



PROLIFERATED DRONES

Global Perspectives

A Drone Saturated Future

Overview

Drones are rapidly proliferating. Over 90 countries and non-state groups operate drones today, and even more are certain to do so in coming years.¹ These actors are beginning to employ drones in novel ways according to their own interests, opportunities, and constraints. As drones move beyond a niche capability used for surveillance and strike to an integral component of modern militaries, they could have an unanticipated impact on crisis stability, escalation dynamics, and norms regarding state sovereignty. What are the consequences of a world in which many actors – state and non-state alike – have access to drones? How will drones be used and what challenges should the United States prepare for? To help policymakers think through the implications of drone proliferation, the Center for a New American Security (CNAS) launched the World of Proliferated Drones project, a joint undertaking of the 20YY Future of Warfare Initiative and the Technology and National Security Program.

It would be naïve to assume that the future will look just like the past or that other actors will use drones just as the United States does. Understanding the contours of an increasingly drone-saturated world thus requires an understanding of how others perceive the issues and challenges surrounding drone use. For this reason, it is critical to examine the perspectives of international drone experts across a range of regions and countries.

CNAS has commissioned 10 essays featuring views from France, Germany, India,

Indonesia, Israel, Japan, Russia, Singapore, South Korea, and Vietnam. These essays cover the two regions with the fastest-growing investments in drones – Asia and Europe – as well as the largest drone exporter in the world – Israel. While not an exhaustive survey of every country or every expert within these countries, the essays provide a valuable sampling of expert views in countries that are in various stages of incorporating drones into their militaries. CNAS additionally commissioned a response to each essay in order to further illuminate the regional and international dynamics of drone proliferation.



The authors were encouraged to follow a similar essay structure to enable the reader to make quick comparisons between essays. Each outlines the technology currently available to the respective country; the ways in which that country is likely to use drones; how that country is likely to react to foreign drone

incursions into its territory; and constraints on that country's future acquisition or use of drones. While many countries are grappling with similar issues, the ways in which they address them vary considerably. The common threads across the essays – and the differences among them – help to shed light on how drone proliferation is unfolding and how various actors are likely to respond. Four key themes emerge across the papers:

Countries face many similar challenges in integrating drones

As countries integrate drones into their forces, they face a number of challenges: encouraging indigenous production; deciding whether to acquire armed drones; developing concepts for employing drones in combat operations; and safely integrating drones into domestic airspace. While the solutions countries develop are different, nearly all of the countries represented in this volume are grappling with such issues in one form or another.

The U.S. precedent for drone use looms large in how many countries perceive drones

The use of armed drones by the United States in counterterrorism operations outside of traditional war zones has set a precedent that others have noted – some with approval and some with disapproval. This precedent may eventually raise awkward questions for U.S. policymakers if other countries invoke it in defense of policies that the United States does not approve of. For example, as Isabelle Facon highlights, Russia has already used

drones in eastern Ukraine – and likely in Syria – and may use them in the Caucasus or Central Asia at some point in the future. U.S. policymakers may find it difficult to condemn such uses of drones outside of traditional combat zones, particularly if they are unable to articulate the differences between those actions that are legitimate and lawful and those that are not. The degree to which the United States' use of drones shapes the thinking of other countries suggests that U.S. policymakers should be more cognizant of not only their actions, but also how they communicate the rationale for those actions to the rest of the world.

Drones are seen as providing states with greater flexibility

Because states can operate drones for markedly longer periods than human-inhabited aircraft – and without incurring direct risks to their citizens – several authors note that drones could allow their country to participate in a wider range of military operations or to consider new political options. Ulrike Esther Franke notes that drones could enable casualty-averse Germany to contribute more frequently to international missions, while Uri Sadot suggests that the persistence provided by drones could enable Israel to monitor the Jordan Valley while ceding physical control of the territory.

Countries have divergent views on how drones might be used in contested areas

One perhaps surprising theme is the divergence of views regarding what drones signal in a conflict and how countries might respond – or should respond – to foreign drone incursions into their respective airspaces. Most authors seem to believe that their country would be more likely to assume risk with an uninhabited system. For example, Sukjoon Yoon notes that South Korea sees human-inhabited flights in the contested airspace over the Korean Peninsula as being “too risky and of limited value” and thus argues that missions using unmanned aerial vehicles (UAVs) “should become the rule rather than the exception.” Likewise, Monika Chansoria details India's use of surveillance drones near both the Line of Actual Control between India and China and along Jammu and Kashmir's Line of Control and the International Border. In contrast, Jean-Baptiste Jeangène Vilmer states that France “is no more willing to deploy a drone in a contested area than a traditional human-inhabited aircraft.” Vilmer further notes that the use of drones, as opposed to human-inhabited aircraft, would not signal a reduction in the country's resolve. This is particularly salient as it suggests that some countries have concerns that drone proliferation could increase the likelihood of miscalculation in certain types of

crisis situations.



