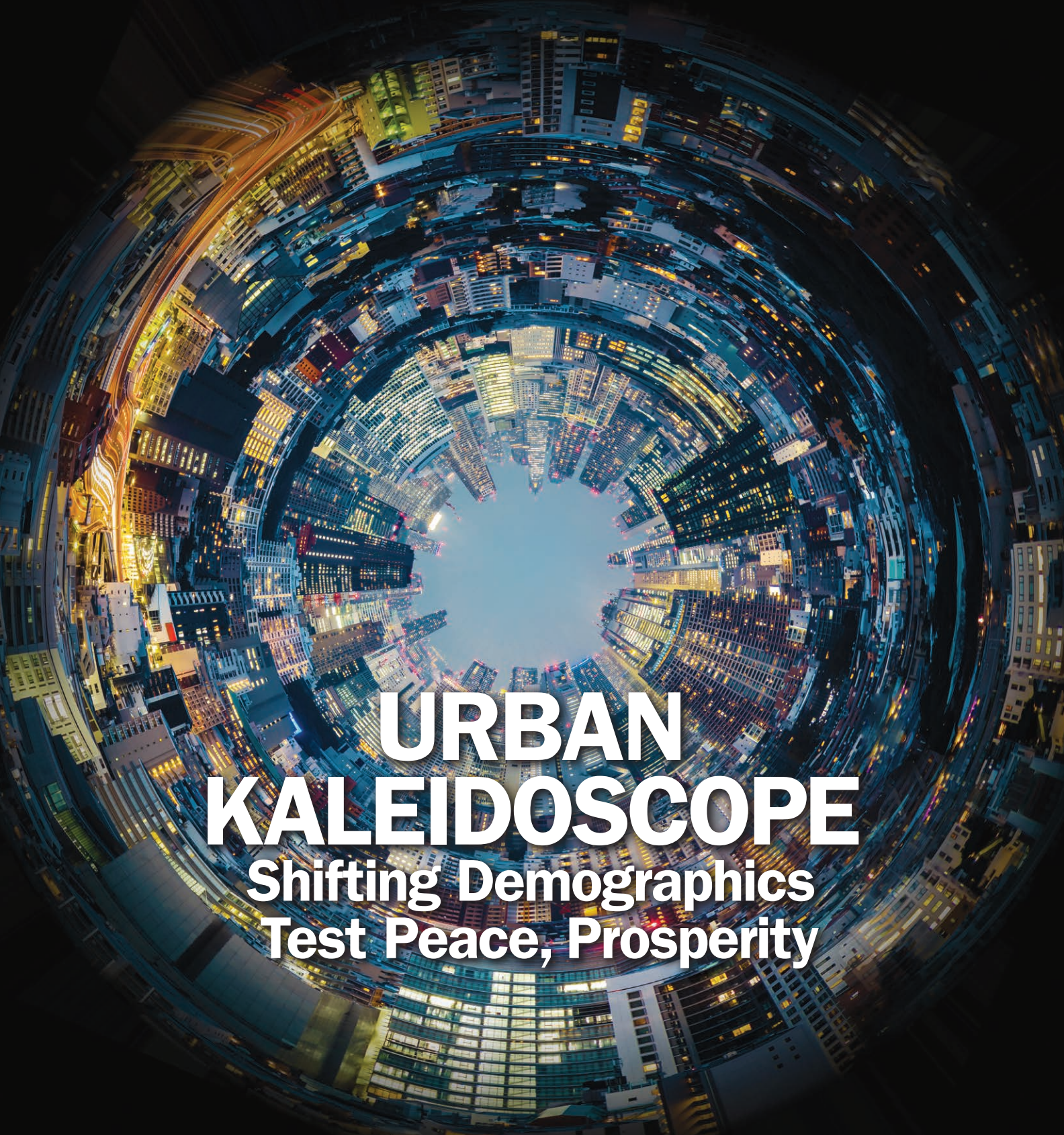


INDO-PACIFIC DEFENSE

VOLUME 46, ISSUE 2, 2021

FORUM



URBAN KALEIDOSCOPE

Shifting Demographics
Test Peace, Prosperity

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ABOUT THE COVER:

This panorama of the Tokyo skyline conveys how population shifts, such as increasing urbanization, are transforming governing and security challenges.

ISTOCK



Dear Readers,

Welcome to *Indo-Pacific Defense FORUM*'s issue on population dynamics.

As the economic, political and social importance of the Indo-Pacific continues to rise, corresponding demographic and societal changes will increasingly shape the region's security landscape. This issue of *FORUM* examines several concerns from changes to demographics to mounting energy and food demands that may

affect peace and prosperity in the Indo-Pacific. These dynamic pressures will transform the role of Indo-Pacific militaries, security forces and professionals, and how they operate in the future.

Cooperation among allies and partners will be critical for managing the resulting surges in resource competition, civil tensions, disease and economic disparities, and other new challenges.

The opening feature explores how militaries are preparing for a new battlefield horizon: the ascension of megacities. With much of the world's projected urban growth to occur in the Indo-Pacific, the dramatic migration from rural areas is increasing the challenge for nations to balance sustainable development and stability. The trend is also transforming how militaries will protect such massive population centers.

Another key article probes how dwindling fertility rates and longer life spans are creating aging nations with larger elderly populations worldwide and especially in the Indo-Pacific. The declining percentages of working and military-age citizens will cause changes in security approaches and push militaries to more rapidly adopt new technologies. A companion piece addresses how a significant gender gap in the People's Republic of China factors in a multitude of societal and security concerns, including human trafficking of women and girls, pay inequities, and sex crimes.

Population dynamics also influence food and resource competition. A pair of articles chronicles how Indo-Pacific nations are employing technological solutions and increasingly working together to improve food and energy security amid mushrooming demand.

To complete the edition, a set of articles explores how demographic shifts and increased globalization can complicate health care outcomes and security. Kirsten Sayers, CEO of RedR Australia, an international humanitarian response agency, details how the COVID-19 pandemic has changed the way nations respond to and view public health issues. An article written by an international group of advisors affiliated with the United Nations Women, Peace and Security program explains how the initiative equips defense and security sectors to better engage with their populations and provide inclusive solutions. Another piece reveals how partnerships among United States government agencies and Indo-Pacific entities empowered communities during the pandemic.

I hope these articles spark regional conversations on population dynamics. I welcome your comments. Please contact the *FORUM* staff at ipdf@ipdefenseforum.com to share your thoughts.

All the best,

P.S. DAVIDSON
Admiral, U.S. Navy
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IPD FORUM

Population Dynamics

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Contemporary China and *Democratization*, and he co-authored the 2019 book *Greening China's Urban Governance*. **Featured on Page 24**



KIRSTEN SAYERS is CEO of RedR Australia. She has experience in international commercially oriented government, corporate and advisory roles. Sayers has held senior diplomatic and commercial appointments in Paris, Bangkok and Taipei, as well as senior public and private sector roles in Australia. She has served as Australia's chief negotiator and delegation leader to Asia-Pacific Economic Cooperation

(APEC) Women Leaders' Network meetings and the APEC Gender Focal Point Network, and she participated in Australia's delegation to an APEC CEO Summit. **Featured on Page 42**

WING COMMANDER JENNIFER ATKINSON joined the Royal New Zealand Air Force as a psychologist and has deployed in support of missions in the Pacific and the Middle East. With over 20 years of service, she is now the gender advisor for the New Zealand Defence Force tasked with implementing the New Zealand National Action Plan.



SQUADRON LEADER LIBBY REARDON has served with the Royal New Zealand Air Force since 2015 and previously was a New Zealand Army officer. She deployed with the New Zealand Defence Force to the Middle East and Timor-Leste and to nonoperational deployments in Thailand and Vietnam. Most recently, she spent two years in Suva, Fiji, establishing a Pacific Defence Gender Network, connecting members across

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SHARON GOUVEIA FEIST is the first gender advisor at U.S. Indo-Pacific Command (USINDOPACOM), serving as principal advisor on women, peace and security within the Indo-Pacific. Under her leadership, the Office of Women, Peace and Security designs programming, directs implementation, and mainstreams a gender perspective throughout policy, planning and operations to improve security

outcomes. She previously led USINDOPACOM's Combating Trafficking in Persons program for over a decade and has worked with nongovernmental organizations to aid human trafficking survivors, particularly women and girls, in Hawaii and Southeast Asia. **Featured on Page 52**

Join the Discussion

WE WANT TO HEAR FROM YOU!

Indo-Pacific Defense FORUM caters to military and security personnel in the Indo-Pacific region. A product of U.S. Indo-Pacific Command, the quarterly magazine provides high-quality, in-depth content on topics that impact security efforts across the region – from counterterrorism to international cooperation and natural disasters.

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HONG KONG

PRO-DEMOCRACY GOALS GAIN SUPPORT

A growing number of people in Hong Kong support the pro-democracy movement's goals after the Chinese Communist Party (CCP) introduced a national security law for the city, with backing for the protest movement at 44%, a survey conducted for Reuters showed.

Demonstrations have been fewer and smaller than the mass protests that rocked the Chinese-ruled city in the second half of 2019, largely because of coronavirus-related restrictions on gatherings and the impact of the sweeping new law, analysts say.

The survey by the Hong Kong Public Opinion Research Institute (HKPORI) was the first since the law was passed in the global financial center on June 30, 2020.

It found nearly 60% of people were opposed to the security law, up from about 57% in HKPORI's survey in June 2020, when few details were known.

Ivan Choy, a senior lecturer at Chinese University of Hong Kong, said public attitudes shifted after the security law was implemented.

"Now there are more concerns when you ask people to come out" to protest, he said, adding that arrests have triggered "more anger in society."

The government has said the law was needed to plug holes in national security exposed by the protests and to restore stability in Hong Kong. The survey found public support for the law was slightly over 31%.

Critics say the legislation further eroded the wide-ranging freedoms promised to the former British colony on its return to Chinese rule in 1997.

The poll showed increased backing for the pro-democracy movement's key aspirations.

Support for the request for an independent commission of inquiry into how police handled the demonstrations saw a rise of roughly 4 percentage points to 70%.

Police and the government have said minimum force was used to restore law and order, and that adequate mechanisms exist to prevent and punish indiscipline. (Pictured: Hong Kong Police officers deploy in September 2020 in response to calls online to protest the national security law and the postponement of legislative elections.)

Support for universal suffrage, another key demand, remains strong with the backing of 63% of Hong Kong citizens, about the same as in the June poll.

Support for amnesty for arrested protesters rose to almost 50%, up 5 percentage points.

Opposition to the pro-democracy movement's demands inched down to 19% from 21.5%.

The survey also showed that support for Hong Kong independence, which is anathema to Beijing and a focal point of the new legislation, remained about 20% while opposition to independence hovered slightly below 60%. Reuters

INDONESIA

BOOSTING *food security*

Indonesia plans to develop a major food farm covering more than 164,000 hectares on the island of Borneo after warnings of a potential food crisis due to the coronavirus outbreak, the Agriculture Ministry said.

The project in Central Kalimantan province will boost output from about 85,000 hectares of existing farmland and add 79,000 hectares, including from previously drained peat land, the ministry said.



The government will cultivate a range of food crops, including staples, Kuntoro Boga Andri, a spokesman for the Agriculture Ministry, said in a statement.

"We are talking about a food estate that will not only have rice and corn," he said, adding that it would include fruit and vegetables and animal farms.

The government developed a similar food farm in Papua province and has plans to develop more. Reuters



FACING DISPLACEMENT

Rapid population growth, lack of access to food and water and increased exposure to natural disasters mean more than 1 billion people face being displaced by 2050, according to an analysis of global ecological threats.

Compiled by the Institute for Economics and Peace (IEP), a think tank that produces annual terrorism and peace indexes, the Ecological Threat Register uses data from the United Nations and other sources to assess eight ecological threats and predict which countries and regions are most at risk.

With the world's population forecast to rise to nearly 10 billion by 2050, intensifying the scramble for resources and fueling conflict, the research shows as many as 1.2 billion people living in vulnerable areas of sub-Saharan Africa, Central Asia and the Middle East may be forced to migrate by 2050.

By comparison, ecological factors and conflict led to the displacement of 30 million people in 2019, the report said.

"This will have huge social and political impacts, not just in the developing world, but also in the developed, as mass displacement will lead to larger refugee flows to the most developed countries," said Steve Killelea, IEP's founder.

The register groups the threats into two broad categories: food insecurity, water scarcity and population growth in one; and natural disasters including floods, droughts, cyclones, rising sea levels and rising temperatures in the other.

The result is an analysis assessing how many threats each of 150 countries faces and each one's capacity to withstand them.

While some, such as India and China, are most threatened by water scarcity in the coming decades, others such as Pakistan, Iran, Mozambique, Kenya and Madagascar face a toxic combination of threats, as well as a diminishing ability to deal with them.

"These countries are broadly stable now but have high exposure to ecological threats and low and deteriorating 'positive peace,' which means they are at higher risk of future collapse," the 90-page analysis found.

Killelea said the world has 60% less fresh water available than it did 50 years ago, while demand for food is forecast to rise by 50% in the next 30 years, driven in large part by the expansion of the middle class in the Indo-Pacific.

Those factors, combined with natural disasters, mean even stable states are vulnerable by 2050.

The IEP said it hoped the register, which may become an annual analysis, would shape aid and development policies. *Reuters*

MALAYSIA/CHINA

MALAYSIA WON'T EXTRADITE UIGHURS TO CHINA

Malaysia will not extradite ethnic Uighur refugees to China and will allow them safe passage to a third country should they feel their safety is at risk, a minister said.

Southeast Asia has been a preferred transit point to Turkey for ethnic Uighur Muslims fleeing what refugees and activists have described as oppression and mass internment by the Chinese government. (Pictured: Refugees from China's Xinjiang region wait inside a temporary shelter near the Thailand-Malaysia border.)

Mohd Redzuan Md Yusof, minister in the Prime Minister's Department, said Malaysia respects the right of sovereign countries to manage their internal affairs, even if it recognizes that Uighurs face oppression in China.

Mohd Redzuan's comments, made in a written parliamentary reply posted on the legislature's website in September 2020, marked the first time Malaysia has taken a clear position against extraditing Uighur refugees.



"Hence, if there are any Uighur refugees who flee to Malaysia for protection, Malaysia has decided to not extradite Uighur refugees even if there is a request from the People's Republic of China," Mohd Redzuan said.

"They are allowed to move on to a third country should they fear for their safety or potentially face persecution, where they feel they would not receive protection and justice in their home country."

In October 2018, Malaysian authorities released 11 Uighurs and sent them to Turkey, despite a request from China to return them. *Reuters*

Nations Need to Counter **TERRORISM THREATS** *Elevated by COVID-19, Duterte Says*



FORUM STAFF

The urgency of confronting the deadly coronavirus prompted governments worldwide to shift resources toward dealing with the global pandemic, but Philippine President Rodrigo Duterte reminded leaders not to lose sight of the ongoing threats of terrorism.

“Even as we are navigating ourselves out of this pandemic, the Philippines continues to confront security threats,” Duterte said in September 2020 during the Aqaba Process Virtual Meeting, an initiative of the king of Jordan to enhance cooperation among world leaders. “Indeed, COVID-19 has not quarantined terrorists.”

Local terrorist organizations, including Abu Sayyaf Group, the Bangsamoro Islamic Freedom Fighters and the New People’s Army of the Communist Party of the Philippines, were “emboldened” by the pandemic, Duterte said. “They exploit the situation to serve their nefarious activities,” he added.

“Now, more than ever, our resolve is stronger,” Duterte said. “We will not let up in our fight against terrorism. And we

will not allow COVID-19 to bring our people to their knees.”

Unlike COVID-19, terrorist threats are nothing new for governments. They

have, however, not figured as prominently in conversations and priorities as the coronavirus spread, some experts contend. Furthermore, media focus on the global pandemic has meant less news coverage about the ongoing threats from violent extremist organizations (VEOs), warned the United Nations Security Council Counter-Terrorism Committee Executive Directorate (CTED) in a June 2020 report. Other shifts have also occurred that VEOs may try to exploit to their advantage.

