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REVIVING THE VICTORY GARDEN: THE MILITARY BENEFITS OF SUSTAINABLE FARMING

LEO BLANKEN AND BEN COHEN
COMMENTARY

JANUARY 20, 2022



“Uncle Sam Says: Garden.” If Americans are familiar with victory gardens, it is probably from old World War I and World War II posters with slogans like this exhorting citizens to participate in the war effort by growing their own vegetables. Today, however, a new strategic campaign is beginning to get underway. In its recent *Climate Adaptation Plan*, the Department of Defense called for “adaptation,” “resilience,” and “mitigation” to address the growing national security threat posed by climate change. Modernized victory gardens can play a valuable role in advancing all of these goals.

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Embracing recently pioneered micro-farming techniques can benefit the U.S. military at both the tactical and strategic levels. Specifically, hydroponic container-farming could serve expeditionary operations across the Indo-Pacific and home station units as well. This would ease logistics burdens, provide healthier food for troops in the field, create opportunities to engage partner forces, and generate a fantastic line of strategic branding for the U.S. military in an era of climate change

Gardens at War

Consider the food supply challenges faced in Afghanistan. For two decades, the United States stationed large numbers of troops in this landlocked country, peaking in 2010 at over 100,000 uniformed personnel. These troops required the bulk of their foodstuffs to be transported by ground

vehicles via precarious routes through Pakistan. This was not only inordinately costly but left the sustenance of U.S. forces at the whims of an often-capricious ally. The bulk of the food destined for the dining facilities in Afghanistan needed to be “shelf stable” to survive this arduous journey — which came at the cost of it being nutritious (let alone good). One of the authors, for example, spent time at a forward operating base in southern Afghanistan in 2013 where the troops were being fed corn-dogs and canned fruit salad (in heavy syrup!) for multiple days in a row. Even though bad food has been part of soldiers’ experience throughout military history, it was no wonder that these particular service members turned to surviving on energy drinks, candy, and protein bars. Finally, the sustainment and logistic system required to move these countless tons of preserved food over thousands of miles generated a massive amount of garbage. Anyone deployed to Afghanistan remembers the smell of the “burn pits” that consumed the mountains of packaging to which the food logistics system contributed.

The major military scenario that is consuming American planners now is a potential conflict spanning the Indo-Pacific. If U.S. forces are deployed across many remote locations and enemy forces have formidable anti-access/area denial capabilities, then sustainment challenges will become paramount. Reducing the required volume of foodstuffs would greatly ease the burden of maintaining a distributed, resilient force posture and could reduce critical vulnerabilities as well. This means the military should consider beginning to research and refine a system of expeditionary micro-farming capabilities to prepare for such an eventuality in the future. How

would such food production be implemented within military forces? We can consider the scale and purpose of sustainable agriculture for deployed and home station forces separately.

For deployed units, emerging technology is making it increasingly feasible to operationalize distributed food production in a very real and practical way. Farms within the United States are currently producing “container farms” or “vertical farms” that utilize controlled environment hydroponic or aeroponic techniques to grow food with minimal resources. Built within 8' x 40' containers, these mobile micro-farms may produce as much food as a five-acre farm for leafy-greens and many vegetables. They use 90 percent less water and 80 percent less fertilizer than traditional farming techniques, at the investment cost of roughly \$60,000 per container. Depending on the mix of vegetables being grown, this could result in thousands of pounds of produce harvested over each growing cycle. The produce from these farms would be used to provide a healthy supplement to the servicemembers' overall diet, which would still require other sources of protein and carbohydrates, as well as “operational rations” that service members would take with them into combat.

