



As part of Pacific Partnership 2013, U.S. Navy forces are joined by NGOs and regional partners including Australia, Canada, Colombia, France, Japan, Malaysia, Singapore, South Korea, and New Zealand to improve maritime security, conduct humanitarian assistance, and strengthen disaster-response preparedness (U.S. Navy/Samantha J. Webb)

The Future of Department of Defense Global Health Engagement

By Gerald V. Quinnan, Jr.

The term *global health* has come into common usage in recent years and encompasses various matters relevant to health, including diseases that cross international borders, factors that affect public health globally, and the intercon-

nectedness of health matters around the globe. Diseases that have been unevenly distributed across the world have been of concern to militaries for centuries, perhaps throughout history. Historians record that the decimation of Napoleon's army during his inva-

sion of Russia was the result of starvation, severe weather, and disease, the most important of which was typhus, which killed over 80,000 troops.¹ His retreating army then spread typhus throughout Europe. Likewise, typhoid fever was a serious problem in World War I and the American Civil War.² Spanish troops were severely affected by yellow fever during the Spanish-American War, and Spanish influenza

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had disproportionate and decisive effects during World War I.³ Colonization of Africa, Asia, and Latin America by Western powers led to increased awareness of diseases that were generally exotic to the imposing country, motivating interest in developing means of prevention and control of diseases. Examples of efforts emanating from such interest include the work of Walter Reed and William C. Gorgas in defining the transmission and prevention of yellow fever, research regarding cholera and diarrhea in Bangladesh, and the establishment of research laboratories (for example, the Pasteur Institute and Medical Research Council laboratories in Africa). Conversely, the invasion and colonization of foreign lands has also long been known to result in the introduction of exotic disease into the occupied lands, with the importation of smallpox and syphilis into North America by colonists as outstanding examples.

Because of the importance of global infectious diseases regarding force health protection, the Department of Defense (DOD) has developed numerous programs relevant to the infectious disease dimension of the worldwide global health efforts, and these programs are a prominent dimension of the overall DOD global health engagement (GHE) agenda.

Many of the diseases that are important force health protection issues for deployed warfighters are diseases caused by poverty, a factor that is relevant to the future GHE agenda. The high rate of typhus in Napoleon's forces reflected the abject poverty of Russian peasants at the time. As a result of living conditions, louse infestation was rampant. Since lice are the vector that transmits typhus, the risk of infection was high. The geographic distribution of typhus today reflects the prevalence of louse infestation. Many other diseases that we refer to as tropical are also spread by insects and were present in the United States and other developed countries in the past. The predecessor of the Centers for Disease Control and Prevention (CDC), "the Office of Malaria Control in War Areas,

[was] established in 1942 to limit the impact of malaria and other vector-borne diseases (such as murine typhus) during World War II around military training bases in the southern United States and its territories, where malaria was still problematic. The center was located in Atlanta (rather than Washington, DC) because the South was the area of the country with the most malaria transmission."⁴ Yellow fever epidemics occurred on numerous occasions in the United States during the 18th and 19th centuries; one of the more serious outbreaks caused more than 10,000 deaths in the Philadelphia area in 1793, which led President George Washington to move the Federal government to its present location in Washington.⁵ Other examples of what are now considered tropical diseases causing epidemics in the United States are plentiful, but in many cases vector control has resulted in their elimination. Limited capacities to mount vector control efforts or to prevent human exposure underlie continued transmission of these diseases in the developing world.

In the late 19th and early 20th centuries, various international efforts were made to standardize quarantine procedures to limit transmission of cholera, smallpox, tuberculosis, and other diseases. In the United States, officers of the Marine Hospital Service, the predecessor organization of the U.S. Public Health Service, boarded boats entering territorial waters. Presently, the Federal agency with responsibility for quarantine procedures is the CDC. After World War II, the establishment of the United Nations (UN) and its subordinate organization, the World Health Organization (WHO), presented great opportunities for multinational cooperation on health. Some advances that emerged included the development of international health regulations that standardized procedures for restriction of movement of infectious diseases between countries, facilitation of vaccine and drug development, standardization and availability, and numerous types of multinational cooperation for the development of disease surveillance and health promotion activities. The importance of health as a *global* issue is reflected

in the annual World Health Assembly, where the lead health diplomat of each member country votes regarding procedures and programs being put forward by the WHO. These relationships are an important part of the context in which GHE is executed.