For example, the pandemic forced more than 1 billion students globally to take classes online as the risks associated with the virus prevented them from attending school in person, according to the U.N. The increased number of young people engaging in unsupervised internet usage, including gaming platforms, gives terrorist groups an opportunity to expose more people to radical ideology, the CTED report noted, “although the relationship between online activity and radicalization to violence is not fully understood.”



Extremists have integrated COVID-19 into their narratives and propaganda to exploit current events and amplify divisions and weaknesses among their enemies, according to the CTED report, titled “The impact of the COVID-19 pandemic on terrorism, counter-terrorism and countering violent extremism.” Researchers have called the pandemic the perfect storm for the spread of misinformation and disinformation.

“Although some states have mounted a response, including by charging individuals for spreading COVID-19-related mis/disinformation, much of the responsibility for addressing this situation has fallen to the private sector (as in counter-terrorism),” the CTED report said. “However, despite the actions of many major social media platforms, who have de-platformed individuals and organizations, promoted authoritative voices, increased the use of verification mechanisms and banned adverts using misinformation to sell medical products, significant challenges remain.”

Many individuals will experience lingering uncertainty, isolation and political instability, increasing the likelihood of ongoing attempts by violent extremist actors to exploit vulnerabilities, the CTED report said. The agency vowed, however, to continue monitoring the impacts of COVID-19

on terrorism and counterterrorism efforts and offer assessments and recommendations as governments navigate these latest challenges.

Duterte encouraged nations to put aside differences to meet new and ongoing threats because of the coronavirus. He pledged that the Philippines would enhance cooperation with the Association of Southeast Asian Nations and the U.N., among others, to face what he called “monumental challenges under present circumstances.”

“The COVID-19 pandemic compels us to break with the past. Insisting on the old ways that have perpetuated inequalities within and between nations is simply untenable,” Duterte said. “Let us seize this historic opportunity to build a new order — one that is more secure, just and humane — where there is no room for barbarity of terrorists and extremist forces.”

INSET: Philippine President Rodrigo Duterte talks to members of the Inter-Agency Task Force on the Emerging Infectious Diseases in Manila. THE ASSOCIATED PRESS

LEFT: Members of a Philippine Coast Guard anti-terrorism unit participate in a security drill at Manila Bay. AFP/GETTY IMAGES

ABOVE: Australian and Philippine Soldiers conduct an anti-terror training drill at Camp Aguinaldo in Manila. REUTERS

URBAN BATTLEFIELD

The Quickening Rise of Megacities
Transforms the Nature of Warfare

FORUM STAFF



FORUM ILLUSTRATION

Down streets darkened by dust and smoke and through narrow, shadowed alleys, the troops moved in teams, taking back the besieged town doorway by doorway, rooftop by rooftop. On the outskirts of town, the rotors of an MV-22 Osprey swirled dirt and debris as another contingent of liberators swarmed from the helicopter and headed into battle against enemy forces.

With freedom once again secured for this fictional town of converted shipping containers on Australia's northeast coast, the urban assault mission concluded Exercise Carabaroo.

For more than three weeks, nearly 400 Soldiers and Marines from Australia, the Philippines and the United States engaged in urban operations training at the Australian Defence Force's expansive Shoalwater Bay Training Area in Queensland. In reclaiming the simulated settlement, the troops tapped into skills and tactics sharpened during the mid-2019 trilateral exercise.

"Carabaroo is about learning from each other, building trust in each other, understanding each other's different cultures and shared values and then bringing that together in a high-end combat scenario, probably the most complex of them all in urban warfare," Australian Army Brig. Andrew Hocking, commander of the 7th Brigade, said in an article on the Australian Department of Defence website.

Throughout the Indo-Pacific and beyond, troops rehearse similar scenarios as military planners prepare for a new battlefield reality driven by population dynamics: the rise of megacities.

By 2050, more than two out of every three people worldwide will live in urban areas — a roughly 20% increase over the proportion of city dwellers in 2021. Within the next decade, the number of megacities of 10 million or more residents will jump by one-third, from 33 to 43.

Much of that projected urban growth — which the U.S. National Intelligence Council has called a "tectonic shift" — will occur in the Indo-Pacific, a region already bulging with many of the planet's metropolises, including Tokyo, New Delhi, Shanghai, Mumbai, Beijing and Dhaka.

This demographic revolution places immense burdens on nations to ensure sustainable development while maintaining societal stability. It's also transforming the nature of urban warfare.

"The city is the most powerful tool humanity has for social and economic development," Antonio Sampaio, research fellow for conflict, security and development at



An Australian Army Soldier participates in Exercise Carabaroo 2019. Similar exercises have been held throughout the Indo-Pacific as increased urbanization reshapes warfare. CPL. DESTINY DEMPSEY/U.S. MARINE CORPS

the International Institute for Strategic Studies, wrote in a July 2018 article for Bloomberg CityLab. "High rates of urbanization are associated with many positive outcomes including higher income and lower infant mortality. This positive linkage is being threatened by the joint challenge of rapid urbanization and destabilization in some of the world's most conflict-affected regions," Sampaio wrote. "If aid donors, international organizations and armed forces don't prioritize rapidly growing cities and work together to stabilize them, slow-burning tensions can escalate into violent conflict."

Should such friction spark fighting, the density, complexity and interconnectedness of the world's biggest population centers would present a combustible mix. "The challenge of megacities is unlike [anything] we've had to deal with in history," according to Dr. Russell Glenn, director of plans and policy at the U.S. Army Training and Doctrine Command (TRADOC).

A Mass of METROPOLISES

Worldwide, 33 urban areas had populations topping 10 million as of 2018, with the number of such megacities projected to rise to 43 by 2030. The Indo-Pacific is home to more than half of all megacities, including seven of the top 10 most populous urban centers on the planet.



With an estimated 37 million residents, the greater Tokyo metropolitan area is home to nearly 30% of Japan's population and is the world's most populous megacity. AFP/GETTY IMAGES

RANK	MEGACITY	POPULATION (in millions)
1	Tokyo, Japan	37.46
2	Delhi, India	28.51
3	Shanghai, China	25.58
4	Sao Paulo, Brazil	21.65
5	Mexico City, Mexico	21.58
6	Cairo, Egypt	20.07
7	Mumbai, India	19.98
8	Beijing, China	19.61
9	Dhaka, Bangladesh	19.57
10	Osaka, Japan	19.28
11	New York-Newark, United States	18.81
12	Karachi, Pakistan	15.40
13	Buenos Aires, Argentina	14.96
14	Chongqing, China	14.83
15	Istanbul, Turkey	14.75
16	Kolkata, India	14.68
17	Manila, Philippines	13.48
18	Lagos, Nigeria	13.46
19	Rio de Janeiro, Brazil	13.29
20	Tianjin, China	13.21
21	Kinshasa, Democratic Republic of the Congo	13.17
22	Guangzhou, China	12.63
23	Los Angeles-Long Beach-Santa Ana, United States	12.45
24	Moscow, Russia	12.41
25	Shenzhen, China	11.90
26	Lahore, Pakistan	11.73
27	Bangalore, India	11.44
28	Paris, France	10.90
29	Bogota, Colombia	10.57
30	Jakarta, Indonesia	10.51
31	Chennai, India	10.45
32	Lima, Peru	10.39
33	Bangkok, Thailand	10.15



Source: "The World's Cities in 2018" – United Nations



“If aid donors, international organizations and armed forces don’t prioritize rapidly growing cities and work together to stabilize them, slow-burning tensions can escalate into violent conflict.”

~ Antonio Sampaio, research fellow for conflict, security and development, International Institute for Strategic Studies

A SEISMIC RECONFIGURATION

In many ways, the renewed focus on urban conflict can be viewed as a return to the past. From the campaigns of Napoleon through World War I, military studies emphasized battles on open ground free of civilians, according to a review of urban warfare published by Oxford University Press.

For much of history, however, urban warfare — often in the form of siege operations — had been the primary means of waging war. It began reasserting its dominance during World War II. In January 1944, as Allied forces prepared for D-Day landings and the eventual liberation of Nazi-occupied Europe, the U.S. War Department published its first formal urban warfare doctrine, *Basic Field Manual (FM) 31-50: Attack on a Fortified Position and Combat in Towns*.

Various factors have spurred the reemergence of urban warfare’s strategic importance. Among them, the 2017 Oxford University Press review noted: “The search by less powerful armies for an asymmetric advantage among the urban population and landscape, the increased emphasis on revolutionary (insurgency) warfare, and dramatic global population demographic shifts from rural to urban geography.”

The seismic reconfiguration of the world’s population predicted for the coming years — defined as a “megatrend” by the United Nations — promises to reshape military thinking at every level from equipment and training to tactics and strategy. Australia’s 2020 Defence Strategic Update, unveiled in July 2020, noted that population growth and urbanization are compounding threats to political stability, such as food and water scarcity and pandemics.

Australia’s military “must have the ability to have a persistent ground presence, operate in complex terrain, and defeat adversaries through close combat,” noted the companion 2020 Force Structure Plan.

Given the nature of the modern battlefield, Australia’s Defence Department announced it would establish “a contested urban environment research office” to coordinate the development and rapid implementation of “constantly evolving combat equipment.” Additionally, the Force Structure Plan highlighted the vital role of geospatial intelligence, or GEOINT, in creating 3D models of urban areas to aid deployment of precision-guidance weapons.

A LOOMING LIKELIHOOD

In recent decades, lessons learned from military engagements in theaters ranging from Mogadishu, Somalia, to Baghdad, Iraq, and Grozny, Chechnya, have informed urban warfare planning.

A 2017 report by the Rand Corp., “Reimagining the Character of Urban Operations for the U.S. Army: How the Past Can Inform the Present and Future,” gleaned several key findings from analyzing such conflicts, including:

- The role of armored ground forces in allowing freedom of movement and “shrinking the operational problem of a large urban area down to a neighborhood.”
- The need for “innovative forms of intelligence, including new sources and methods of collection, particularly open source information from nonmilitary sources.”

- The value of military leaders who can think beyond established methods and operational norms to reduce “the challenge of urban combat to a manageable scope.”

“Urban environments pose significant challenges for ground forces and have traditionally been avoided when at all possible, but increasing urbanization of the world’s population seems to ensure that urban combat is in the Army’s future,” noted the TRADOC-sponsored report.

Indeed, the U.S. Army’s then-chief of staff had spoken of that looming likelihood a year earlier.

The future battlefield, Gen. Mark Milley told the Association of the U.S. Army in 2016, will be “almost certainly in dense urban areas, and against elusive, ambiguous enemies that combine terrorism and guerrilla warfare alongside conventional capabilities mixed with large civilian populations.”

It will be an arena far removed from the rural battlefields for which the Army historically had been “designed, manned, trained and equipped,” said Milley, who in October 2019 was appointed chairman of the Joint Chiefs of Staff, the nation’s highest-ranking military officer.

A subsequent Rand report, “The U.S. Army and the Battle for Baghdad: Lessons Learned — And Still to Be Learned,” gave impetus to such considerations, noting that the multiyear, multiphase conflict in Iraq “provides a wealth of information about how to reimagine future urban combat.”

The 2019 U.S. Army-sponsored report outlined a slate of recommendations, including a call for military planners and leaders to continue studying “the broader question of urban operations and megacities but understand that, because each city is an independent entity, studies should focus on specific cases of where the Army might be engaged in urban combat and what types of adversaries it will likely face.”

A CRUSH OF CHALLENGES

Beyond a crush of humanity, whether packed into sprawling slums or sleek skyscrapers, what might armies encounter in the world’s megacities? Transportation systems — at, above or below street level — may be efficient or overwhelmed. Municipal governments and civil authorities might provide stability and support or, simply, corruption and chaos. Certainly, tens of millions of smartphones and digital devices will create a cacophony of electronic noise that could swamp networks and disrupt battlefield communication and navigation.

For the adversary, “mega-urban terrain will be a great equalizer,” Alex Ward, assistant director of the Brent Scowcroft Center on International Security, wrote in *The National Interest* magazine.

This punishing, on-the-ground reality demands that troops be equipped for a unique battlespace. Beyond light weapons for increased agility, Ward wrote, forces will require command, control and

A Soldier of the Armed Forces of the Philippines participates in an assault on a fictional town during Exercise Carabarroo 2019.

CPL. DESTINY DEMPSEY/U.S. MARINE CORPS



communication systems that are difficult to intercept, sensors and surveillance cameras, and 3D printing and visualization tools. With many megacities situated in littoral zones, amphibious capabilities also will be vital to military success.

It is essential, too, Ward noted in his 2015 article, that company and battalion leaders be trained to make “split-second decisions in ambiguous circumstances” while balancing a city’s regional and cultural dynamics.

In the information age, victory on the battlefield also requires a fighting force that can overmatch the enemy in the cognitive domain, according to U.S. Army Col. Todd Schmidt. “We must be able to gather, decipher, process, and understand tremendous amounts of data and information faster than an adversary,” Schmidt wrote in an April 2020 article for the Modern War Institute at West Point. “This capability must be fused with advanced technological capabilities — such as cloud-enabled computing, robotics, artificial intelligence, and virtual or augmented reality — and the ability to communicate the knowledge we derive from the data internally and externally faster than our enemy.”

Bad actors such as terrorist groups, criminal gangs and insurgency movements add “another significant dimension to urban warfare,” retired Indian Army Special Forces Lt. Gen. Prakash Katoch wrote in the November 2018 article “Combat in Cities,” published on the website of the journal *Indian Defence Review*. Conventional forces must combat unconventional foes armed with improvised explosive devices and able to elude capture by melding into the civilian population.

Reflective of this growing nexus between urbanization and security, Katoch noted that militaries from Europe to the Mideast and beyond have established synthetic training environments that mimic high-rise apartments, stores and marketplaces, schools and other public buildings. Some of these military operations on urban terrain, or MOUT, facilities are constructed of modular systems that resemble oversized Legos and can be rapidly reconfigured and customized.

Further complicating military planning for urban conflict is the role of cities as “centers of gravity” — hubs of finance, governance, industry, communication and transportation, according to “A Concept for Future Military Operations on Urbanized Terrain,” a 1997 report by the U.S. Marine Corps Combat Development Command. Armed forces may find themselves simultaneously conducting combat operations, peacekeeping functions and humanitarian assistance in different neighborhoods — a military concept known as the “Three-Block War.”

Nearly a quarter century after that report, ensuring readiness for urban warfare remains a fast-moving target. The U.S. Marine Corps Warfighting Laboratory in 2019 began soliciting information from defense companies and academic institutions for the development of

weapons technologies and other systems for a multiyear series of experiments to sharpen city-combat capabilities, Military.com reported.

A CUE FOR ACTION

In late 2017, scores of Australian Defence Force personnel teamed with dozens of researchers, scientists and technologists from Australia, Canada, New Zealand, the United Kingdom and the U.S. for the first Contested Urban Environment (CUE) Strategic Challenge. Part of the five-nation Technical Cooperation Program, the 10-day challenge featured urban warfare scenarios played out in vacant hospital buildings in Adelaide, Australia.

Participants tested next-generation technology such as air- and ground-based sensors integrated with perimeter and overhead surveillance systems to identify enemy-occupied vehicles and structures and to detect movement inside and around buildings.

“Our aim is to give our men and women on the front lines useful technology that produces timely, high-caliber information,” Dr. Justin Fidock, group leader of human domain analytics with Defence Science and Technology, part of Australia’s Defence Department, said in a 2018 podcast about the exercise. “They need to be confident they know what they’ll be facing when they step onto a street or into a room in a contested urban environment.”

Two years after the inaugural event, the annual CUE Strategic Challenge moved to New York City, a metropolis of 8.5 million residents on the cusp of megacity status. More than 150 engineers and scientists from the five member nations descended on the city for two weeks of testing emerging technologies.

Lower Manhattan served as a noisy, frenetic and people-packed proving ground for city fighting, offering “urban canyons created by skyscrapers, long, narrow — and sometimes dark — underground subway passageways, rooftops, and cavernous interior spaces,” noted a November 2019 article about the CUE challenge published on the U.S. Army website.