Container farms can be forward deployed with the units that manage them. For example, a Marine Corps combat logistics battalion could maintain container farms at home station and have them ready to ship when needed. Because such container farms can be self-sustaining for 96 hours without water or power, they could be readily deployable, even while growing operations are underway. When paired with alternative energy sources, these containers could support operations in every clime and geographic

location, including the Arctic circle. One servicemember, in a common 40-hour work week, could easily manage two containers and distribute the food they produce while still assuming additional duties. That is the equivalent of having a 10-acre farm available for year-round, on demand, food production. Food service and culinary specialists within the military could be rapidly trained on many of these techniques and systems, while earning valuable certifications through the U.S. Department of Agriculture that could serve them in their post-military careers.

A second opportunity for operationalized farming is its potential as a partner force enablement activity. This is not a wholly novel concept. American forces in Afghanistan, for example, utilized farming as a tool to supplant opium production. In this case, however, the sharing of farming techniques and technologies with partners would help to reimagine the potential of security force assistance activities to be more sensitive to the partners' needs while energizing wider engagement with the host nation in an era of climate-change induced challenges. Further, by synchronizing these activities with other elements of US foreign policy in the partner nation, it would reflect the oft-stated ideal of creating a "whole of government" approach to partner enablement and economic development. This precisely accords with U.S. Agency for International Development's pronouncement that "civilian-military cooperation [is] fundamental to a whole-of-government approach to contemporary national security challenges in keeping with the increasingly important role of development in advancing national security priorities." As many U.S. forces — notably special operations forces — are deployed across the Indo-Pacific, this

provides an opportunity for pre-positioning and optimizing distributed micro-farming as an innovative partnering activity. Units such as U.S. Army civil affairs and psychological operations would be particularly well-suited to leverage these activities for strategic impact within the context of great power competition.

For home station food production, the sky is the limit. Military bases in the continental United States have the land and the personnel to engage in significant open air food production activities, in the same way institutions like the Kew Botanical Gardens supported World War-era victory gardens. Some bases, like Fort Bragg and Camp Pendleton, have a plethora of land and personnel that could help transform military food production. This would serve the purpose of providing food for the dining facilities, as well as providing a disciplined, healthy activity that could be folded neatly into other training duties. Further, “regenerative farming” techniques could be used on and near military installations to repair and strengthen topsoil, which is a growing environmental concern. Other bases may have less space, less personnel, and less general training activities. For these locations, farming on base may serve as a recreational opportunity to provide a healthy and widely enjoyed activity for interested personnel. “Morale, Welfare, and Recreation” — the office tasked with promoting the health and resilience of military communities — could coordinate with garrison commanders to provide the space, resources, and time for personnel to maintain and harvest gardens that could supplement the dining facility while improving the quality of life of the men and women in uniform.

Finally, some portion of home-station farming activities could be dedicated to research — done in collaboration with inter-agency partners, academia and industry — to further refine innovative farming techniques for the benefit of all. This public-private partnering to innovate in the face of emerging security challenges is one of the long-standing strengths of the Department of Defense. In such cases, the gains from these collaborations are not only accrued by the military, but can help drive the economy and benefit American society as a whole.

Harvesting the Benefits

A “victory garden” system could be tailored to ease logistics burdens, foster resilience, contribute to health, and serve the Defense Department’s messaging on climate change adaptation. These efforts would provide tangible benefits to U.S. national security in a number of ways. First, they would improve sustainability for deployed forces across the Indo-Pacific. Further, as these methods evolve, they could eventually solve additional food sustainment issues for globally distributed American military forces, such as ships at sea, and perhaps even submarines. Second, a “victory garden” system would also provide opportunities to blend distributed food production for American forces into a new assistance activity to engage with partner forces and nations. Third, farming could be implemented by home station units for food production and improved personnel health. Fourth, it would provide opportunities for collaborative research with the private sector, academia, and appropriate inter-agency partners to solve food production challenges for the wider population.

The victory garden system will not single-handedly end climate change. But if executed well and thoughtfully messaged it might help cognitively prepare the Department of Defense for the more fundamental transformations that will be required to address the climate crisis.

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COMMENTARY

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