Challenges in Drone Integration

While most countries are pursuing the ability to indigenously produce drones, nearly all currently rely upon drone imports – particularly those from Israel, which accounted for over 60 percent of drone exports between 1985 and 2014.² One notable exception to this trend is Japan. Indeed, Masayuki Hironaka notes Japan's close partnership with the United States in both the acquisition and operation of the country's drones, particularly the U.S.-built Global Hawk.

In some cases, countries are constrained in the operation of their foreign-built drones by the exporting nation. For example, Jean-Baptiste Jeangène Vilmer notes that the conditions for France's use of U.S.-built Reapers "are fixed by the American Congress, meaning that France needs the consent of Washington to deploy its Reapers. Also, there is a risk that America's position regarding French deployment could become less flexible in the future." This is problematic as "France's commitment to an independent foreign policy heightens issues of sovereignty." As a result of these and similar factors, most countries appear interested in growing indigenous drone production.

At the same time, a number of countries are exploring the possibility of expanding the

capabilities and mission set of their drones. Most authors note that their respective countries currently operate only tactical drones primarily intended for domestic use in intelligence, surveillance, and reconnaissance (ISR); border patrol; and disaster management missions. Nearly all of the countries, however, have shown interest in procuring strategic – or potentially armed – drones, if they have not done so already. For example, while noting Singapore’s hesitancy to be the first country to introduce armed drones into the region, Barry Desker and Richard A. Bitzinger note that the country “could quickly obtain an armed UAV” in the event of regional proliferation. Similarly, Tran Viet Thai notes that if China were to deploy large numbers of armed UAVs in the South China Sea, it could significantly threaten Vietnam’s national security and prompt the country “to develop longer-range and armed UAVs more rapidly.”

Though the decision is clearly a complex one, many countries appear to view the procurement of armed drones as a near inevitability that is simply a matter of time, reflecting both a shifting strategic landscape and the perceived value of the technology. Even countries such as Germany, where strong public opposition to U.S. drone strikes had previously constrained both indigenous drone development and drone imports, are beginning to discuss the acquisition of armed drones. As Ulrike Esther Franke notes, “the German public largely equates armed drones with American extraterritorial targeted killings”; nonetheless, “procurement appears likely in the medium term.”

Unsurprisingly, most countries are in the early stages of developing concepts of operation for drone use in combat operations, beyond basic surveillance missions. As Sukjoon Yoon writes, South Korea has not yet established doctrine or rules of engagement for drone incursions into its territory, despite having been subject to North Korean drone incursions in the past.³ Isabelle Facon presents Russia as a potential exception, citing the country’s experimentation with the use of drones for offensive electronic warfare and the suppression of enemy air defenses. In the future, she writes, Russia is likely to “equip [its drones] with air-to-air missiles designed to destroy Airborne Warning and Control Systems, Joint Surveillance Target Attack Radar Systems, and air-refueling capabilities.” In general, however, operational concepts for how to deploy drones, reflecting the state of the technology itself, remain nascent.

Several authors also note the institutional and bureaucratic constraints on the use of drones in military operations. Uri Sadot cites tensions between the Israeli air force and army as well as between the country’s human-inhabited and uninhabited aircraft

communities – despite Israel’s long experience conducting drone operations. Jean-Baptiste Jeangène Vilmer additionally notes the role of military ethics culture in competing views on drone warfare. Those in the army, he writes, often “valorize physical courage and are uncomfortable with remotely waging war,” while those in the air force and navy are often more receptive to it. These perspectives, in turn, impact both the pace and degree of drone integration across the services.

Finally, most countries are also grappling with the integration of human-inhabited and uninhabited aircraft within their airspace – though no country appears to have an easy solution. Just as the Federal Aviation Administration in the United States is confronting the challenges of differentiating between hobbyist drones and commercial drones, and identifying rules of the road for integrating higher-end drones into commercial airspace, other countries are dealing with similar issues.