The 40 projects tested focused on analytics, force protection, reconnaissance and surveillance, command and control, and counter-unmanned aircraft systems. In one experiment, engineers from Australia and the U.S. teamed to develop a robotic platform that can navigate and map spaces autonomously — or guided by a Soldier’s hand and body movements. Augmented reality allows human operators to see what the robot sees.

“The overarching objective of CUE is to get greater insights into the nature of urban challenges and increase our understanding of the limitations of technologies that support operational concepts,” Mary J. Miller, principal deputy, director of defense research and engineering for research and technology, U.S. Department of Defense, said in the 2019 article. “Ultimately,” Miller said, “we will use this information to create capabilities that increase mission success while reducing risk to our military forces in urban operations.” □



AGE OF UNCERTAINTY

*Rapidly graying Indo-Pacific faces
governance, security challenges*

FORUM STAFF

FORUM ILLUSTRATION

Declining fertility rates and improved health care are creating a global aging phenomenon that is straining entitlement programs, slowing economic growth and raising security questions. Nowhere is this societal graying more acute than in the Indo-Pacific, which is home to the world's oldest country by percentile — Japan — where 28% of the population is 65 or older. That means for every person between the ages of 20 and 64, there is one person over 65, or roughly 35.2 million people over the age of 65 in Japan.

The region's dwindling number of working- and military-age citizens may strain government budgets and turn militaries toward technology to compensate for shrinking ranks, experts predict. Facing its most precipitous population decline in decades, the People's Republic of China (PRC) harbors more than 176 million people age 65 or older or roughly 12.6% of its population, yet the PRC extended its reach in the South China Sea, militarized shoals claimed by its neighbors, and built runways and weapons installations to defend them. Such actions by a country facing future gross domestic product (GDP) declines and bankrupt pension funds might seem counterintuitive.

"What we see is that if perceived threats are sufficiently high, even aging countries are willing to do what it takes to invest in defense," said Dr. Jennifer Sciubba, the Stanley J. Buckman professor of international studies at Rhodes College in Memphis, Tennessee, and a global fellow with the Environmental Change and Security Program at the Wilson Center in Washington, D.C.

Sciubba told *FORUM* that the Indo-Pacific's aging patterns, though costly, have not curbed appetites for defense spending. In fact, the region's leaders seem more likely to invest in protecting their resources and territories as their populations age. "The Indo-Pacific is a tense region with a lot of competing powers, even though those powers are experiencing intense population aging. Japan is the world's oldest country in terms of median age," she said.

THE END OF THE BOOM

The world was inhabited by 703 million people over the age of 65 in 2019, according to an October 2019 report by the United Nations Department of Economic and Social Affairs. East Asia and Southeast Asia are home to the world's largest population in that age group — 261 million people — followed by Europe and North America.

Those parts of Asia, which include the world's most populated country, China, will see their populations of seniors grow to 573 million by 2050, the U.N. report states. This increase will be coupled with China's largest population decline in decades, setting the stage for a rapidly intensifying set of challenges.

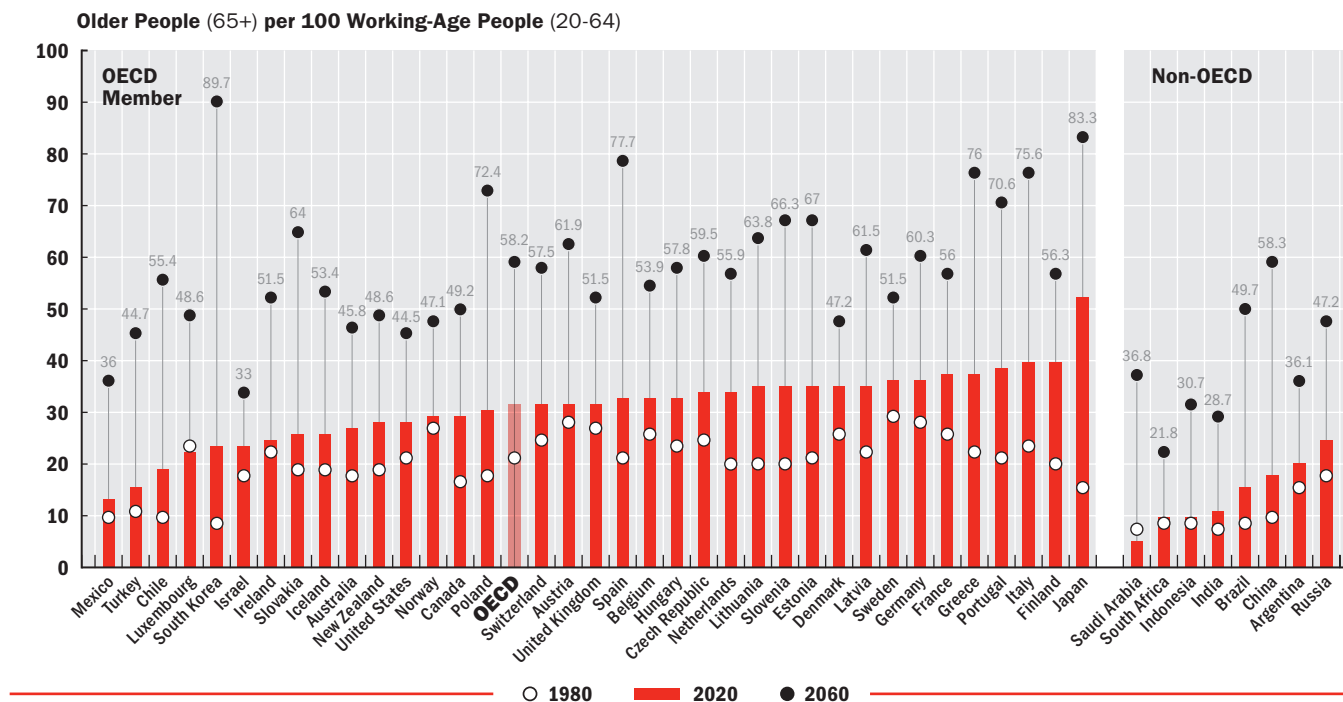


Residents of a senior citizen community on the outskirts of Beijing participate in a dance class. AFP/GETTY IMAGES

- **Shrinking Workforce:** Government researchers at the China Academy of Social Sciences predict that the nation's population will peak at more than 1.4 billion by 2029 and then experience an "unstoppable" decline that could see it drop to 1.36 billion by 2050, reducing the workforce by as much as 200 million. "From a theoretical point of view, the long-term population decline, especially when it is accompanied by a continuously aging population, is bound to cause very unfavorable social and economic consequences," the academy said in a 2019 report. India is expected to surpass China as the world's most populous country as China's contraction begins.
- **Vanishing Pensions:** An April 2019 report by the same think tank said the PRC's state pension fund will run dry by 2035. Pensions are already straining government budgets. Pension payouts reached 640 billion yuan (U.S. \$90 billion) in 2016, up 140% from five years earlier. Analysts suggest this figure could rise as high as 60 trillion yuan annually by 2050, accounting for more than 20% of total government spending, according to a September 2019 report in *The National Interest* magazine. This budget strain will occur despite the PRC's limited commitment to pensions and health care. An estimated 900 million Chinese citizens — almost two-thirds of the population — live with little social safety net.
- **Signs of Unrest:** The pension system's financial instability is fueling public worry, according to an April 2019 Voice of America report. On the microblogging site Weibo, a young Chinese tech worker complained that his long hours won't

THE RISING RATIO

In many countries, the old-age to working-age ratio will almost double in the next 40 years



guarantee him a retirement check. “The point of [encouraging] us to work the 996 schedule [9 a.m. to 9 p.m. six days a week] is that we can work to death before we retire so as to perfectly save the country’s under-funded pension system a problem. Is it?” he wrote. Military veterans are also speaking out. The Chinese military has embarked on a program to streamline personnel and improve technology, and many demobilized soldiers took to the streets over the past few years to protest a lack of jobs, health care and other benefits. The Chinese Communist Party (CCP) used a heavy hand to quash the dissent. In April 2019, Chinese courts sentenced 47 people to up to six years in prison for their part in the 2018 protests, which involved hundreds of former soldiers, The Associated Press reported.

AMBITION MEETS REALITY

Seen from a distance, the PRC’s massive infrastructure and military spending campaigns convey the trappings of a rising power. The PRC has reasserted its dominance over its domestic peripheries and increased military pressure against its neighbor countries. For example, the PRC engaged in a border skirmish with India, militarized shoals in the South China Sea, cracked down on freedom of speech in Hong Kong and pressured Taiwan during a presidential election. Simultaneously, it is investing billions of dollars in emerging technologies and has embarked on a U.S. \$1 trillion infrastructure scheme known as One Belt, One Road (OBOR) to link China

with the rest of the world through railway, airport, port and highway projects.

The combination has demographers and social scientists asking how the PRC can continue the spending spree when its population and economic growth are about to decline. One scholar said the answer is simple: It can’t.

“Predictions of future Chinese power are all ultimately based on multiplying rapid per capita economic growth by an enormous population of 1.4 billion,” said Salvatore Babones, an adjunct scholar at the Centre for Independent Studies in Sydney, Australia, and an associate professor at the University of Sydney. “Now that economic growth has ground to a halt” and the population is expected to decline, “those predictions must be revisited,” Babones told *FORUM*. “China will not become a global superpower. Like Russia before it, it will become “just another middle-income country stalled on the path to growth,” he said.

In a July 2020 article for *Foreign Policy* magazine, Babones painted a vivid picture of an imminent financial reckoning. Even before the coronavirus pandemic struck, the PRC’s economic growth had slowed from double-digit rates in the early 2000s to 6.1% in 2019, according to government figures. The reality is probably worse: The Brookings Institution reports that the PRC historically overestimates GDP growth by about 1.7 percentage points each year.

The country’s tax revenues grew just 3.8% in 2019 compared with 6.2% in 2018 and 7.4% in 2017, Babones wrote. Its spending grew by 8.1% in 2019, however.

“Throughout the 2010s, China spent like there was no tomorrow, confident that tomorrow would always bring enough economic growth to cover today’s excesses, with a little left over to grease the wheels of corruption,” Babones told *FORUM*. “Now that tax receipts have faltered, it faces ever more severe budgetary constraints. Cue delayed projects, canceled warships and demands that international partners pay more of the costs of their China-sponsored infrastructure development. The fact is that China has had to buy its friends, and now that it can no longer afford to do so, those friends are deserting China.”

COVID-19 COMPLICATIONS

The COVID-19 pandemic brought some of the PRC’s signature infrastructure projects to a crawl, including the China-Pakistan Economic Corridor, Cambodia’s Sihanoukville Special Economic Zone and the Payra power plant in southern Bangladesh, according to an August 2020 analysis published by *The Financial Express*, an English-language newspaper in India.

“Even before COVID-19 wreaked havoc on supply chains and imposed travel bans on Chinese workers, many of China’s [OBOR] projects especially in Africa were coming under scrutiny. African countries have already called for \$100 billion in bailouts and debt relief to help them cope with the devastating effects of the pandemic,” global affairs analyst Syed Ali wrote.

Infrastructure projects will surely resume as lockdowns are lifted. However, a contracting Chinese economy slowed by demographic changes likely will lead Beijing to “prioritize mitigating the financial impact of the virus and resolving the trade war with the United States over rolling out new overseas infrastructure projects.” While OBOR projects might not be shelved, “they will most certainly be plagued by delays,” Ali wrote.

ONE-CHILD LEGACY

Even though birthrates in China were starting to decline before the implementation of the country’s notorious one-child policy, the government’s population control program clearly curbed China’s growth. The policy was introduced in 1979 and wasn’t officially ended until 2015. To enforce compliance, provincial governments required the use of contraception and mandated abortions and sterilizations.

With China’s aging population and slowing economic growth, Indo-Pacific neighbors are watching to see what the CCP will do to continue its quest for superpower status as demographics work against it. “The regime’s assertiveness and incompetence have done more to decouple China from the respected international community than anything done by the Western allies,” wrote Ross Babbage, a nonresident senior fellow at the Center for Strategic and Budgetary Assessments in Washington, D.C., and CEO of Strategic Forum in Canberra, Australia. In an August 2020 piece for *The Australian* newspaper, he added that the communist nation

“finds itself with few international friends, no trusted allies and an alert set of Indo-Pacific nations that are cooperating more closely to thwart its ambitions.”

That need to keep a wary eye fixed on the expansionist PRC won’t subside just because China is going gray. Sciubba pointed out that populations of prime working-age people — those 20 to 64 years old — have already peaked in China, Germany, Japan, Russia, South Korea and the U.S. “These are some of the key states from a national security perspective, and they are all going through similar demographic changes. So, we need to be careful not to assume that they’ll all of a sudden not have goals to project power or secure borders just because they’re aging. We just don’t see that going away so far.”



An elderly man pushes a woman in a wheelchair along a Beijing street in June 2020. AFP/GETTY IMAGES

Vietnam is a case in point. The Southeast Asian nation’s population is expected to peak at 107.2 million in 2044, a decade earlier than forecast by the U.N. in 2019, according to a July 2020 study published in *The Lancet* medical journal. Yet, in part due to Chinese encroachment in its exclusive economic zone, Chinese oil exploration in its waters and the militarization of islands in the South China Sea, Vietnam continues to spend more on defense.

The Vietnamese government projects that its defense spending will increase from U.S. \$5.5 billion in 2020 to U.S. \$7.9 billion in 2024, allowing it to buy fighter and multirole aircraft, armored vehicles, ships, maritime patrol aircraft and surveillance equipment.

As the region’s defense spending rises, the future of the PRC’s ruling regime remains a question. The CCP “might muddle through, it might reform or it might fail,” Babbage wrote. It’s a fourth possibility, however, that keeps Indo-Pacific allies and partners on alert. “There is also a risk that the leadership might resort to international adventures to distract the public and bolster the regime’s security.” □

MISSING WOMEN OF THE INDO-PACIFIC

Gender Gap in China Linked to Trafficking, Abuse

FORUM STAFF | PHOTOS BY AFP/GETTY IMAGES

A massive gender gap in the world's largest country is contributing to security concerns across the Indo-Pacific as men desperate for brides take extreme measures to perpetuate their family names. Experts project that many of the men in the People's Republic of China (PRC) will never marry, and others may go to great lengths to find a wife.

This gender disparity plays a role in a multitude of societal and criminal ills, from human trafficking of women and girls to pay inequities and sex crimes. With a population of about 1.4 billion, the PRC has 34 million more men than women. The consequences of state-backed population control, such as the PRC's notorious one-child policy from 1979 to 2015 and cultural preferences for male offspring, contribute to the trafficking of women and girls domestically and in neighboring countries, experts say.

The nonprofit Human Rights Watch highlighted the problem in a March 2019 report that focused on the trafficking of young women from Burma to China. In Burma's Kachin and northern Shan states that border China, long-running conflicts have displaced 100,000 people. Traffickers use this chaotic atmosphere to prey on vulnerable women and girls

by offering them jobs and transportation to China.

"Then they sell them, for around U.S. \$3,000 to U.S. \$13,000, to Chinese families struggling to find brides for their sons," Human Rights Watch reported. "Once purchased, women and girls are typically locked in a room and raped repeatedly, with the goal of getting them pregnant quickly so they can provide a baby for the family." After giving birth, some victims escape but are forced to leave their children behind, the report said.

Human Rights Watch exposed similar trafficking patterns from Cambodia, North Korea and Vietnam to China. By 2026, China's population will include three males ages 15 to 29 for every female in that age group, the United Nations reported.

War-Torn Area in Crosshairs

In its report, titled "Give Us a Baby and We'll Let You Go," Human Rights Watch illustrated the desperate landscape in Burma. Fighting between Burma's government forces and the Kachin Independence Organization (KIO) dates to the nation's independence in 1948. The end of a 17-year cease-fire in 2011 resulted in escalated hostilities that caused the displacement of 100,000 Kachin and other ethnic minorities.

Vu Thi Dinh holds a picture of her teenage daughter and a friend, who are believed to have been sold as child brides. She scoured the rugged Vietnamese borderland near China for weeks after they vanished.