The major growth of global health as an academic discipline has been fostered by a number of geopolitical events over the past three decades. In 1978, the WHO and the UN Children's Fund convened the International Conference on Primary Health Care in Alma Ata, Kazakhstan. This conference adopted a declaration that has come to be known as the Declaration of Alma Ata (International Conference on Primary Health 1978). The declaration stressed the importance of social and economic factors in the attainment of health and reaffirmed health care as a human right. It declared the inequality between developed and developing countries to be politically, socially, and economically unacceptable. Furthermore, it drew linkage between the health of people and the social and economic development that fostered world peace. The declaration has been repeatedly recognized by the UN High Commission on Human Rights, which has emphasized the inclusion of health as a basic human right in international law throughout the past 60 years.⁶ These statements have emphasized the responsibilities of countries, international organizations (IOs), nongovernmental organizations (NGOs), and funding and donor organizations to contribute to a concerted effort in support of the goal of equal access to health care for all.

In 2000, the UN Millennium Summit issued the UN Millennium Declaration that included a set of eight Millennium Development Goals (MDGs). Three of the goals directly addressed health, one that was focused on environment was extensively health related, and the remaining four were focused on poverty, education, and development. The juxtaposition of the broader social development goals and health emphasizes the relationships among them. The MDGs were supported by the Organisation for Economic Co-operation

and Development, and the major donor countries agreed to provide funds to the World Bank and International Monetary Fund for debt relief for the poorest countries. In 2001, the Global Fund to Fight AIDS, Tuberculosis, and Malaria was established by the UN and Group of 8, committing substantial funds to this effort to be administered by a secretariat in Geneva. Today, the “Global Fund is the main multilateral funder in global health, channeling approximately US\$3 billion annually—two-thirds of all international financing for [tuberculosis] and malaria, and one-fifth of all international financing for AIDS.”⁷

In the United States, the U.S. Leadership Against HIV/AIDS, Tuberculosis, and Malaria Act of 2003 led to the establishment of the President’s Emergency Program for AIDS Relief (PEPFAR), which is now administered by the Office of the Global AIDS Coordinator. The U.S. Global Health Initiative (GHI) emerged from a 2010 Presidential policy directive on global development and is administered by the Office of Global Affairs in the Department of Health and Human Services.⁸ GHI is responsible for coordination of interagency efforts related to global health, including activities related to the Global Fund and PEPFAR. The GHI also served as a platform for engagement of the United States in development of the Global Health Security Agenda of 2011.⁹ The GHI has seven areas of focus (see table). As government-wide coordinating programs, the GHI and Global Health Security Agenda apply to activities of all departments, including DOD GHE. Some particularly relevant considerations for policy are their focus on country ownership, systems approach to health, coordination and integration with key stakeholders, and monitoring and evaluation.

Regarding policy development relevant to DOD GHE, a whole-of-government focus on stabilization of peace through development was established as a result of the 2005 National Security Presidential Directive 44, “Management of Interagency Efforts Concerning Reconstruction and Stabilization.” For

Table. Areas of Focus of the U.S. Global Health Initiative

Focus on women, girls, and gender equality
Encourage country ownership and invest in country-led plans
Build sustainability through health systems strengthening
Strengthen and leverage key multilateral organizations, global health partnerships, and private-sector engagement
Increase impact through strategic coordination and integration
Improve metrics, monitoring, and evaluation
Promote research and innovation

purposes of implementation of the directive, DOD Directive 3000.05, “Military Support to Security, Stability, Transition, and Reconstruction Operations,” was issued in November 2005 and established the policy that “stability operations are a core U.S. military mission that the Department of Defense shall be prepared to conduct and support. They shall be given priority comparable to combat operations.”¹⁰ DOD has acted on many fronts over the past decade to implement the intent of this directive, including the ongoing efforts of the DOD Global Health Working Group to finalize the full range of military requirements for implementation via a doctrine, organization, training, materiel, leadership, personnel, and facilities approach. The study by the Center for Strategic and International Studies titled *Global Health Engagement: Sharpening a Key Tool for the Department of Defense* reviews a series of policy developments regarding national security and defense since 2010, including a policy directive by the Secretary of Defense in 2013.¹¹ The policy directive includes key areas of focus of the GHI, as mentioned above.

