¹⁰ Within the Army, trust is the binding force that keeps Soldiers unified even in chaos. When NCOs act with integrity in food safety, they sustain more than the body; they sustain institutional trust.

My time in Korea demonstrated how this trust is built through collaboration and technical excellence. Working alongside the Republic of Korea Army, our team developed contingency plans for sourcing subsistence and potable water in the event of a conflict that disrupted supply chains. We coordinated with allies using mobile biological testing equipment capable of analyzing local food and water samples. The process was more than scientific; it was diplomatic. Each successful validation strengthened alliance confidence and ensured that, if conflict erupted, no Soldier would fall ill from preventable contamination. This experience reaffirmed that sustainment excellence is an act of leadership, not administration.

Parsons argued that functional systems survive through equilibrium between technical performance and moral alignment.¹¹ In the context of sustainment, the 68R embodies that equilibrium. The technical inspection is the science; the protection of Soldiers through that inspection is the moral act. To prepare for LSCO and MDO, the Army must therefore treat the 68R not as a technician, but as a leader whose expertise forms a critical link between science and survival.

Food Safety as Strategic Sustainment

Food safety is often invisible until it fails. Yet, when it fails, the operational consequences can be immediate and severe. The Centers for Disease Control and Prevention identifies Salmonella, E. coli and Listeria as the leading causes of foodborne illness in field environments.¹² In austere operations, these pathogens do not simply cause discomfort; they remove Soldiers from the fight, divert medical assets and degrade combat readiness.

The Army's doctrine, particularly AR 40-657, *Veterinary/Medical Food Inspection*, and TB MED 530, outlines procedures for preventing contamination through proper storage, temperature control and hygiene. However, doctrine alone cannot prevent outbreaks. The most critical factor is behavior. Bandura's social learning theory posits that people adopt behaviors

modeled by credible leaders.¹³ When NCOs prioritize hygiene and sanitation during field feeding, subordinates replicate those standards. This is why food protection must be treated as leadership in action, not simply as compliance with regulation.

As an infantryman, I once believed that we handled everything ourselves. We cleaned our weapons, built our defenses and prepared our meals. Only after becoming a 68R did I realize that the unseen efforts of support Soldiers were what kept combat units operational. In every field environment, I witnessed the same truth repeated: When food safety is neglected, illness follows. Yet, when it is enforced through proactive leadership, the unit thrives. Trust in support roles must therefore be cultivated deliberately. Commanders should ensure that 68Rs are embedded with combat formations, visible and empowered to make decisions that prevent degradation of the force.

Food protection is also a psychological factor. When Soldiers see leaders enforcing cleanliness, discarding spoiled rations and prioritizing health despite scarcity, they internalize a sense of care and professionalism. Durkheim described this as the reinforcement of collective morality: acts that reaffirm the shared value of human life within an organization.¹⁴ A unit that eats safely together fights cohesively together.

In a study conducted with other researchers, M.S. Mustafa documented how one outbreak of food poisoning in a training environment sidelined two-thirds of a company for several days, halting operations.¹⁵ The cause was preventable: failure to maintain cold-chain storage. In LSCO, where time and resources are scarce, such negligence could cripple a brigade. The lesson is simple: Preventive sustainment is combat readiness.

Bury warns that modern supply chains, optimized for efficiency, can become fragile when contested.¹⁶ In a near-peer fight, the Army's reliance on digital logistics tracking and commercial suppliers may expose it to disruption. 68Rs will therefore serve as frontline risk managers, providing human verification when digital systems fail. Their inspections, sampling and reports form the foundation of confidence in the sustainment system.

Food safety is not a task to be checked off, but a philosophy to be embodied. It connects the science of microbiology with the art of leadership, reminding every Soldier that the most powerful force multiplier in war is a healthy, trusted and resilient formation.

The Role and Responsibilities of the 68R in LSCO

The next evolution of sustainment requires a reimagining of how the Army employs 68Rs in LSCO. Traditional operations positioned food inspectors primarily at major logistical hubs or garrison facilities, far from the point of consumption. In LSCO, this model is unsustainable. Contested supply lines, distributed operations and coalition integration demand that 68Rs operate forward, functioning as both scientific specialists and sustainment leaders.

In LSCO, 68Rs face new challenges. Supply chain fragmentation, degraded communication and lack of refrigeration will force them to make rapid, independent risk assessments. They will evaluate captured enemy or host-nation subsistence, verify water sources and determine the suitability of local storage sites without higher-level guidance. Their authority to make go or no-go decisions must therefore be clearly defined in doctrine. Empowerment is not optional; it is mission essential.

If designing LSCO doctrine, 68Rs forward of the Brigade Support Area should be tasked with three critical missions. First, they should conduct forward biosurveillance and rapid risk assessments, using portable diagnostic kits to detect contamination in food and water sources. Second, they should validate local or improvised subsistence sources, ensuring that host-nation or humanitarian rations meet safety standards before consumption. Third, they should serve as advisors to commanders, applying the Army's risk management matrix to translate scientific findings into tactical decisions.