The chaos left many struggling to survive, and Burma's decision to block humanitarian aid to KIO-controlled areas added to the burden. Although it's hard to calculate the number of women and girls trafficked to China, the Myanmar (Burma) Human Rights Commission said immigration data showed that 226 women were trafficked to China in 2017. Burma's Department of Social Welfare said it assists 100 to 200 female trafficking victims returned from China each year.

These figures represent only a fraction of the total because many cases are never reported, trafficked women and girls may never be found, and many who escape keep their experience secret, Human Rights Watch reported.

Regional Hot Spots

Burma isn't the only country where women are vulnerable. Cambodia, North Korea, Pakistan and Vietnam also report women and girls vanishing into China. A December 2019 report by The Associated Press revealed that Pakistan listed 629 girls sold as wives to Chinese men since 2018.

In Cambodia, the Interior Ministry reported in May 2020 that 111 Cambodian women had returned from China in 2019 after being sold as brides. The women are often lured there under false pretenses. They are promised jobs with high salaries but are often forcibly married, according to Human Rights Watch.

Another vulnerable area is the long, mountainous border between Vietnam and China. The terrain makes it easy for traffickers to abduct Vietnamese girls from villages and move them across the border, according to an August 2019 Channel NewsAsia (CNA) report. "There's a lot of money in human trafficking. The people who

sell girls can make tens of thousands of dollars on a sale," Michael Brosowski, founder of Hanoi-based charity Blue Dragon Children's Foundation, told CNA.

More than 3,000 Vietnamese — mostly women and girls — were trafficked between 2012 and 2017, according to the Vietnamese Ministry of Public Security. The number of unreported cases is believed to be much higher, CNA reported.

A teenager from the region of Bac Ha, Vietnam, told the news agency she was deceived and sold to a trafficking ring in China. She said she was oblivious to what was going on "until I arrived in some district and saw Chinese characters. That's when I realized I was trafficked. I was frightened."

This dismal pattern — fueled in part by a stigma attached to wifelessness in China — isn't preordained to continue for decades, however. Chinese attitudes toward family size changed, so it's realistic to project that attitudes toward marriage might change, too, Dr. Jennifer Sciubba, the Stanley J. Buckman professor of international studies at Rhodes College in Memphis, Tennessee, told *FORUM*.

"Some researchers have, rightly I think, pointed out that we've had an overly static view of culture in assuming that social pressures for men to find wives when there is a shortage of women will boil over into some kind of domestic instability, but norms change," Sciubba said. "It's no less plausible that the meaning of marriage in

Lau Thi My, who lives in a mountainous area of Vietnam bordering China, was deceived by human traffickers who promised her a job.



China will change than that norms about family size changed. And we saw those preferences drop dramatically in just a matter of decades.”

Missing Girls

Sex selection can be measured using sex ratios at birth over a given period. The biologically normal sex ratio at birth can range from 102 to 106 males per 100 females, the U.N. report stated, but ratios as high as 130 boys per 100 girls have been observed in some regions of the world.

Cultural preferences for male offspring have led to dramatic, long-term shifts in the proportion of women and men in the PRC in particular. In many countries, these imbalances result in a “marriage squeeze,” the report said, which contributes to human trafficking and child marriages.

This marriage squeeze is a symptom of larger societal structures that devalue women, Sciubba said. “In this case, women are clearly undervalued compared to men such that families are willing to abort female fetuses in acting on their preference for sons,” she said.

Pandemic Fuels Fire

Human trafficking isn’t the only fallout linked to gender gaps in China and the region. The precarious plight of women in the workforce has been made worse by general imbalances and compounded by the coronavirus pandemic.

With those disadvantages already in place, the COVID-19 outbreak and stay-at-home orders in many countries have disproportionately hurt women, Bloomberg reported. Many of the migrant workers forced to flee cities for their rural homes were women, who are overrepresented in vulnerable service jobs. “Lockdown and social-distancing norms are likely to have an outsized impact on women,” said Sanjay Mathur, an economist with Australia and New Zealand Banking Group, Bloomberg reported. “The concern is the economic impact will be felt across employment and well-being indicators over the coming years.”

Accountability and Prevention

When it comes to one of the most heinous crimes against women — human trafficking — the U.S. Department of State for 20 years has published the Trafficking in Persons (TIP) report to provide a global assessment of the problem and to hold countries accountable. In a letter introducing the 2020 TIP report, then-U.S. Secretary of State Mike Pompeo noted that traffickers deny nearly 25 million people of their “fundamental right to freedom, forcing them to live enslaved and toil for their exploiter’s profit.”

The TIP report, he said, arms governments with data to prosecute traffickers, assist trauma victims and prevent crimes. As for the PRC, much work needs to be done, the report said.

The Trafficking Victims Protection Act, which created the TIP office and mandated the annual report, places countries on three tiers based on their efforts to prevent



Handcuffed Chinese nationals hide their faces as they arrive at a Pakistan court in May 2019 to face charges that they forced girls from Pakistan into prostitution in China.

trafficking. In the 2020 report, Burma, North Korea, Papua New Guinea and the PRC were listed in Tier 3, the lowest grade. The ranking puts them in the company of war-torn countries such as Afghanistan and Syria.

Countries in the bottom tier are prohibited from receiving nonhumanitarian aid and foreign assistance from the United States that isn’t trade-related because they don’t meet minimum standards for eliminating human trafficking.

Although Chinese officials took steps to prosecute human traffickers, the PRC was criticized in the report for not stopping a pattern of widespread forced labor and for the mass detention of 1 million Uighurs, Kazakhs and other Muslims living in the Xinjiang region.

India remained a Tier 2 country, meaning the government does not meet the minimum standards for eliminating trafficking but is making strides to improve. The report praised India’s high-profile prosecution of traffickers at a government-funded shelter in Bihar. The case resulted in the conviction of 19 people, including three state officials. An influential former legislator was one of 12 people who received life sentences.

When it comes to Indo-Pacific success stories, Australia, New Zealand, the Philippines, Singapore, South Korea, Taiwan and the U.S. are listed as Tier 1 locales, meaning they meet the act’s minimum standards to eliminate human trafficking.

U.S. officials fighting these criminal enterprises remain committed to helping partners in the Indo-Pacific and around the world to stop the violence. “As the vulnerable become more vulnerable, we remain resolved in our pursuit of freedom for every victim of human trafficking and accountability for every trafficker,” John Cotton Richmond, a U.S. ambassador-at-large, wrote in the 2020 TIP report. □

THE CCP AND THE Diaspora



Beijing's Extraterritorial Authoritarian Rule

DR. OSCAR ALMEN/SWEDISH DEFENCE RESEARCH AGENCY

Concern about China's growing international influence has deepened in recent years. Part of this concern involves China's ability to mobilize the Chinese diaspora outside of the People's Republic of China (PRC). The Chinese Communist Party (CCP) seeks to extend its authoritarian rule to the Chinese diaspora abroad as a way to gain support for its policies and reduce the influence of its opponents. A crucial aspect is the question of whom the Chinese party-state regards as Chinese and thus a legitimate target for its influence operations. Those members of the diaspora whom the party considers reliable are sometimes used to influence politics in the country of their residence in favor of CCP interests. Opponents, in contrast, risk being threatened or in worst cases abducted. China's extraterritorial activities have various security consequences including Chinese state influence in domestic politics of foreign states, security threats against foreign citizens of Chinese descent and an undermining of principles of nationality in international law.

The Chinese diaspora is diverse and includes citizens of the PRC abroad as well as foreign nationals with Chinese heritage. The CCP regards the diaspora as important for China's development and the so-called great rejuvenation of the Chinese nation launched under General Secretary Xi Jinping's leadership. Xi's ambition is for China to take the center stage in global politics.

The CCP's efforts to mobilize overseas Chinese in support of its policies as well as to pressure and threaten those who oppose it have led to public condemnations from foreign governments. Needless to say, not all members of the Chinese diaspora appreciate Beijing's efforts to include them in the CCP-led rejuvenation project.

The CCP's efforts to influence and control the Chinese diaspora abroad constitute extraterritorial activities that in some cases violate international law. Examples include the abduction of Swedish national Gui Minhai in Thailand and of Gui's colleague, British citizen Lee Bo, in Hong Kong, as well as threats against exiled



Hong Kong bookseller Lam Wing-kee, who said he was detained for months by Chinese authorities, stands in front of his store in June 2016. Placards behind him read "release" in Chinese and contain the names and photos of other detained publishers, including Swedish national Gui Minhai, left. THE ASSOCIATED PRESS

ethnic Uighurs and Tibetans. In order to understand Chinese foreign policy ambitions and extraterritorial activities, it is important to investigate the underlying views of the CCP leadership on the Chinese diaspora.

CCP'S VIEW OF CHINESE NATIONALITY

China does not recognize dual nationality. Consequently, Chinese who acquire foreign citizenship are no longer considered Chinese citizens by the PRC. However, the Chinese leadership uses ethnic and racial references when talking about the Chinese people and continually emphasizes the importance of bloodline and heritage.

According to this view, all foreign nationals with Chinese heritage, regardless of how many generations ago their families left China, can potentially be included in the CCP's idea of the Chinese nation. At the seventh Conference of Friendship of Overseas Chinese Associations in 2014, Xi Jinping said, "There are tens of millions of overseas Chinese in the world, and everyone is a member of the Chinese family. For a long time, generation after generation of overseas Chinese have upheld the great traditions of the Chinese nation and have not forgotten the motherland, their ancestral hometown, or the blood of the Chinese nation flowing in their bodies."



Gladys Liu, the first Chinese-born lawmaker elected to Australia's Parliament, addresses the House of Representatives in Canberra, Australia, in July 2019. She has been criticized for her ties to the Chinese foreign influence network. THE ASSOCIATED PRESS

This perspective obscures the distinction between Chinese nationals abroad (*huaqiao*) and foreign nationals of Chinese heritage (*huaren*) specified under PRC law. The CCP expects overseas Chinese to be patriotic and loyal to what it considers to be their ancestral homeland.

The CCP, like other authoritarian regimes, allows little space for opposition to the party, which means clamping down on views across a spectrum of issues that run counter to the official line. This intolerance also extends to dissent from the Chinese diaspora around the world, a large part of which may not support the CCP. From Beijing's perspective, support for China equals support for the party and vice versa. While the combination of ethnic nationalism and an authoritarian system is not unique to China, its global influence, the size of the global Chinese diaspora, and the level of organization of the CCP's propaganda apparatus toward overseas Chinese make the China case unique.

DIASPORA RELATIONS UNDER XI

Under Xi's reign, China has moved toward a more assertive foreign policy. The Chinese diaspora has been declared an important part of the process of rejuvenating the Chinese nation. The overseas Chinese affairs work, led by the United Front Work Department (UFWD), has intensified its efforts to mobilize the Chinese diaspora, regardless of citizenship, for the CCP's cause.

Those members of the diaspora who the party considers to be reliable are sometimes used to influence the politics of their country of residence in the direction of China's national interests. Chinese actors with different degrees of involvement with the CCP have been active in influencing politics in Western democracies such as Australia. In Malaysia, where the Chinese diaspora constitutes a substantial part of the population, Chinese ambassadors have on several occasions been criticized for interfering in internal Malaysian affairs through their statements in support of the Chinese community. In the 2018 general elections, the Chinese ambassador publicly supported the candidacy of the president of the Malaysian Chinese Association.

In contrast, members of the Chinese diaspora that the party perceives as its opponents risk being threatened. The case of Swedish citizen Gui Minhai is an example of a form of extraterritorial act by the Chinese state in clear violation of international law. Gui, who owned a company in Hong Kong that published books critical of Chinese political leaders, was abducted in Thailand in 2015 and appeared three months later in a forced confession on Chinese state television. In February 2020, a Chinese court sentenced Gui to 10 years in prison for "illegally providing intelligence" to foreign governments. Before the sentence, the Chinese authorities claimed that his Chinese citizenship had been restored. According to Chinese law, he is no longer a Swedish citizen. Similarly, since 2016, China has successfully requested the extradition of Taiwan citizens suspected of fraud in countries such as Kenya, Cambodia and Spain. The extraditions constitute a break from previous practice of allowing Taiwan people who had been found guilty of crimes overseas to be extradited to Taiwan. This practice has sparked strong condemnation from the Taiwan government, who see them as extrajudicial abductions.

SECURITY CONSEQUENCES

The extraterritorial activities directed at the Chinese diaspora may have various security consequences. First, the CCP can influence domestic politics and policymakers in other countries through influencing overseas the Chinese diaspora. Some overseas Chinese are themselves policymakers, while others have gained influence over important policymakers. In the event that the CCP's interest contradicts the national interest of the host country, such policymakers may undermine the country's national security.

Second, because the CCP is specifically targeting the



A protester demonstrates against the proposed Hong Kong extradition law in Taipei, Taiwan, in June 2019. THE ASSOCIATED PRESS

It is important that the international community refuses to accept the CCP narrative of the party as the representative of all Chinese people. On the contrary, states should make clear that the CCP's efforts to use and pressure the Chinese diaspora leads to rising distrust of Beijing.

Chinese diaspora for its influence operations, states cannot guarantee that citizens of Chinese descent are secure from being subject to coercive acts by the CCP such as surveillance and threats. These individuals cannot trust that their citizenship will give them the same protection as other citizens of the same state enjoy. The CCP has shown that it has the capacity and will to punish foreign citizens of Chinese heritage far beyond its territorial borders.

Third, people of Chinese descent can fall prey to anti-Chinese sentiments in society. The CCP's policy of influencing overseas Chinese risks exacerbating suspicion against them in their host countries, regardless of whether they support the CCP or not. Anti-Chinese sentiments and racism constitute a security threat toward members of the Chinese diaspora and have negative social consequences. Recent history, especially in Southeast Asia, shows that this can turn into deadly violence.

Fourth, extraterritorial acts by the Chinese government in violation of international law call into question its commitment to international rules and norms. When ethnicity and heritage are allowed to override principles of civic nationality based on legal citizenship, China's extraterritorial activities threaten to undermine international law.

Fifth, the abduction by Chinese police of British citizen and bookseller Lee Bo in Hong Kong in

December 2015 and the extradition of Taiwan citizens from third countries show Beijing's lack of respect for the judicial independence of Hong Kong and Taiwan. Such activities are manifestations of the party's aim to increase its control over these territories.

COUNTERMEASURES

It is important that the international community refuses to accept the CCP narrative of the party as the representative of all Chinese people. On the contrary, states should make clear that the CCP's efforts to use and pressure the Chinese diaspora leads to rising distrust of Beijing.

Careful examination and mapping of the CCP's relationship with the Chinese diaspora, including the UFDW's activities abroad, are important. When such mapping is done, special attention should be given to avoiding exacerbating suspicion against the majority of the Chinese diaspora, who are not working for the party.

States affected by Chinese extraterritorial activities, such as Sweden, would do well to share their experiences and coordinate action with other countries. To deal with Chinese extraterritorial activities, the European Union should coordinate its policy among the member states. □

This article is based on a recent research report by the author published by the Swedish Defence Research Agency (FOI), available at <https://www.foi.se/rapportsammanfattning?reportNo=FOI-R-4933-SE>.

Powering

UP



Renewables offer opportunity for region to be energy security leader

FORUM STAFF

As rapid economic and population growth continue in the Indo-Pacific, energy demand is surging faster than anywhere else on the planet. With demand expected to grow more than 60% by 2040, energy security will be a leading challenge in the coming decades, according to projections by the International Energy Agency (IEA). To meet the region's growing demand, Indo-Pacific nations are transforming their energy systems. They seek to achieve energy security and safeguard economies from price fluctuations and market instability and reduce dependence on imported energy, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) reported. Moreover, Indo-Pacific nations are striving to provide energy access to over 420 million people who lack it and to another 2.1 billion people who rely on traditional biomass for cooking and heating, the 2017 report said.