All of these international and U.S. Government activities have been associated with a greatly increased focus on global health in the private sector. Indeed, the WHO, many smaller foundations, and many NGOs have worked for decades to improve the health of populations around the world, but these major initiatives brought large amounts of new funding and galvanized the efforts of organizations already engaged. Private foundations, including the Gates Foundation and others, have mobilized funding. While the Global Fund remains the largest contributor, these private

funds have been important. In academia, the Consortium of Universities for Global Health (CUGH), established in 2008, has been a consolidating force for diverse types of research related to the principles and practice of global health and is an important forum for concerns relevant to DOD GHE. Increasingly, universities are establishing Global Health Programs in accord with CUGH recommendations, enhancing their ability to impact the communities they serve. The Uniformed Services University of the Health Sciences formally established its program in 2013 and was admitted to membership in CUGH. The extensive engagement of academia reflects the widespread belief that education and research are essential, and the increasing recognition that solutions to problems require multifaceted collaborative efforts of many different health and non-health sectors of society. Such efforts recognize that environmental factors are relevant to many chronic diseases and that sociocultural factors impact greatly on maternal and child health. Factors that perpetuate the cycle of poverty adversely affect population health.

The MDGs have served as a set of principles and have engendered momentum for the improvement of global development and health. When established, the intention was that they would be replaced after 15 years by a new set of goals that would build on progress made under the MDGs and set new targets for development for the following 15-year period. Thus, the MDGs were to be replaced at the end of 2015 by a set of Sustainable Development Goals (SDGs).¹² As with the MDGs, the consensus process for writing of the SDGs has been coordinated by the UN and has consisted of numerous

international conferences that collectively have identified impediments to sustainable development around the world. Health, clean water, and sanitation are major goals, while the document includes a strong emphasis on protection of the environment and mitigation of global warming. The notion of equality for people of all nations regarding all the SDGs is an overarching principle. Since the consensus process has involved all of the organizations that have partnered in working toward achievement of the MDGs, the momentum is likely to continue.

Precedents

As a result of recognition of its combined expeditionary and portable health services capabilities, DOD is often asked to provide emergency support for international aid activities. These responses may be land- or sea-based. Examples include responses to the earthquakes in Pakistan in 2005 and Haiti in 2010, respectively, and the management of logistics and public health for large populations of displaced people as a result of conflicts in Kosovo in 1999 and Macedonia in 2001. These types of operations are always conducted in concert with civil authorities, with responsibility for ongoing response management transferred to them at the earliest reasonable time.

The Law of Armed Conflict (LOAC) requires both that military forces provide care to enemy combatants on the battlefield and that conquering armies provide essential services to occupied populations. The U.S. military has consistently carried out these responsibilities. The LOAC does not require provision of health care to the local noncombatant populace, but the U.S. military has a tradition of providing such care under limited circumstances and on a temporary basis until responsibility can be passed back to the host nation. During the recent conflicts in Iraq and Afghanistan, the U.S. military expended great effort toward helping those nations build healthcare capability. The development of these capabilities not only was considered important for the stability of the host nation security forces, but it also had potential

positive spillover impact on health services for the general populations.

DOD and the CDC have been lead agencies in global infectious disease surveillance efforts. DOD maintains laboratories overseas at several sites, including U.S. Army labs at Bangkok and Nairobi and Navy labs at Cairo, Lima, and Singapore. Satellite activities are carried out at various locations by these laboratories. Each of the fixed overseas laboratories carries out extensive infectious disease surveillance while also carrying out extensive de facto health diplomacy and assisting the host nation and nearby countries in development of their own capacities for disease surveillance. While a key justification for the maintenance of such laboratories relates to protection of U.S. forces that may be deployed to the area, it is clear that they have an important impact on health locally and regionally and contribute significantly to the global disease surveillance capability and results. Pivotal clinical trials leading to licensure of vaccines against the Japanese encephalitis and Hepatitis A viruses were possible because of collaborative programs developed by the U.S. Army laboratory in Thailand and the Thai government. These laboratories also serve to catalyze international collaborations, often between university global health researchers and host nation organizations. Disease surveillance activities are coordinated in DOD by the Armed Forces Health Surveillance Center and its Global Emerging Infectious Surveillance and Response Program (GEIS). Much of the funding for surveillance activities of the overseas laboratories comes through GEIS. Additionally, the Defense Threat Reduction Agency Cooperative Biological Engagement Program facilitates capacity development of surveillance activities of partner nations. Collectively, these activities constitute a robust disease surveillance network that serves to alert DOD to health threats and to also promote public health around the world.