U.S. Precedent Looms Large

The United States’ use of drones is a frequent point of reference throughout the essays, highlighting an opportunity to shape norms and precedent despite no longer holding a monopoly on drone technology. However, these precedents could also be damaging to U.S. interests.

U.S. drone use for counterterrorism operations has played a clear role in shaping many countries' thinking about drones and exerts a strong influence over their assessments. For some countries, such as Germany, drones are seen as synonymous with drone strikes by the United States against militant groups and are thus to be viewed with a great deal of suspicion. Other countries view the drone employment model of the United States military favorably. For example, Connie Rahakundini Bakrie and Ade Prasetya state that Indonesia seeks to “mimic the [United States'] use of UAVs in Iraq as kamikaze weapons or as countermeasures,” while Tran Viet Thai notes Vietnam's interest in the United States' use of drones to reduce the costs and casualties of war.

As a growing number of states begin to use drones in military operations, the United States could be faced with the awkward task of condemning actions based on the very model that it established. Indeed, U.S. competitors could invoke superficial elements of U.S. drone policy in an effort to legitimize actions that are opposed by the United States or that fall outside of generally recognized legal bounds, such as Russia's military operations in Ukraine. This could, in turn, erode norms regarding state sovereignty and/or introduce destabilizing currents into the international system. For this reason, it will be critical for U.S. policymakers to clearly articulate the rationale and bounds of U.S. drone policy.

Drones Offer Greater Flexibility

Outside of a limited counterterrorism context, most countries endorse drones as providing greater strategic and operational flexibility. Drones are seen as having a lower threshold for deployment than human-inhabited systems, thus enabling their use across an expanded set of scenarios. For example, Ulrike Esther Franke notes that drones could enable risk- and casualty-averse Germany to contribute more frequently to international missions (providing capabilities delivered by drones, rather than troops). Similarly, Uri Sadot attributes Israel's interest in drones to, in part, the country's “very low tolerance for military casualties” and the ability of drones to “[eliminate] the risk of losing soldiers captured during peacetime operations.” Sadot further suggests that the persistent intelligence, surveillance, and reconnaissance capabilities of drones could open up new possibilities with regard to political settlements in the Jordan Valley, potentially enabling Israel to withdraw ground troops from the area. Isabelle Facon echoes this sentiment, noting the contribution of drones to Russia's conception of “no-contact warfare”:

The endurance and relative invulnerability of drones are seen as assets in dealing with asymmetrical opponents such as those that the Russian forces could potentially face either in the Northern Caucasus (Russia used surveillance drones in the Chechnya wars) or in Central Asia, where Russia has strong security interests and alliance commitments (within the framework of the Collective Security Treaty Organization).

Finally, Barry Desker and Richard A. Bitzinger note that Singapore “would be more likely to replace [human-inhabited] aircraft [with drones] if the mission was particularly high-risk or if the use of the [human-inhabited] aircraft would be impractical or politically difficult (such as an overseas deployment).”



Divergent Views on Drone Use in

Contested Areas

Despite the general agreement among the authors that drones provide states with greater operational and strategic flexibility – and could even open up previously untenable political options – there is a difference of opinion with regard to what drones signal in a conflict and how countries might respond – or should respond – to foreign drone incursions into their respective airspaces.

Most authors note that drones are perceived to have a lower threshold of employment than human-inhabited aircraft – a judgment that particularly impacts the calculus for undertaking operations in contested or sensitive environments. For example, Sukjoon Yoon notes that South Korea sees human-inhabited flights in the contested airspace over the Korean Peninsula as being “too risky and of limited value” and thus argues that “UAV missions should become the rule rather than the exception.” Ulrike Esther Franke states that “Germany would be willing to use drones for riskier missions than [human-inhabited] aircraft and accept a higher danger of them being shot down.” Likewise, Monika Chansoria details India’s use of drones near both the Line of Actual Control between India and China and along Jammu and Kashmir’s Line of Control and the International Border. The country’s recent use of drones in the disputed Jammu and Kashmir region suggests much of the promise, and the peril, associated with drone proliferation. Indeed, Pakistan recently claimed to have shot down an unarmed, Indian surveillance drone.⁴ The fact that this situation did not escalate suggests that drones may offer countries ways to gather information at lower risk to all involved; however, that it happened at all highlights the greater willingness of many countries to deploy drones in dangerous or sensitive locales.