Shifting to low-carbon energy resources and diversifying the energy mix will enhance energy security, reduce environmental impacts, especially air pollution, and ensure access to affordable, reliable, sustainable and modern energy for all, the UNESCAP report said. "Tackling these multiple energy-related challenges necessitates a transition in the way energy is generated, transmitted and consumed," the report said. "While the energy sector in many countries is slowly being transformed, the pace of change needs to be accelerated."

Given the timing of the region's powerful emergence on the world stage, the Indo-Pacific is poised to serve as a global model for switching to renewable resources, a solution widely championed to end fossil fuel dependence and ensure adequate energy resources for all inhabitants. "Continuing

growth in energy demand in the power, heating and cooling, and transport sectors opens a multifaceted renewable energy opportunity in the region," according to the 2019 "Asia and the Pacific Renewable Energy Status Report," published by REN21, an international policy network dedicated to building a sustainable energy future with renewables, and funded by the Asian Development Bank (ADB).

Transitioning to renewables can diversify energy supplies, enhance energy access, reduce air pollution and alleviate poverty, among other advantages, advocates contend. "Renewable energy resources can play a pivotal role in achieving universal access to modern energy," the report said. For example, "small-scale solar, wind and hydropower technologies, as well as internal combustion plants using biomass or biogas, can provide a reliable source of electricity in remote locations." More than 750 million people in the broader Indo-Pacific still lack access to electricity, experts estimate.



A solar panel faces skyward in Funafuti, Tuvalu. The nation is striving for 100% renewable power generation by 2025. GETTY IMAGES

"Increased investments now in renewable energy, energy efficiency and smart grids can create more high quality and long-term jobs, and reduce air pollution and greenhouse gas emissions," ADB President Masatsugu Asakawa said during the IEA Clean Energy Transitions Summit in July 2020. "Economies will become more resilient to future shocks — because renewable energy with energy storage does not depend on fuel supplies, and smart grid systems can be brought back online rapidly after an event. Renewable energy can also help strengthen health facilities, particularly in rural areas — for

example, solar-based cold chains will be essential to make vaccines available,” Asakawa said.

TRENDS AND TARGETS

Already, the Indo-Pacific has outpaced Europe and the United States in shifting to renewables, accounting for more than 54% of new growth in renewables worldwide in 2019, according to a March 2020 report by the International Renewable Energy Agency (IRENA). The region has developed considerable renewable energy capacity across a range of technologies, including solar photovoltaics (PV), wind power, hydropower, bioenergy and geothermal, experts explain. China, India, Japan, South Korea and Vietnam, for example, had the highest new solar capacities in 2019, while China and the U.S. led in new wind power, the IRENA report said. That same year, the region encompassing Australia, New Zealand and the Pacific island nations saw the

under AUD \$2 [U.S. \$1.47] a kilogram, it will be able to play a role in our domestic energy mix to bring down energy prices and keep the lights on,” said Angus Taylor, Australia’s energy and emissions reduction minister. As of 2018, it cost AUD \$6 (U.S. \$4.42) per kilogram on average to produce hydrogen, Reuters reported. Infinite Blue Energy is developing a massive U.S. \$220 million plant, 320 kilometers north of the company’s headquarters in Perth, Australia, to produce 25 tons of green hydrogen a day, powered by wind and solar energy, with first production targeted for late 2022.

India unveiled plans in late 2019 to build U.S. \$6 billion worth of solar projects in the Leh and Kargil districts of Jammu and Kashmir. The Himalayan regions possess huge potential for solar power. The Ministry of New and Renewable Energy plans “solar power projects with a cumulative capacity of around 14 MW [megawatts] with a battery storage capacity



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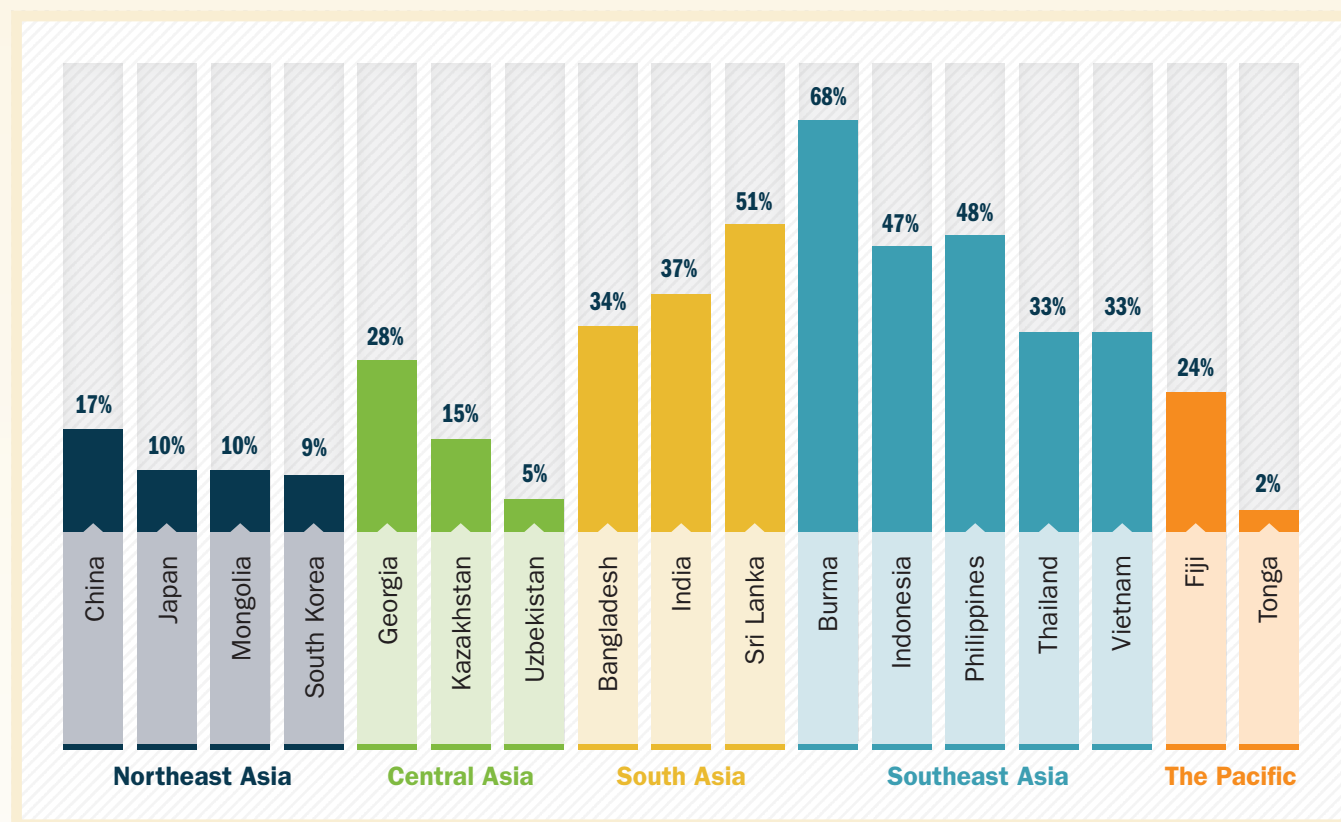
fastest growth rate in renewables at 18.4%, although the subregion’s share of global capacity is small, the report said.

The Indo-Pacific accounted for more than 52% of new investment in the renewables sector worldwide in 2018, according to the REN21 report. China led the region in investment in 2019, making up nearly a third of the global total, and Australia, India and Japan also were in the top 10 that year, according to Bloomberg New Energy Finance data. Many of the investment leaders also have some of the largest and most innovative projects in the region.

Australia, for example, in May 2020 announced a U.S. \$191 million fund to jump-start hydrogen projects to meet the country’s goal to build a large-scale hydrogen industry by 2030, Reuters reported. “Importantly, if we can get hydrogen produced at

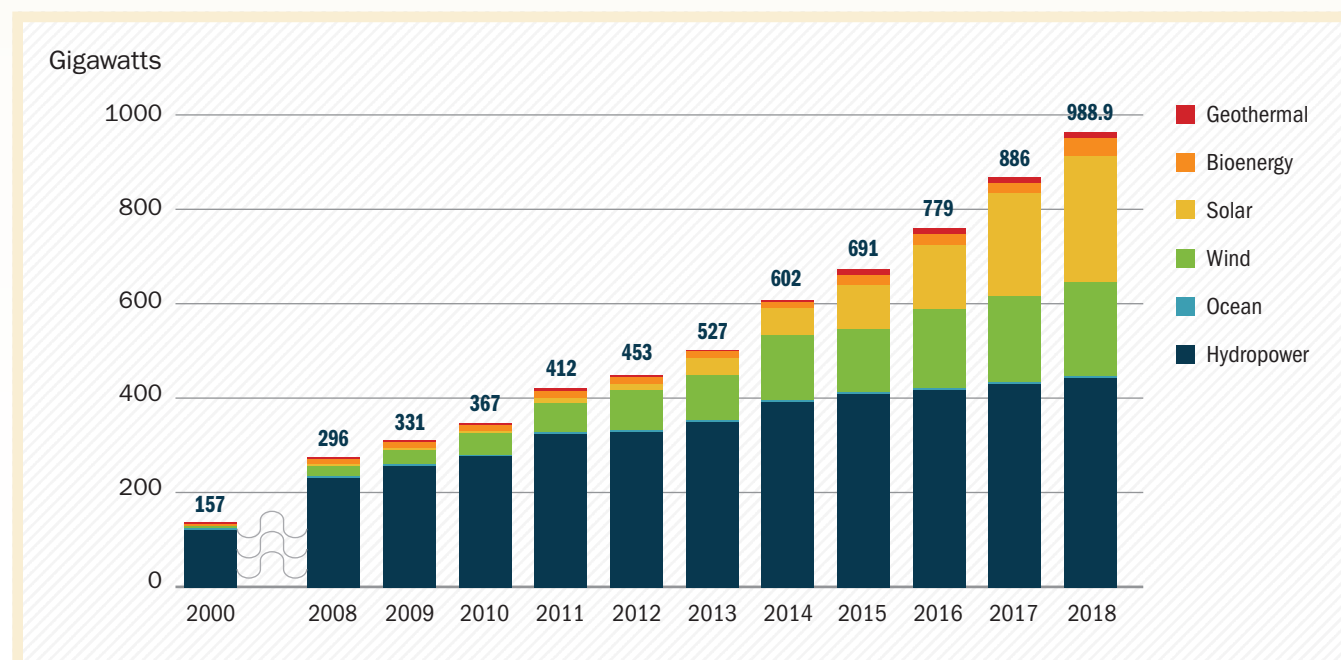
of 42 MWh [megawatt-hour] in Leh and Kargil,” R K Singh, India’s minister of state for power and new and renewable energy, said on announcing the project. India’s Adani Group, meanwhile, headquartered in Ahmedabad, aims to become the world’s largest solar power company by 2025 and the biggest renewable energy firm by 2030, according to a July 2020 industry report. India is well on its way to creating its first 100% renewable city. Diu, on the eastern end of Diu island in Gujarat state, became India’s first city to run on 100% renewable energy during the daytime in 2016, as a participant in Prime Minister Narendra Modi’s Smart Cities initiative. The city of 42 square kilometers and more than 52,000 residents created a 9 MW solar park, installed solar panels on the roofs of government buildings and helped residents install rooftop solar PV units, the REN21 report said.

Renewable Share in Total Final Energy Consumption in Select Asian and Indo-Pacific Countries, 2018



Note: Figures are calculated using International Energy Agency (IEA) data on renewable energy and the related definitions; here, renewable energy includes traditional biomass.
 Sources: Organisation for Economic Co-operation and Development/IEA, "World Energy Balances," 2018, <https://www.iea.org/statistics>, Fiji and Tonga based on United Nations Statistics Division, "Tracking SDG Energy Balances," 2018, <https://unstats.un.org/unsd/energy/balance/>

Renewable Power Generation Capacity in Select Asian and Indo-Pacific Countries by Technology, 2000 and 2008-2018



The Japanese government has also made investing in solar energy a priority. It introduced legislation in 2017 to help transition to renewable power for 24% of its energy mix by 2030, more than double its current production. Japan operates nearly three-quarters of the world's 100 largest floating solar plants, according to the Power Technology website. Japan's largest such facility at the Yamakura Dam covers 18 hectares and powers roughly 5,000 homes a year.

Many other Indo-Pacific nations have set ambitious targets for renewables and some are well on their way to reaching those goals. For example, in 2019, New Zealand set a target of 100% renewable electricity generation by 2035. The nation, which also aspires to build a multibillion-dollar pumped hydro storage plant, already is nearly halfway there with its existing hydropower and geothermal resources. "We can have an ambitious goal while also being pragmatic," Dr. Megan Woods, New Zealand's energy and resources minister, said on announcing the target. "We will be conducting five yearly assessments to ensure the energy trilemma of affordability, sustainability and security is well managed."

SUCCESS STORIES

Many of the region's greatest successes in moving to renewables can be found in Southeast Asia and South Asia, which have the highest penetrations of renewables at 45.7% and 42%, respectively, according to the REN21 report. Countries with some of the region's highest shares of renewables in total final energy consumption (TFEC) include Burma, 68%; Sri Lanka, 51.3%; the Philippines, 47.5%; and Indonesia, 47%, with those percentages driven by hydropower and bioenergy, the report found.

Indonesia is contemplating building a "smart and clean" capital city that relies on renewable energy for its electricity. In August 2019, the government revealed a plan to move the capital from Jakarta to East Kalimantan on the island of Borneo to manage Jakarta's rapid urbanization and overpopulation, but has since delayed the U.S. \$33 billion plan due to the economic slowdown caused by the COVID-19 pandemic. Building renewable energy infrastructure for the new city would offer opportunities for renewables investments. Meanwhile, the Philippine Department of Energy plans to adopt smart grid technologies on the country's many islands. The



electricity networks use digital technology to monitor and manage the movement of electricity from generation to various demand loads in the service area and improve grid reliability. The country's largest distribution utility, Meralco, with more than 5 million customers, also plans to integrate an advanced smart grid platform for consumers to better manage their electricity consumption, with prepaid smart metering as one of its first services, according to the REN21 report.

Countries such as Bangladesh and Vietnam are also emerging leaders in developing and implementing renewable energy technologies in the Indo-Pacific. Bangladesh created a domestic solar power program known as Infrastructure Development Co. Ltd. (IDCOL), which provides power to more than 12% of its population. Bangladesh, in partnership with the World Bank, set up IDCOL in 1997 to fund renewable energy infrastructure projects. With a U.S. \$700 million investment, the program had installed 4.2 million solar home systems benefiting 18 million people through mid-2019. In addition, IDCOL has installed 1,000 solar irrigation pumps, 13 mini-grids, 1 million cook stoves and 46,000 biogas plants to provide clean cooking solutions to more than 200,000 people. In the next five years, IDCOL aims to double the number of solar and cooking systems installed, with the goal of replacing every traditional cook stove in the country by 2030.

CHALLENGES AHEAD

Many challenges remain to adopting renewable energy and energy-efficient practices. "Although the Asia Pacific region is a renewable energy leader worldwide, the deployment of renewables continues to lag behind that of traditional energy sources in supplying the region's rapidly increasing energy needs," the REN21 report said. The region includes six of the world's largest emitters of greenhouse gases, China, India, Indonesia, Japan, South Korea and the U.S. Additionally, much of the region's population growth occurs in cities, and it already houses 93 of the world's top 100 most polluted cities, with 56 in China and 17 in India.

"A large gap remains between the ambitions of climate change mitigation and the pace of actions to reduce emissions," the report said.

Conventional fossil fuel consumption continues to grow faster than deployment of renewable power in the region. Overall, modern renewables account for less than 10% of the region's total energy consumption, experts estimate.

Turbines spin on a wind farm near Canberra, Australia.

REUTERS

ENERGY

Cooperation Leaders in the Indo-Pacific

Leading organizations and initiatives that are promoting renewable energy and energy efficiency in the Indo-Pacific include the United Nations Economic and Social Commission for Asia and the Pacific, the Asia-Pacific Economic Cooperation Energy Working Group, the South Asian Association for Regional Cooperation Energy Centre, the Central Asia Regional Economic Cooperation program, the Association of Southeast Asian Nations Centre for Energy, and the Pacific Centre for Renewable Energy and Energy Efficiency, as identified in the REN21 report.