DOD has traditionally used health as an instrument for building relationships with partner nations.¹³ Diverse types of engagements reflect this concept. The deployment of the hospital ships

USNS *Comfort* and USNS *Mercy* on the missions Pacific Partnership and Continuing Promise in the Pacific and in Latin America are visible examples. Traditionally, these missions have been focused on the provision of direct care to host nation civilians, although this focus is evolving. Individual Service components often carry out missions with humanitarian intent, such as the Air Force Pac Angel and New Horizons exercises in the Pacific and Belize, respectively. The State Partnership Program operated by the National Guard engages with its partner nations' military, generally on an annual basis, including humanitarian missions. These engagements commonly have health objectives often involving direct care. Many of these engagements are referred to as Medical, Dental, or Veterinary Civic Action Programs and Medical Readiness Training Exercises. Additionally, each geographic combatant command uses its Commander's Emergency Response Program to support partner nation engagements on an ad hoc basis, and health engagements often are part of these efforts. These types of engagements involving direct patient care are generally believed to improve the perception and access of the United States in other countries.

Where Is DOD GHE Going?

Based on input from the Under Secretary of Defense for Policy (USDPA), the Secretary of Defense for Policy issued a cable in 2013 regarding global health engagement. A major point of emphasis of the cable is that DOD GHE should be focused on capacity development and strengthening of host nation health systems and should include components of monitoring and evaluation. This concept is consistent with established principles of the GHI espoused by the U.S. interagency community, IOs, NGOs, and academic organizations. The principle of capacity-building has been widely recognized by military personnel involved in developing GHE concepts, and this policy should be significantly enabling with respect to extending DOD funding authorities.

Why are these developments important? The previous focus on providing direct care as the principal activities of Medical Action Programs and Medical Readiness Training Exercises has been predicated on DOD policy regarding appropriate use of Humanitarian and Civic Assistance funding, which was to be used for training of U.S. personnel. Numerous criticisms have been raised by individuals both within and outside of DOD of the benefits of providing direct care during these exercises.¹⁴ One area of concern is the relative risks and benefits to the patients of providing short-term care. What benefit is there to a patient with hypertension or diabetes to receive medical care on a single day? Even when the benefit seems completely obvious, the balance is not always clear. Surgical restoration of sight to a man who has gone blind is certainly life altering. However, if we have no data regarding the late complications and long-term success of the operation, we have an incomplete picture of the benefit/risk calculus and do not know if it could or should be better.

A second type of concern often raised is that the provision of direct care by DOD personnel on these missions may serve to undermine the credibility and sustainability of the host nation health-care system. If a thousand individuals receive dental care during the course of a Dental Action Program, what do they think of the comparability of their local dental care provider and DOD providers, and which patients, if any, are left to be cared for by the local provider? A focus on capacity development addresses these concerns. If the engagements are designed to support host nation health services by extending the numbers of patients who can benefit from care or by improving the standards of care by host nation providers, they should have long-term benefit to local health systems and ongoing benefit to patients. A focus on capacity development also includes public health efforts. The capacity of host nations to provide vaccination programs, clean water, and perinatal care with attended births can have huge implications for the health of the population.



U.S. Marines with Joint Task Force 505, multinational forces, and humanitarian relief organizations provide aid after two devastating earthquakes struck Nepal on April 25 and May 12, 2015 (U.S. Marine Corps/Hernan Vidana)

Focus on capacity development has already received substantial attention across GHEs. While Medical Action Programs still involve direct patient care to varying degrees, there is often an effort to design these engagements as partnering activities with host nation personnel. There is also a trend toward increasingly returning to sites of previous engagements so

that there can be progressive movement toward capacity development over time. The New Horizons 2014 exercise in Belize was a 6-month-long engagement involving a series of coordinated programs with the goal of progressively addressing a series of needs within the country. Similarly, Continuing Promise 2015 visited 15 countries, 13 of which

were repeat visits. Undoubtedly, following the issuance of the USDP GHE cable and output of the DOD Global Health Working Group, the approaches used to focus GHE on capacity development will mature and become more systematic over time. These improvements should help assure that DOD GHEs will strengthen essential capabilities of partner host nations and improve their stability in accordance with the new DOD mission.