In contrast, Jean-Baptiste Jeangène Vilmer states that France “is no more willing to deploy a drone in a contested area than a traditional human-inhabited aircraft” – but only because the country’s current inventory of drones is not survivable. It is unclear whether this assessment would hold if France were to acquire stealthy, survivable drones.

There are also divergent perspectives on whether the use of drones may signal a lack of resolve in a crisis situation relative to the use of human-inhabited aircraft. Vilmer notes that the use of drones, as opposed to human-inhabited aircraft, would not signal a reduction in France’s resolve. Instead, the use of drones “signals only a requirement; they are deployed where no human-inhabited aircraft can do the same job.” Many authors

assert a contrasting view. “Germany,” Franke writes, “is likely to see the deployment of drones by other powers as a sign of lesser resolve compared with the sending of [human-inhabited] systems or troops.”

Perhaps as a result of this divergence in perspectives, there is additional variance in how the authors consider the issue of drone incursions into their country’s airspace as well as the appropriate response to the incursion. While the deployment of human-inhabited military aircraft across national borders – outside the context of planned exercises or flight paths – is clearly an escalatory maneuver, many countries seem to view the deployment of drones as somewhat less escalatory due to their lower payloads and inherently uninhabited nature. Furthermore, a number of countries appear unlikely to use force against an intruding drone. For example, Tran Viet Thai states that Vietnam is unwilling to shoot down drones in the South China Sea or those near its borders due to concerns about political stability. Similarly, Barry Desker and Richard A. Bitzinger suggest that Singapore would be unlikely to shoot down an intruding drone unless the intrusion represented “a pattern of deliberate efforts to infringe on Singapore’s national airspace.”

Other countries are likely to have a more forceful response to drone incursions. Isabelle Facon cites a wide range of potential Russian responses: “In addition to ... degrading and even destroying a drone by ‘soft killing,’ the Russian air defense forces may use interceptors and surface-to-air missiles (SAMs) to destroy incoming enemy drones.” Likewise, Vilmer suggests that “any unauthorized intrusion [into French territory] would be quickly shot down by air defenses, particularly if the drone is thought to be armed.” This is also the approach favored by Israel, which has shot down numerous drones flown into its territory by Hamas and Hezbollah.⁵

Nonetheless, Uri Sadot notes that drone incursions into Israel “received less media attention and less aggressive responses” than would human-inhabited aircraft incursions. Explaining these differences, Sadot writes:

This stems both from the psychological and legal distinction of having an enemy combatant within Israeli territory, as well as from differences in kinetic threat potential between full-sized jets

and smaller, slower enemy drones. As drone technology advances, and norms develop regarding tolerance for cross-border drone penetration, the expected responses by Israel and its adversaries to border crossing operations will most likely continue to change and be shaped by future actions.

Sadot concludes that “Israel is not likely to react dramatically if one of its drones is downed over enemy territory, regardless of its mission or the equipment it is carrying.” As the majority of authors contend that their country has not performed cross-border missions – and will not do so in the foreseeable future – there was little additional reflection on potential responses to the downing of a given country’s own drone.

These differing views on operations in contested areas are particularly notable as they suggest that, as drones continue to proliferate, there is a potential for countries to misperceive the intentions and resolve of others, and thus to miscalculate in the event of a crisis.



Implications for U.S. Policy

One clear takeaway from these essays is the way that the use of drones by the United States has served, up to this point, as a model for other countries – or at the very least, a key touchstone that influences domestic political discussions of drone acquisition and use in other countries. A clearer articulation of U.S. drone policy and operations still has the potential to shape how others are thinking about acquiring and using these systems.

Another major takeaway is that there is no one “right” way to think about drones. While U.S. use has significantly influenced others up to this point, countries will use drones in the ways that best fit their military organizations, budgets, culture, strategic interests, and operational plans. As drones continue to proliferate over the next several years, we are likely to see much greater diversity in the ways in which countries use drones – far beyond what one might expect simply by looking at the United States’ example over the last decade and a half. With this diversity will come an increased potential for misperception, miscalculation, and – if improperly managed – conflict.

The proliferation of drones thus holds important implications for policymakers and must be understood in order to develop effective policy for drones and for international security more generally. As proliferation continues, it will be critical for U.S. policymakers to recognize the global precedents established by U.S. policy and to clearly articulate the standards for the United States’ use of drones. Failure to do so could hold significant implications for crisis stability, escalation dynamics, and norms regarding state sovereignty – with potential consequences for the international system.

Check back soon for perspectives from Israel and Russia!

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Endnotes

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