SOUTH ASIA

South Asian Association for Regional Cooperation (SAARC) Energy Centre

SAARC was created in 2006 with an energy cooperation program aimed at converting energy challenges into development opportunities. The platform involves officials, experts, academia, environmentalists and nongovernmental organizations to tap potential across areas including the development of hydropower, other renewables and alternative energy. The Energy Centre promotes technology transfer, energy trade, energy conservation and efficiency improvements, enabling stakeholders to meet energy challenges faced by SAARC member states.

U.S. Agency for International Development (USAID)

In 2000, USAID launched the South Asia Regional Initiative for Energy Integration program, covering Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The first three phases focused on cross-border energy trade, energy market formation and clean energy development, while the most recent phase focuses largely on advancing regional market integration.

SOUTHEAST ASIA

Association of Southeast Asian Nations (ASEAN)

The ASEAN Centre for Energy was established in 1999 as an intergovernmental organization to accelerate integration of energy strategies within ASEAN member states. The center provides information and expertise to ensure that energy policies and programs are

in harmony with the region's economic growth and environmental sustainability. The ASEAN Plan of Action for Energy Cooperation 2016-2025 contains initiatives for cooperation in transitioning to clean and affordable energy systems. For example, the ASEAN Smart City network aims to synergize efforts for smart and sustainable urban development. The network of 26 pilot cities share best practices, facilitates projects with the private sector and secures funding from external partners such as the Asian Development Bank (ADB).

Greater Mekong Subregion

The countries that comprise the subregion — Burma, Cambodia, Laos, the People's Republic of China, Thailand and Vietnam — collaborate largely based on power trade from available hydroelectric potential along the Mekong River. The ADB and other sponsors, for example, are working to: increase connectivity through sustainable infrastructure development and transformation of transport corridors into transnational economic corridors; improve competitiveness through efficient facilitation of cross-border movement of people and goods and the integration of markets, production processes and value chains; and build a greater sense of community through projects and programs addressing shared social and environmental concerns.

PACIFIC ISLAND NATIONS

Secretariat of the Pacific Community

The secretariat is the principal platform for cross-sector regional development cooperation in the Pacific and is a founding member of the Council of Regional Organisations of the Pacific. Its Georesources and Energy Programme seeks to leverage use of the Pacific's energy resources to ensure sustainability and reduce environmental impact. The program is committed to reducing the carbon impact of existing energy networks and usage, and focuses on governance, technical assessment and capacity development. In conjunction with the government of Tonga, the secretariat hosts the Pacific Centre for Renewable Energy and Energy Efficiency.

Pacific Power Association

This intergovernmental agency promotes the cooperation of Pacific island power utilities in technical training, information exchange, sharing of senior management and engineering expertise and other activities.

University of the South Pacific

The university, owned by 12 member countries, is responsible for providing higher education and sustainability research for the Pacific region and has activities that support renewable energy expansion.

Source: "Asia and the Pacific Renewable Energy Status Report," REN21, 2019

“Increasing regional cooperation can help to improve the access to energy among the energy-deficit developing countries in Asia and can benefit the region in terms of the preservation of natural assets, agricultural production, and food security.”

– April 2020 report on South Asia by researchers at the Asian Development Bank Institute

Most Indo-Pacific nations are not energy self-sufficient. Indonesia, which is the world's largest coal exporter, and Mongolia, which is the ninth-largest coal exporter, are notable exceptions, according to the REN21 report. Many Indo-Pacific nations, including Japan and South Korea, import more than 50% of their energy.

Moreover, some of the largest countries in size and renewable energy potential still have relatively low shares of renewables in their TFEC, the report said. Together, India and China account for 28% of the world's primary energy consumption, yet in 2016, India had less than 40% renewable energy share in its TFEC, while China's share was below 20%, the report said.

Other obstacles to adapting renewables include financing, transition to more sophisticated government support for renewables and changing industry dynamics in response to rapidly growing demand, climate change constraints and growing urbanization, the report said.

Meeting the Indo-Pacific's energy demand will require trillions of dollars of investment by 2040, according to IEA projections. “How countries meet that growing demand will significantly impact energy security and economic stability across the region,” Francis R. Fannon, U.S. assistant secretary at the bureau of energy resources, said during a June 2020 workshop for Asia EDGE (Enhancing Development and Growth through Energy). “That has global ramifications.”



Smoke and steam rise from a coal processing plant in Hejin, China. China burns about half the coal used globally each year. Most of the world's planned, under construction or operating coal-fired power plants are in Asia. THE ASSOCIATED PRESS

A worker checks panels at a solar power plant in Phetchaburi province, Thailand. REUTERS



Launched in 2018 with an initial investment of U.S. \$140 million, Asia EDGE supports energy security, diversification, access and trade across the Indo-Pacific. Under the program, India partnered with the U.S. Federal Energy Regulatory Commission in October 2019 to establish the Flexible Resources Initiative to strengthen India's ability to raise private capital, finance its security needs and enhance opportunities for U.S. companies in the power system, Fannon said.

KEY COOPERATIVE EFFORTS

Regional cooperation is critical for improving clean energy practices and energy security, the REN21 report said. Cross-border power trading, for example, has proven especially beneficial in the Mekong region of Southeast Asia. Through Asia EDGE investments, Japan and the U.S. Department of State and U.S. Agency for International Development (USAID) created the Japan-U.S.-Mekong Power Partnership to

target regional electricity grids to support U.S. firms in building cross-border transmission lines.

"Increasing regional cooperation can help to improve the access to energy among the energy-deficit developing countries in Asia and can benefit the region in terms of the preservation of natural assets, agricultural production, and food security," an April 2020 report on South Asia by researchers at the ADB Institute found. Moreover, "enhancing regional cooperation and integration in different layers of resource sharing, production, and trade can bring countries together into an interdependence network to ensure maximum use of renewable and non-renewable energy resources." □





Cultivating **STABILITY**

INDO-PACIFIC NATIONS BOLSTER
food security THROUGH
PARTNERSHIPS, TECHNOLOGY

FORUM STAFF

In its 55 years of independence, the island nation of Singapore has grown from a colonial outpost into a prosperous powerhouse of global trade and finance — a flourishing manifested in its neck-cranning skyline.

Regularly among the world's top 10 for per-capita gross domestic product, the city-state is home to Southeast Asia's largest port and exports goods ranging from electronics to pharmaceuticals and medical devices. Its educated, productive populace, which has tripled to 5.7 million since 1965, enjoys a high standard of living.

What has stayed largely unchanged over the past half-century, however, is the nature of the land itself — 720 square kilometers of mostly hardscrabble terrain unsuitable for crops.

“Singapore has never quite been an agricultural nation by virtue of our limited arable land,” Kee Ai Nah, an executive director with the government's development agency, Enterprise Singapore, wrote in 2019. “Today, only 8% of the vegetables we consume are produced in local farms, making us highly dependent on food imports.”

Even for this resourceful country that produced an economic miracle, ensuring that it can feed its people remains a mammoth undertaking, one with implications not just for food security but also national security.

Vietnam temporarily halted rice exports in March 2020 because of COVID-19 fears. The world's third-largest rice exporter, its markets include China, Malaysia and the Philippines.

AFP/GETTY IMAGES

It is a reality faced across the Indo-Pacific, a truth made worse by the grinding spread of a pandemic that has left crops to wither and supply chains to stall amid lockdowns while pushing people out of work and into poverty — and the prospect of hunger.

In March 2020, for example, Vietnam temporarily halted rice exports due to COVID-19 fears. Trailing only India and Thailand in rice exports globally, Vietnam exported 6.37 million tons of this staple

food worth U.S. \$2.8 billion in 2019 to markets including China, Malaysia and the Philippines, the Vietnamese newspaper *VnExpress International* reported.

Facing a food security dilemma, many nations, like Singapore, are finding answers in regional

partnerships and the blossoming promise of technology.

“One of the greatest global development challenges that wealthy and poor countries face together is increasing agricultural production to meet shifting consumer preferences and a growing population while using less water and fewer hectares and managing the unpredictable effects of climate change,” Kimberly Flowers, director of the Global Food Security Project at the Center for Strategic and International Studies, wrote in an essay for the Washington, D.C., think tank.

SEEDS OF UNREST

Worldwide, nearly 690 million people, or about 9% of the planet's population, went hungry in 2019, more than half of them in Asia, according to a July 2020 report by the United Nations. The coronavirus outbreak could push that number above 820 million by 2021, further

This vertical farm in an industrial area of Kyoto, Japan, produces 30,000 heads of lettuce daily using artificial light and limited human intervention.

AFP/GETTY IMAGES



casting doubt on the U.N.'s goal to "end hunger, food insecurity and all forms of malnutrition" by 2030.

"The report warns that if the trends in the past few years continue, we will be moving away from zero hunger rather than towards it. This is highly worrying," Johan Swinnen, director general of the International Food Policy Research Institute (IFPRI), said in an article on the agency's website. "What's even more worrying is ... that COVID-19 is making matters much worse for the poorest people in the world."

Long viewed as a potent catalyst for civil unrest and conflict, food insecurity may be one of the 21st century's most intractable problems, one already exacerbated by a growing population and mass human migration even before the deadly virus struck.

Factors such as disrupted production and transportation and weak purchasing power likely will

increase the risk of food insecurity through the mid-2020s, the U.S. Office of the Director of National Intelligence (DNI) forecast in its 2015 intelligence community assessment "Global Food Security."

"In some countries, declining food security will almost certainly contribute to social disruptions and political instability," the DNI noted.

Lack of food can prompt mass relocations, whether within or across national borders, as the hungry go in search of sustenance. In sowing discord and disaffection among the populace, hunger may be at the root of extremism and violence. Such unrest, in a vicious cycle, further undermines food security by hindering trade and overwhelming civil authorities.

In a study published in *Stability: International Journal of Security and Development*, researchers found that a large increase in the number and severity of armed conflicts around the globe in 2011 "closely followed spikes in international food prices — in late 2010 and early 2011."

Across the globe, Flowers noted in her 2016 essay, "escalating and volatile food prices have resulted in urban riots, toppled governments, and regional unrest."

Dynamic demographic shifts and gender disparities, particularly in the Indo-Pacific, are raising the stakes, according to the U.S. National Intelligence Council.

"Insufficient natural resources — such as water and arable land — in many of the same countries that will have disproportionate levels of young men increase the risks of intrastate conflict breaking out, particularly in Sub-Saharan African and South and East Asian countries, including China and India," the council reported in "Global Trends 2030: Alternative Worlds."

FRUITFUL PARTNERSHIPS

Fighting hunger in the Indo-Pacific calls for collaborative projects and substantial spending in areas such as rural infrastructure, irrigation, and agricultural research and development, according to an October 2019 report by IFPRI. Over the next decade, annual agricultural investments must double, to almost U.S. \$79 billion, if the region is to achieve the U.N.'s per-capita hunger threshold of 5%, the Asian Development Bank-commissioned report found.

The cost of failure, too, would be immense.

In the archipelago nation of Indonesia, the world's fourth largest by population, almost one-third of its 267 million people are employed in the agriculture sector, which is vital to Southeast Asia's biggest economy. Although Indonesia has made significant strides in boosting production through measures such as high-yielding rice varieties and fertilizers, the sheer scale of its population growth continues to stretch resources, according to IFPRI.

"Food security is one of the national development priorities," researchers noted in a supplemental analysis to the institute's 2019 report, which recommended steps ranging from fostering participation by youth



and entrepreneurial farmers to greater adoption of “precision agriculture” through use of satellites, sensors and digital technology.

Regional efforts to bolster food security gathered pace at the beginning of the millennium, when the 10 member states of the Association of Southeast Asian Nations (ASEAN) joined with Japan, the People’s Republic of China and South Korea to establish the ASEAN Food Security Information System (AFSIS).

The initiative seeks to improve the collection, analysis and dissemination of data to build information networks that provide early warnings and commodities projections so member nations can better manage food security threats and emergency reserves.

Focusing on the region’s five major crops — cassava, maize, rice, soybean and sugarcane — the AFSIS database monitors production, wholesale prices, labor force participation, yield, crop calendars and land use, among other variables.

The battle to eradicate hunger in the Indo-Pacific is fortified by U.S. resources and expertise. Since the infancy of the Cold War era, the United States has been the world’s biggest provider of food assistance, serving more than 4 billion people in over 150 countries through the U.S. Agency for International Development (USAID) Office of Food for Peace.

USAID provided more than U.S. \$4.4 billion in development and emergency food assistance in fiscal year 2019, including food donations, vouchers, cash and locally purchased commodities, according to its website. The agency’s Famine Early Warning Systems Network can predict food

assistance needs up to eight months in advance of an emergency, speeding humanitarian aid response.

Such efforts by the U.S., ASEAN and like-minded partners are saving lives and seeding peace.

“If food insecurity is a threat multiplier for conflict, improving food security can reduce tensions and contribute to more stable environments,” researchers Cullen Hendrix of the University of Denver’s Korbel School of International Studies and Henk-Jan Brinkman of the U.N.’s Peacebuilding Support Office wrote in their 2013 study published in the journal *Stability*.

REFRAMING FARMING

In fields and paddies throughout the Indo-Pacific, advances in science and technology are allowing farmers and growers to reimagine their vocation from planting season to harvest time, while underpinning local and regional food security.

- In northwest Bangladesh, USAID’s Feed the Future initiative collaborated with partners including Cornell University to introduce a pest-resistant eggplant variety that drastically reduced crop infestation and toxic pesticide use. In 2018, eggplant farmers saw their yields leap by 42% and their per-hectare profits increase by U.S. \$400.
- In the drought-prone district of Kalahandi, India, scientists with the International Crops Research Institute for the Semi-Arid Tropics partnered with the Power Grid Corp. of India Ltd. to implement a rainwater management system, including construction of 32 farm ponds in seven villages as of mid-2020. Soil health mapping revealed degradation and deficiencies that research teams countered with nutrients and improved crop varieties, generating greater yields, the institute reported.
- The crops research institute also is working with scientists in Australia and India on a genome-sequencing project to boost drought tolerance in chickpea, a food rich in protein, fiber and iron, among other nutrients.
- In Papua New Guinea, IFPRI researchers are teaming with government agencies to develop a digital database to analyze food production, pricing and consumption, which will allow communities to better respond to fluctuating food supplies.
- The Philippines-based International Rice Research Institute, in conjunction with a consortium of scientists from the Americas and Europe, is developing disease-resistant rice varieties. The partnership also led to the creation of a diagnostic kit for rapid detection of pathogens such as the potentially devastating bacterial blight.



In Papua New Guinea, government agencies and the International Food Policy Research Institute are analyzing the production, pricing and consumption of strawberries and other crops to help communities respond to fluctuating food supplies. AFP/GETTY IMAGES

Singapore's "30x30" goal calls for the city-state of 5.7 million people to meet 30% of its nutritional needs with locally produced food by 2030. REUTERS



Such investments in research and development enhance agricultural yield and production, IFPRI noted in its 2019 report. That, in turn, lowers food prices, raises household incomes, increases food availability “and consequently reduces the number of malnourished children and hungry people.”

LOOKING TO THE SKIES

For many Singaporeans, the high level of living they enjoy on their densely populated island is also literal. Ranked 191st globally by land area, the city-state has built thousands of high-rise blocks to maximize its minimal real estate; today, these owner-occupied units are home to about 80% of the population.

In recent years, Singapore has started taking the same approach to farming as it has with housing: It has gone vertical.

Describing itself as the first low-carbon, hydraulic-driven vertical farm in the world, Sky Greens began commercial operations in 2012 with the goal of “ensuring food supply resilience ... to land-scarce” locations such as Singapore. The award-winning, public-private endeavor grows cabbage, lettuce, spinach and other vegetables on aluminum A-frames up to 9 meters tall. Each frame has dozens of rotating tiers that allow plants to get enough light, water and nutrients indoors year-round.