The concern is often raised, particularly in the IO and NGO communities, that DOD is not and should not attempt to be a humanitarian agency. This concern is based mainly on two considerations. First and foremost, these organizations are concerned regarding their own safety. If they are seen to be doing humanitarian work side by side with DOD personnel, they will not be viewed as impartial and may become targets of violence in settings of conflict or where anti-American or anti-Western sentiment is high. A second concern is that DOD does not meet accepted standards of practice for a humanitarian organization as described by the International Red Cross and Red Crescent Movement and generally espoused by other humanitarian organizations.¹⁵ This code involves four humanitarian principles: the humanitarian imperative, independence, impartiality, and neutrality. The humanitarian imperative states that engagement should be for the sole purpose of providing humanitarian assistance wherever it is needed. If DOD provides assistance based on security considerations, the assistance does not address this imperative. Similarly, DOD is unlikely to be impartial, independent, or neutral when operating in the context of conflict. When considered in these terms, it is clear that DOD is not a humanitarian organization. However, when the broad extent of GHEs is considered across the span of the range of military operations, it is hard to deny that DOD efforts have enormous humanitarian impact.

The humanitarian impact of DOD activities is more obvious when considering responses to disasters or support for large populations of displaced persons than the more deliberate engagements represented

by the direct care activities characteristic of many Medical Action Programs, Medical Readiness Training Exercises, and related activities. When these engagements are conducted primarily for strategic purposes, such as security of U.S. forces or access to partner nations, there emerges the concern regarding whether they can be ethically conducted so as to meet bona fide needs of the people of the partner nations.

Current Engagements as Future Models

Across DOD there is increasing emphasis on integration of the principles expounded by the GHI and reiterated in the USDP cable into the planning and execution of GHE.¹⁶ The development of a formal DOD policy by the Global Health Working Group will firmly establish these principles of operation. Developing cohesive approaches across all commands to implement these principles will be challenging considering the large numbers of organizations conducting engagements that impact health overseas. Nevertheless, establishment of integrated, strategic approaches will certainly improve the efficiency and effectiveness of GHE, and many efforts are already ongoing to this effect. To illustrate the value of an expected new DOD policy, two current GHE examples are worth considering.

An ongoing long-term engagement in Southeast Asia exemplifies how the concern regarding beneficence can be and should be addressed. Within the Greater Mekong region, there is a multinational effort to eliminate drug-resistant *P. falciparum* malaria. The Global Fund and President's Malaria Initiative, among others, funded the effort.¹⁷ The effort involves many NGOs and IOs in an internationally coordinated strategy that evolved from one of controlling resistant malaria to eliminating it. Successes in the more accessible agricultural regions have highlighted the need to achieve success in the remote forest areas in the border regions of affected countries. Host nation militaries have security responsibilities that require them to operate in these regions and are at risk of infection with

resistant malaria. They could also potentially collaborate with other players involved in the elimination effort to extend critical prevention measures to these remote areas.

The success of host nation militaries in these contexts is of strategic interest to DOD. The presence of resistant malaria is a threat to U.S. forces, and the possibility that infected military personnel from the region could be deployed to other countries means that the threat could spread. U.S. Pacific Command (USPACOM) has considered these strategic needs and is engaging with local militaries to strengthen their abilities to contribute to the elimination efforts. An important principle exemplified here is that a strategically important health need was identified, and an engagement was designed to meet that need. It is likely that working with local militaries will improve future cooperative efforts and that effective response to the health need will address a strategic concern of the United States. However, neither of these outcomes is likely to be achieved if the health need is not successfully addressed. Once the strategic health need was identified, achieving the health outcome became the primary goal of the engagement. Health became *the* strategic imperative.

Three additional aspects of this engagement in the Mekong region merit attention. First, the engagement is part of the USPACOM strategic plan. While medical engagements have long been activities in this and every geographic command on an ad hoc basis, inclusion of medical capabilities in strategic planning is a new approach due in substantial part to the efforts of recent Command Surgeons Rear Admirals Michael Mittleman, Raquel Bono, and Colin Chinn. The advantages resulting from the inclusion of the engagement in the strategic plan are critical. The engagement can then be included in the planning activities of the command, and its long-term conduct and outcomes can be monitored on an ongoing basis. These are essential features of effective global health practice.