Collaboration will also be critical. 68Rs must work hand in hand with 68S Preventive Medicine Specialists to form biosafety teams that monitor food, water and waste. They should coordinate with 92G Food Service Specialists to ensure safe preparation and storage, even in improvised kitchens. With 92A Logisticians, 68Rs will track rations through disrupted supply chains, identifying high-risk lots or compromised shipments. In contaminated environments, 68Rs will also assist 74D chemical, biological, radiological and nuclear specialists in determining whether food and water can be decontaminated or if they must be destroyed.

To operate effectively in this environment, 68Rs require new tools and training. Portable biosensor kits capable of detecting pathogens in minutes, hardened communication devices for degraded networks and compact refrigeration diagnostic systems are all necessary. Training must expand beyond inspection checklists to include field water operations, sustainment logistics planning and coordination in joint or coalition contexts.

Food safety is not a rear-area concern in LSCO, but a forward requirement. 68Rs will operate beside logisticians, medics and maneuver leaders, ensuring that every calorie consumed contributes to endurance rather than attrition. Their presence will symbolize a new kind of sustainment: professional, scientifically competent, morally grounded and tactically engaged. This is the model of sustainment through science and leadership that the Army must adopt to succeed in the next fight.

Recommendations and Future Considerations

The lessons drawn from both doctrine and experience converge on one central principle: Food safety is leadership, and leadership is sustainment. To prepare for LSCO and MDO, the Army must move beyond a compliance-based understanding of food inspection toward an integrated system of preventive sustainment that empowers NCOs, enhances interoperability and strengthens strategic readiness.

Codify NCO Authority in Doctrine

Army regulations should explicitly authorize 68Rs to make independent food-safety decisions in degraded environments. This would align FM 4-0, *Sustainment*, and ATP 4-41, *Army Field Feeding and Class I Operations* with ADP 6-0, *Mission Command*, ensuring that disciplined initiative applies equally to sustainment and maneuver.¹⁷ When NCOs are empowered to act without waiting for external approval, contamination risks can be mitigated before they compromise combat strength.

Develop Interdisciplinary Education Programs

The Army should expand professional military education for 68-series Soldiers to include courses in microbiology, public health, behavioral sociology and logistics management. Partnerships with civilian universities or public health agencies could strengthen analytical capabilities and improve readiness for LSCO conditions. An NCO who understands both bacterial growth cycles and risk communication is better prepared to lead in crises.

Institutionalize Biosurveillance and Predictive Analytics

Emerging technologies must become integral to preventive sustainment. Portable DNA-based biosensors, infrared thermographic scanners and AI-driven temperature tracking systems can identify contamination before it spreads.¹⁸ However, technology is only as effective as the Soldier who interprets it. NCOs must be trained to analyze and act upon biosurveillance data, turning information into readiness.

Integrate Food Safety Metrics into Readiness Reporting

Commanders rely on measurable indicators to assess operational health. Including inspection compliance, response times and risk-mitigation data within readiness reports would elevate food safety from an administrative concern to a command priority. This approach would operationalize Parsons' theory that institutions maintain stability through the integration of technical and moral functions.¹⁹

Strengthen Coalition Interoperability

Future LSCO will occur within multinational frameworks. Allied Joint Publication 4-10 emphasizes uniform veterinary inspection and food-safety standards among coalition partners.²⁰ Regular joint training and shared biosurveillance databases would allow U.S. and allied 68Rs to coordinate effectively during combined operations. My work with the Republic of Korea Army demonstrated that mutual confidence in sustainment processes enhances both readiness and alliance cohesion.

Cultivate Organizational Culture

No reform will succeed without cultural reinforcement. Commanders must elevate food safety as a visible expression of leadership and care for Soldiers. Recognizing NCOs who prevent outbreaks and sustain healthy feeding operations should become part of the Army's reward system. When Soldiers see food safety treated with the same seriousness as marksmanship or maintenance, they internalize its importance as part of the profession of arms.

Conclusion

The future battlefield will challenge every assumption about sustainment. Distributed operations, cyber disruption and near-peer competition will test the Army's capacity to feed and protect its forces under fire. In these conditions, readiness will depend not only on supply lines and technology but on the moral and technical strength of NCOs who guard the force's health.

Food safety represents the intersection of science, leadership and trust. In Afghanistan, I saw how a simple lapse in storage procedures sidelined Soldiers and disrupted missions. Years later, as a 68R, I came to understand that the unseen diligence of inspection and sanitation is what prevents such breakdowns. The shift from infantryman to Food Inspection NCO taught me that sustainment is as much about protecting lives as it is about supporting missions.

In LSCO, 68Rs will become forward sustainers, not rear inspectors. They will evaluate local resources, coordinate with coalition partners and advise commanders under conditions of uncertainty. Their authority will protect Soldiers before combat ever begins. This evolution mirrors Weber's argument that institutional legitimacy arises from technical competence and Durkheim's claim that moral solidarity sustains collective endurance.²¹ The 68R, in embodying both science and duty, becomes a living representation of these principles.

Empowering NCOs to act with confidence and autonomy will transform sustainment from a support function into a decisive advantage. A healthy Soldier represents not only tactical capability but moral resilience, the assurance that their institution values their life as much as their labor. Food safety is therefore more than a technical mission; it is the quiet manifestation of leadership that sustains the Army through every domain of conflict.

Notes

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