Flowing water combined with gravity generates the rotation, cutting each tower's electricity needs to the equivalent of one light bulb, according to Sky Greens' website. The water that powers the hydraulic system is recycled for irrigation.

More than 30 indoor vertical farms have sprouted around the island, a fivefold increase in just a few years, according to Enterprise Singapore. With advances in artificial intelligence, smart sensors and other digital technology — plus investment by agri-tech startups and multinational conglomerates alike — the nation's indoor agriculture industry is projected to jump almost 20% annually through 2023.

As it has done in the fields of trade and finance, Singapore seeks to become the next great hub of urban farming. In September 2020, the Singapore Food Agency announced almost U.S. \$40 million in grants for nine high-tech urban farms as part of the nation's “30x30” goal to meet 30% of its nutritional needs with locally produced food by 2030.

“There is urgency for us to accelerate local production to reduce our reliance on imports and provide a buffer during supply disruptions, amidst the COVID-19 pandemic,” agency CEO Lim Kok Thai said in a statement. “We will continue to work with the agri-food industry and support them to grow more and grow faster to enhance our food security.” □

THE PIVOT TO COVID-19

RedR Australia's early learning and the challenges to come

KIRSTEN SAYERS/REDR AUSTRALIA

The COVID-19 pandemic has redefined our era. It has challenged how we think and behave around issues of public health. It has reset economic and poverty fault lines and upended the way humans move within and across borders. Most important, it has cut across race, class and gender divides, affecting all humanity.

RedR Australia — an international humanitarian response agency that provides skilled people and training to help communities plan, prepare, rebuild and recover before, during and after crises and conflict — is proud to provide humanitarian support to our partner organizations globally. Our niche product is our people. Our people offer dignity, compassion and generosity of spirit to those most vulnerable. They embody the spirit of service for the common good. We consider ourselves privileged to be invited to work alongside local communities.

As with most of the world's industries, as COVID-19 emerged, our ability to deliver additional humanitarian assistance to communities facing crisis was immediately curbed. Despite having people with in-demand skills — such as disaster risk management and recovery, health and protection — we were largely immobilized as global transportation routes shut down.

The inability to move our people and assets was exacerbated by the world's insurance

providers' inability to guarantee medical evacuations or emergency extrications. As our world ground to a halt, we realized we needed to change our approach; otherwise, we would be watching from the sidelines as vulnerability deepened.

RedR Australia has responded to pandemics, including Ebola, avian flu and SARS, sending technical experts to assist during times of crisis. We are committed to working in partnership to help combat the global spread of COVID-19. What follows is an outline of how RedR Australia has adapted operations and overcome challenges along the way, focusing on dual disasters in the South Pacific and the Syrian and Rohingya refugee crises.

INNOVATION AND AGILITY

Rapidly evolving travel bans, airspace closures and restrictions on insurance markets all called for innovative operational problem-solving from an early stage of the pandemic. RedR Australia engaged a specialist broker to pave the way for procuring additional insurance to safeguard operations and worked with the Australian government to identify prospective pathways through the country's travel ban.

The significant reduction in global flights was one of RedR Australia's biggest logistical hurdles. Through registration with the World Food



Programme's Common Services project, a network of scheduled flights for humanitarian workers offered the promise of access. In all cases, clear tasking of individuals and internal working groups, coupled with regular progress reports to the wider organization, assured agility throughout a time of significant disruption.

THE PACIFIC: PREPAREDNESS AND LOCALIZATION

While Pacific island countries were largely spared from the high COVID-19 infection and fatality rates found in other countries, they had to manage the health crisis within existing and new humanitarian crises.

In early April 2020, the Category 5 Tropical Cyclone Harold cut a path of destruction across the Pacific, affecting 30% of Vanuatu's population. At the time, Vanuatu had no reported cases of COVID-19 and had strict border controls. While those controls may have

THE SIGNIFICANT REDUCTION IN GLOBAL FLIGHTS WAS ONE OF RedR AUSTRALIA'S BIGGEST LOGISTICAL HURDLES.



protected the nation from COVID-19, they reduced available paths to provide humanitarian assistance. For RedR Australia and many others in the sector, this emphasized the need for strong operational preparedness to support locally led solutions. The Vanuatu government led the response to Harold, supported by newly implemented preparedness and response plans and cyclone-resilient infrastructure developed following Cyclone Pam in 2015.

Through the Australia Assists Program, funded by the Australian government, we worked side by side with at least seven Pacific governments, their communities, and local and regional organizations to bolster national disaster preparedness and response capabilities. This work supported the creation of national disaster management plans and procedures, strengthening many South Pacific states' ability to tackle multiple and complex emergencies.

RedR Australia had 20 employees deployed in the Pacific before COVID-19. We had 17 still in place and 18 working remotely during

Daniel Noriega, right, of Australia Assists, and local humanitarian response team members inspect damage caused by Tropical Cyclone Harold in Nambukalevu-i-Ra, Fiji.

REDR AUSTRALIA

the pandemic. We decided early to support our people to stay and work alongside our Pacific partners where possible. This included finding and engaging talented and experienced Pacific island nationals to work with us to increase available expertise in country.

Here are some examples of local and pragmatic solutions:

- Active recruitment of local experts resulted in rapid access and impact. Their understanding of the context and network in which they operate matters during a disaster. One such RedR Australia employee in Vanuatu facilitated the movement of humanitarian supplies by ensuring they meet international and national import regulations and were distributed appropriately.

- The United Nations Population Fund (UNFPA) projected a 20% annual increase in gender-based violence as a result of COVID-19 restrictions, including lockdowns. For some Pacific countries, these projections may have been conservative. Women and girls were also disadvantaged as health systems divert resources from sexual and reproductive health care (SRH) to respond to emergencies. The closure of health clinics and delays or cancellations of community-based services put women and infants at increased risk. In partnership with the International Planned Parenthood Federation (IPPF) and UNFPA, RedR Australia's monitoring and evaluation (M&E) specialist helped monitor preparedness and response activities in terms of infection prevention and control. This included preparing country-specific M&E tools and supporting members to provide lifesaving SRH services should health systems become overwhelmed due to COVID-19.

Litiana Mana, left, subdivisioal health officer for Kadavu, Fiji, and Daniel Noriega of Australia Assists schedule visits by the Reproductive and Family Health Association of Fiji's response team to island villages in Kadavu. REDR AUSTRALIA

WHO WE ARE

RedR Australia is a humanitarian organization that provides training and skilled people to work with communities to plan, prepare, rebuild and recover before, during and after disasters and conflict. RedR Australia maintains a roster of more than 750 technical specialists across 76 skill profiles, including disaster risk management, humanitarian response, protection and stabilization. RedR Australia was established in 1992 by engineer Jeff Dobel, who called on his peers to apply their skills to disaster relief. Dobel's vision — to deploy engineers to support disaster-affected communities during international crises — was realized with support from four founding bodies: Engineers Australia, Institute of Public Works Engineering Australasia, Consult Australia and Professionals Australia. RedR Australia relies on public donations and support from its founding bodies, corporate partners and government donors.



LESSONS LEARNED

RedR Australia engaged a monitoring and evaluation team to improve our real-time learning for what has become an unprecedented humanitarian crisis, the COVID-19 pandemic. This is what we have learned so far.

- **Doing nothing is not an option.** We made a strategic decision early — as long as there was no compromise to the safety of our deployed people, we would do all we could to keep them in place if they chose to remain. We repatriated only those who chose to return home, were at higher risk or whose host agency demobilized.
- **Investing in our partnerships and responding with a unity of effort and spirit matters.** These partnerships are bound by trust formed between our people and the communities and leaders they work alongside. Standing together to face this global humanitarian challenge was our promise. No country was immune.
- **The first rule of first aid is to ensure your own safety.** For us, we were responding to the international crisis at a time when our own communities were struggling with anxiety, fear and uncertainty. We activated a team that ensured our Melbourne headquarters and regional Fiji and Jordan offices and staff were safe, secure and resourced appropriately to work remotely and in new ways.
- **In times of crisis, compassionate and accurate communication drives a common purpose and marshals resources toward organizational goals.** Thankfully, a global footprint and a tenancy issue meant our staff had recently experienced working remotely. We established structured communication check-ins with staff and deployed personnel via phone, email and video. We acknowledged that our staff's diversity meant there would be diversity in their needs. By the end of March 2020, all our staff and many of our deployed personnel were working from home and still engaging with our donors and operationalizing our response.
- **Our commitment to increased localization has progressed.** We focused on strengthening operational and organizational systems capabilities in the Pacific, exploring ways to provide regional and localized emergency preparedness and training and deepening our RedR International partnerships — including a joint program and deployments with RedR Indonesia and RedR India.
- **It is crucial that communities can lead their own disaster management responses and have their call for help answered.** Vanuatu's recovery from Cyclone Pam enabled the country to build stronger preparedness and response systems and architecture that proved essential for its response to the COVID-19 pandemic and Tropical Cyclone Harold.

THE ROHINGYA CRISIS: COORDINATION AND ACCESS

An estimated 1 million ethnic Rohingyas who have fled Burma live in the world's largest refugee camp in Cox's Bazar, Bangladesh, with as many as 60,000 to 90,000 people per square kilometer. Social distancing during the pandemic was impossible. Overcrowding, limited sanitation and an overburdened health system made preparing for an outbreak of COVID-19 challenging. The first Rohingya refugee tested positive for COVID-19 on May 14, 2020, and the first death was reported May 30, 2020. Although the camp braced for a health crisis that would exacerbate the protracted humanitarian crisis, the overall number of reported cases among the refugees remained relatively low through October 2020. Lower testing rates may be one explanation, however.

RedR Australia has deployed 52 humanitarian specialists to support the refugee crisis since 2017. Coordination and multisector and multipartner collaboration remain key to success. RedR Australia personnel quickly pivoted to focus on COVID-19 preparedness and response in Cox's Bazar.

Compared to the Pacific context, where civilian control remains in place supporting the humanitarian corridor, increasing military oversight on cargo movement in Burma is significantly affecting essential humanitarian access and supply chains. This may have increased COVID-19 risks and loss of life. Civilian and political leadership — and the relationship between security and law and justice protection services — remain key to enabling or disabling humanitarian relief.

RedR Australia focused on what impact it could make despite the challenges, including:

- Our hydraulic engineer working with the U.N. Refugee Agency in Bangladesh shifted his work on monsoonal flood modeling in Cox's Bazar to repurposing camp facilities for COVID-19 isolation and quarantine.
- Our UNFPA-Burma Prevention of Sexual Exploitation and Abuse

coordinator helped mainstream preventive messaging in quarantine centers, including virtually.

- Our humanitarian affairs access advisor with the U.N. Office for the Coordination of Humanitarian Affairs (OCHA)-Burma helped establish operations, assess needs and move humanitarian supplies, personnel and services to affected populations.
- Our World Food Programme (WFP)-Burma Protection and Accountability to Affected Populations advisor provided gender and protection advice and training that accounts for changing needs caused by COVID-19.

THE SYRIAN CRISIS: ACCESS AND PROTECTION

The COVID-19 crisis marks the ninth year of the Syrian conflict. Over 13.2 million people need humanitarian assistance, including 6.2 million internally displaced people and 5 million people with acute needs. Ensuring the political will and ability to coordinate humanitarian action has long been a challenge of the Syrian crisis, and COVID-19 further affected the situation, making it almost impossible for humanitarian actors to operate. Without political will, strong local leadership and concerted multilateral coordination, the humanitarian crisis will deepen, further undermining both regional stability and economic and social recovery.

The number of people infected by COVID-19 (including Syrian refugees and those internally displaced) in Iraq, Lebanon, Syria and Turkey likely exceeded the official count, with contact tracing and testing both limited. A COVID-19 outbreak could have been catastrophic not only for the Syrian refugee populations but also for already severely weakened health systems and services. As is so often the case, the risks to women, girls and the elderly were particularly acute.

Understanding this, RedR Australia prioritized people who have the right skills and experience to find immediate solutions to the challenges posed by COVID-19, including:

- Our OCHA-Whole of Syria civil-military coordination officer acts as the link between the U.N. and all stakeholders required to facilitate the protection of vital humanitarian facilities and movements. This helps to maintain the integrity of humanitarian supply chains into northeast Syria, and supported implementation of the COVID-19 Global Humanitarian Response Plan. This includes assurance of a medical evacuation corridor for humanitarian personnel from northeast Syria to Erbil, Iraq, when required.
- Our WFP-Jordan gender advisor supports training programs, developing sustainable



Neil Doherty, left, a hydraulic engineer with RedR Australia, celebrates delivery of oxygen to a hospital refurbished as an isolation and treatment center for COVID-19 patients in Cox's Bazar, Bangladesh. REDR AUSTRALIA

networks and embedding increased gender awareness into programs to prevent sexual abuse, exploitation and harassment, especially critical at a time of rising gender-based violence.

- Our U.N. High Commissioner for Refugees-Turkey shelter officer updated site planning to ensure infrastructure supports the needs of internally displaced people potentially affected by COVID-19, including the elderly and those with disabilities. The officer also led and supported various site planning and urban design training activities focused on local actors.

LEARNING AND LOOKING AHEAD

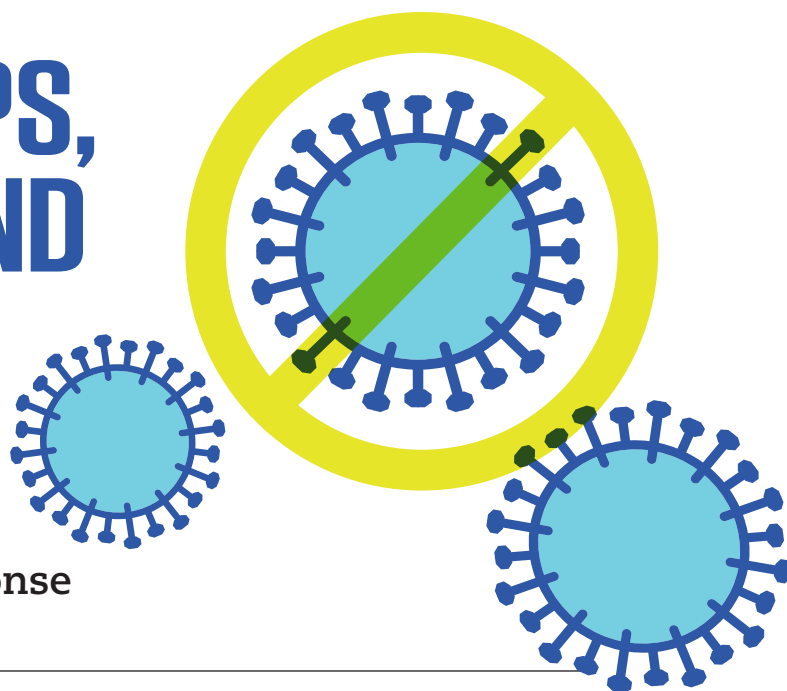
The unique challenges and opportunities presented by the COVID-19 pandemic continue to reveal themselves. This global crisis forced RedR Australia to quickly and decisively charge two parallel paths: to ensure the well-being of our personnel around the world while simultaneously upholding our commitment to our partners and, by extension, the principles of humanity, neutrality, impartiality and independence.

In many ways, this crisis validated our efforts in recent years to pre-position disaster preparedness support to communities. It also accelerated our resolve to drive humanitarian reform by seeking local solutions to local problems during disasters. We are buoyed by our successes and humbled by the work we still have to do. In both cases, we are learning. □

Kirsten Sayers is CEO of RedR Australia. A version of this article originally was published in *Liaison*, a biannual journal of disaster management and humanitarian relief collaborations produced by the Center for Excellence in Disaster Management & Humanitarian Assistance. It has been edited to fit FORUM's format.

RELATIONSHIPS, RESILIENCE AND RESPONSE

Partnerships Between U.S. Government Agencies and Indo-Pacific Entities Aid Shift to Coronavirus Response



FORUM STAFF

Amid its devastating cost in lives and livelihoods, the coronavirus pandemic has also revealed a strength. It highlighted the power and resilience among communities that recognize their connectedness and cultivate rich relationships.