The second aspect of the Mekong engagement that deserves emphasis is that DOD activities are integrated into a



USNS *Mercy* Servicemembers conduct mass casualty drill during Pacific Partnership 2015, July 16, 2015 (U.S. Navy/Mayra A. Conde)

much larger effort involving numerous governments, NGOs, and IOs. With the nature of DOD engagements being short term—typically, the mission is executed and the troops are promptly redeployed—integration of engagements into critical niches in ongoing global health efforts is a potentially powerful method of providing long-term impact as a result of one or more short-term engagements.

The third aspect of the Mekong region engagement that deserves emphasis is the desired outcome of USPACOM efforts. While elimination of resistant malaria is certainly a desired outcome of the overall multinational effort, that goal is beyond the immediate scope of the limited activities of the command. While the details of USPACOM efforts are not publicly available, they should be focused on training host nation military regarding prevention of malaria infection in their own personnel and among migrant workers transiting the border areas. If that is the case, their efforts are designed to have

systematic impact on dimensions of the public health effort that are measurable: how successful are the troops in deploying specific malaria prevention methods? Outcomes of this systematic type are much more likely to be within the capacity of DOD to measure as evidence of effectiveness of GHE than measurements such as prevalence of resistant malaria. In the current global environment, GHE activities almost always occur in the context of a broader global health effort. Effective integration of GHE activities into such broader efforts and their planning so as to affect systematic capabilities that achieve longer term health outcomes should be a paradigm for maximizing impact and providing a roadmap for measurement of effectiveness of engagements.

The second example that will be cited is the DOD response to the Ebola virus disease (EVD) epidemic, which involved a variety of novel response types that were credited with being critical for the success of the international effort to turn the

epidemic around. The U.S. Air National Guard set up 10 expeditionary medical support systems (EMEDS) for use by the various groups providing or planning to provide care for suspected cases of EVD in Liberia, Guinea, and Sierra Leone. One EMEDS near Monrovia was manned by the U.S. Public Health Service for treatment of healthcare workers with suspected EVD. The presence of this well-staffed and -equipped EMEDS provided confidence that health care workers had high-quality support available when needed. The other EMEDS were used by various NGOs (for example, Doctors Without Borders) for treatment of patients with suspected EVD. The U.S. Army led an effort to train host nation and NGO personnel in methods recommended for use by the WHO when caring for patients suspected of having EVD. Army and Navy personnel manned laboratories that performed diagnostic testing for Ebola virus infection. The 101st Airborne Division provided logistical

support for all DOD activities in Liberia and for the U.S. Public Health Service contingency manning the Monrovia medical unit. The Center for Strategic and International Studies has evaluated the DOD response and credited it with having great impact on the epidemic.¹⁸ This response is exceptional in that U.S. personnel trained and provided EMEDS for both host nation and other non-U.S. responders and provided no direct patient care. The elements of the response reflect the extraordinary logistical capability, including the ability to mobilize specialized emergency equipment, of DOD and its ability to mobilize substantial numbers of highly trained personnel.

The growth in geopolitical significance leading to markedly increased funding for global health has resulted in the engagement of many new players in the field, including a much greater involvement of academia. These players are important partners for integration and coordination with Department of Defense global health engagement. Anticipated DOD policy regarding GHE is expected to be consistent with the overall U.S. policy and provides a solid framework for future practice. Examples of GHE that integrate these principles of practice demonstrate the power of well-planned and -executed engagements to achieve important security objectives (for example, protection of forces against drug-resistant or untreatable disease) while at the same time having important health impacts for partner nations. Moreover, achievement of health objectives can clearly be seen to have politically stabilizing effects, compared to what could be expected if EVD had gone unchecked in West Africa or spread to other parts of the world. Well-designed programs executed by DOD leaders with expertise in global health practice should help assure that strategic objectives of GHE are achieved, while focusing effectively on the advancement of the health of our partners around the world. Recent and expected developments in GHE policy and practice in DOD should make this domain an increasingly powerful and valuable component of each commander's strategic plan. JFQ

Notes

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