The U.S. Agency for International Development (USAID), the U.S. Defense Department's Overseas Humanitarian, Disaster, and Civic Aid (OHDACA) program and U.S. Indo-Pacific Command (USINDOPACOM) bear testimony to this. The partnerships among them and Indo-Pacific nations and organizations allowed a nearly seamless pivot to meet regional challenges and responses to the coronavirus pandemic.

U.S. government representatives credit the swift shift in focus and resources to their enduring presence in the region and long-standing disaster response exercises and exchanges with partner nations. A level of trust and understanding about the way each component communicates was already established, making it easier for host nations to request assistance from USAID, OHDACA and USINDOPACOM.

"In coordination with partner nation officials, USAID's coronavirus response efforts build upon decades of investment in lifesaving health and humanitarian assistance," Paige Miller, USAID deputy development advisor to USINDOPACOM, told *FORUM*. Miller coordinates with the U.S. Department of Defense (DOD), working closely with USAID civilian military coordinators in the region, to synchronize and advance shared objectives to meet the many partner nation requests for assistance.

As the coronavirus spread, USAID in February

2020 performed an analysis of countries worldwide to decide which might be most at risk and began to secure funding to provide assistance. "As time went on, we realized all countries were going to be affected by this," Miller said. Coordination with USINDOPACOM components U.S. Army Pacific (USARPAC) and Special Operations Command Pacific (SOCPAC) helped USAID bolster its mission and expand capacity to respond to the virus.

"Through USAID civilian military coordinators in the region, USAID already has a natural and effective relationship with USARPAC and SOCPAC teams, built on trust and open communication," Miller said. "This relationship facilitated the prompt identification of priority needs and the thorough design and implementation of OHDACA-funded projects that responded to critical needs that USAID's funding could not meet."

ENHANCED AID COORDINATION AND DISTRIBUTION

Effective engagement among U.S. government entities allowed them to augment each other's efforts in distributing coronavirus aid. It's a collaborative effort that also includes embassy country teams, embassy security cooperation officers and host-nation officials.

USAID remains committed to assisting the world's most vulnerable countries, including 28 countries in the Indo-Pacific region with more than U.S. \$145 million of health, humanitarian and economic support funds, in addition to over 2,000 ventilators.

SOCAP, through its Civil Military Support Elements (CMSEs) in Bangladesh, Burma, Indonesia, Maldives, Mongolia, Nepal, Philippines, Sri Lanka and Thailand, worked closely with

USAID and DOD partners to identify needs and quickly respond with regionally procured personal protective equipment (PPE), rapid diagnostic test kits, medical supplies and hand-washing stations.

USARPAC implemented OHDACA projects in Bangladesh, Laos, Mongolia, Nepal, Papua New Guinea and Timor-Leste to provide PPE, hand-washing stations, medical supplies, cleaning products, generators, portable toilets and educational public service announcements. In Timor-Leste, USARPAC is also implementing U.S. \$1.29 million of OHDACA projects, including the only OHDACA project to support risk communication efforts through six billboards and eight televised public service announcements. These efforts augment USAID's risk communication efforts.

"We engage with partner nation officials to identify needs and to coordinate response efforts," Miller noted, stressing the importance of following the partner nation's lead in the response efforts.

'IT'S NOT BUSINESS AS USUAL'

The implementation of social distancing measures has meant reinventing how U.S. government agencies operate in the region in the near and long term.

"It's not business as usual," Lt. Col. Mark Mudrinich, a USARPAC Oceania team lead, told *FORUM*. "We're looking at innovative ways to conduct training. A lot of future engagement USARPAC will do is created virtually. We're continuing to assist with projects and work hand in hand with USAID. We're ensuring that we take extreme cautions with our partners and allies."

That includes periods of quarantine to ensure U.S. Soldiers deployed to the region are virus-free before engaging with locals.

"Once COVID hit, it restricted our ability to work with any host-nation counterpart," Lt. Col. Jason Hanson, branch chief for civil affairs at SOCPAC, told *FORUM*. "Exercise exchanges and training exchanges normally taking place had to shut down. That made it difficult for us to engage with our counterparts."

In a lot of situations, it can prove difficult for force providers and militaries to maintain heel-to-toe continuity in country, Hanson said. That's why CMSEs on the ground are so important, he said, as was making sure those positions did not go unfilled as routine rotations occurred in the midst of the pandemic.

"If those positions had gone gapped, the risk of inaction would be high and would be alarming," Hanson said.

It would prove difficult for U.S. personnel to deploy to a host nation and try to establish a relationship that had been temporarily severed. "But because we do have heel-to-toe rotations there, the partnership is manicured," Hanson said.

U.S. Soldiers and personnel conduct daily or weekly virtual visits as in-person meetings have been restricted.

"They know the CMSE's face may change, but they know the CMSE presence will always be there,"



Philippine Air Force personnel and members of a U.S. Indo-Pacific Command Pacific Augmentation Team unload coronavirus relief supplies at the Jose B. Lingad Memorial Regional Hospital in the Philippines. U.S. INDO-PACIFIC COMMAND

"In coordination with partner nation officials, USAID's coronavirus response efforts build upon decades of investment in lifesaving health and humanitarian assistance."

~ Paige Miller, USAID deputy development advisor to USINDOPACOM

Hanson said. "It reinforces the message to not just our own country team, but to the partner nation that the partnership is always there, and the relationship will always continue to strengthen as long as we have the opportunity to continue to work with our partner nation."

To prevent gaps in those relationships, rotational teams extended in-country deployments for two to three months because of restrictions getting replacements.

"Instead of sending the team home and gapping it, which was the biggest risk for us, we wanted to extend the team already in country," Hanson said. "We realized the importance of continuing the relationship."

USAID evacuated at least 50% of its foreign service officers in the region due to coronavirus, and "that's been a challenge," Miller said. However, because USAID representatives have a more permanent presence in the region — and strong partnerships with nongovernmental organizations that remained in country — USAID maintained a high level of effectiveness despite its shift in personnel presence.

Family members discuss their upcoming COVID-19 tests with a doctor at Mugda Medical College and Hospital in Dhaka, Bangladesh. The U.S. is supporting Bangladesh's efforts against COVID-19.

REUTERS



THE JOURNEY TO SELF-RELIANCE

Mudrinich said that when it comes to disasters in the Indo-Pacific, “it’s not if, but when they get hit.” That mindset has aided the region’s resilience to face challenges brought on by the coronavirus. It’s that spirit of resilience that will also aid long-term recovery efforts.

U.S. officials have begun transitioning pandemic relief into recovery that ultimately converts full control of the way forward to the host nation.

“USAID is working to achieve greater development outcomes so that one day, foreign assistance is no longer necessary. This is called the journey to self-reliance,” Miller explained.

As partners on this journey, USAID and the host nation government work to strengthen the country’s ability to plan, finance and implement solutions to challenges. Even during the pandemic, this remains as important as ever.

USAID, OHDACA and USINDOPACOM have paid particular attention during coronavirus response to advancing peace, security and gender equality. In Timor-Leste, for example, U.S. agencies provided funding for PPE produced by local female-owned businesses. Seeking out rural recipients also injected money into the economy and provided women with transferable skills, according to Miller and Mudrinich.

USINDOPACOM’s J91 (Mil-Civ Outreach) OHDACA team coordinated, staffed and approved 165 project nominations worth over U.S. \$12 million with USAID, U.S. country teams, security cooperation officers (SCOs), USARPAC, SOCPAC, Defense Security Cooperation Agency (DSCA) and the Office of the Deputy Assistant Secretary of Defense for Stability and Humanitarian Assistance to support partner nation efforts to mitigate and respond to the effects of COVID-19. U.S. military personnel in country, including civil affairs teams and SCOs, specifically targeted these projects by working with and through partner nation civilian agencies to execute high-impact projects at a relatively low cost to fight COVID-19 in the theater.

The command synched across the USINDOPACOM staff directorates, including the command surgeon, J44 (engineers), J55 security cooperation, J5 country desk officers, USAID, public affairs officers, and the command staff judge advocate to review and synchronize all projects. The OHDACA team also worked with USAID Mil-Civ coordinators on project nominations from SOCPAC, USARPAC and SCOs. The J9 Theater Civil Affairs Planning Team worked with the command surgeon and the USINDOPACOM Operational Planning Group to identify COVID-19 priority countries, including



A health worker collects a sample from a Nepalese Soldier for a COVID-19 test in Kathmandu, Nepal, in July 2020. THE ASSOCIATED PRESS

Bangladesh, Indonesia, the Philippines and Sri Lanka. The Pacific Disaster Center, along with the J9 (Pacific Outreach), used big data science to determine where to provide DOD assistance.

“This effort has clearly shown the value and ability of the J9 and interagency team to synchronize and execute command priorities from the tactical level all the way up to USINDOPACOM and DSCA,” said Maj. Jim Towle, OHDACA program manager.

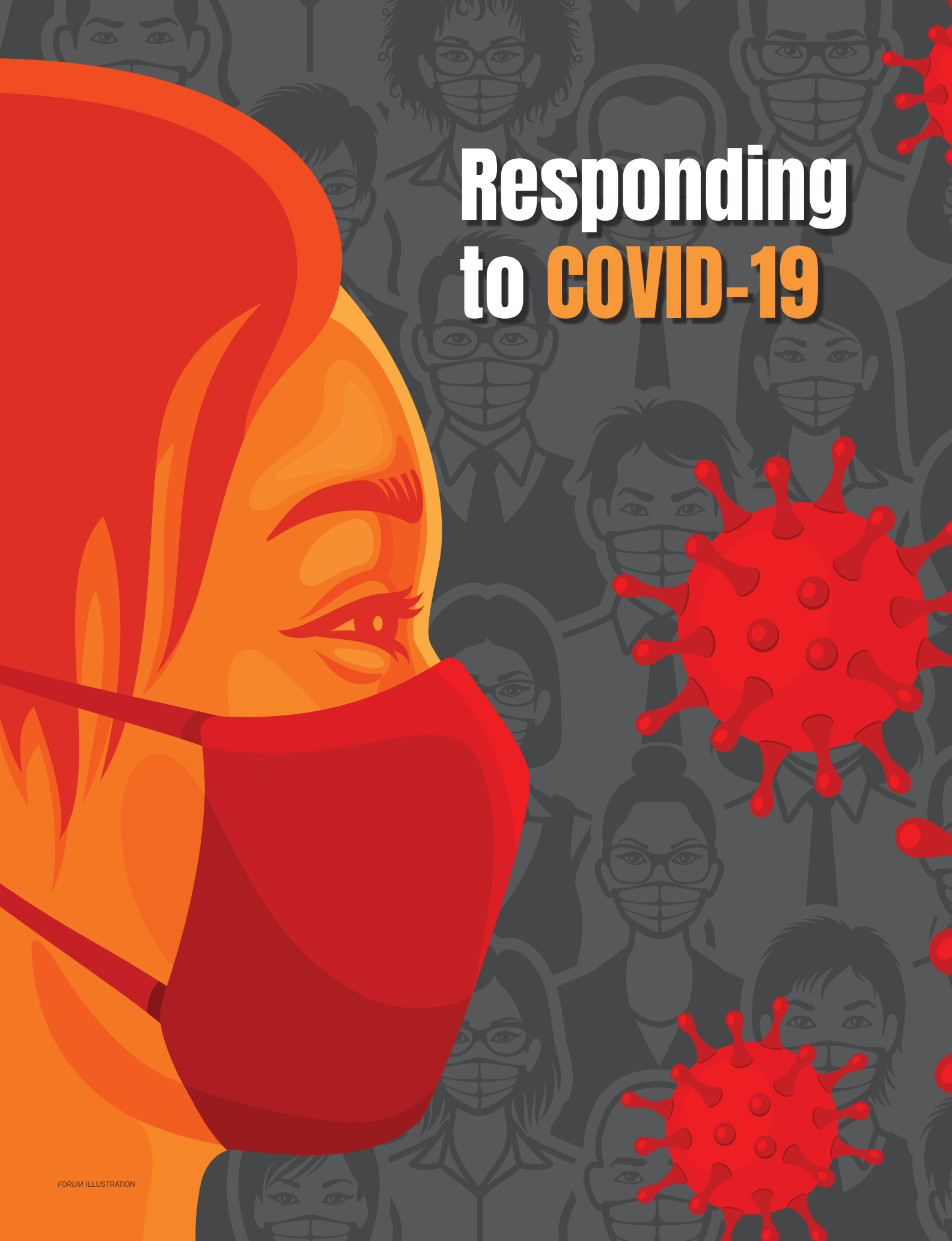
Tied to all this is messaging — the message that the U.S. has a vested interest in the region as an enduring partner and respector of sovereignty. It’s therefore important that U.S. assistance packages carry the partner nation’s flag, Hanson said. “If these donations only had a U.S. flag, I think we would be missing our mark,” Hanson said.

The goal, he said, is always to emphasize the partnership. Doing so builds a community’s confidence in its government and military. “That’s really good messaging,” Hanson said. “It demonstrates to a community that not only has our country taken care of us, but they also have a strong partnership.”

Hanson recalled a coronavirus relief distribution center in Nepal, where on one side of the room, 100 boxes of donations carried the U.S. and Nepali flags side by side. “And on the other side of the room, three or four boxes from China,” Hanson told *FORUM*. “That registered immediately with a lot of people. It registered with the partner nation.”

Beyond the immediate response to the pandemic, Hanson said it’s important to have a lasting impact. It’s one thing to provide PPE such as disposable masks that might be worn for a day. The U.S. also provides hospital beds and ventilators, items that help the host nation on its road to recovery and remind recipients of the U.S. government’s long-lasting commitment to the region. “We want to be the partner of choice,” Hanson said. □

Responding to COVID-19





WOMEN, PEACE AND SECURITY PROGRAMS PROVIDE INCLUSIVE SOLUTIONS

WING CMDR. JENNIFER ATKINSON/ROYAL NEW ZEALAND AIR FORCE;
SQUADRON LEADER LIBBY REARDON/ROYAL NEW ZEALAND AIR FORCE;
KATE MCMORROW/AUSTRALIAN DEPARTMENT OF DEFENCE; AND
SHARON GOUVEIA FEIST/U.S. INDO-PACIFIC COMMAND

Communities across the globe have felt the effects of COVID-19, but it is women who have been hardest hit by the cultural side effects of the pandemic. Government lockdown policies and stay-at-home orders have resulted in an unintended “shadow pandemic” of violence against women and girls. Gender-role expectations of women as primary caregivers and household managers have exacerbated unequal domestic labor burdens. Women often represent as much as 70% of front-line health care workers and, as such, have faced increased exposure to infection. The overrepresentation of women in service industries and as care providers places them in insecure positions, leaving them often the first to be unemployed. Livelihoods in the informal economy, such as in domestic work, agriculture and the textile industry, deny women from participating in government economic stimulus programs. It has become clear that the pandemic and government responses have different impacts on women due to their gendered roles in society.

These same roles, however, underscore the importance of women’s meaningful participation to any sustainable recovery strategy. What we are seeing in today’s public health crisis reaffirms a reality internationally recognized over 20 years ago with the passage of United Nations Security Council Resolution (UNSCR) 1325 on Women, Peace and Security (WPS) — first, that conflict and crisis disproportionately impact women and girls, and second, that their contributions are often undervalued and underutilized, leading to further instability and insecurity.

Due to the size and destabilizing impact of the coronavirus pandemic, nations around the world have involved their defense and security sectors in response and recovery efforts. Many have also applied a gender perspective and WPS principles to their efforts, such as the New Zealand Defence Force (NZDF), Australian Department of Defence (DOD), Republic of Fiji Military Forces (RFMF) and U.S. Indo-Pacific Command (USINDOPACOM). A gender perspective means understanding how gender-based differences shape the immediate needs and long-term interests of men, women, boys and girls during a crisis. It raises relevant and lifesaving questions for militaries to better understand gender and inform an effective response: Whose needs and interests are being met? Who has access to resources? Which men and women are affected?

Each nation's defense sector implementation of WPS, along with its respective response to the pandemic, must consider the complexity of global demographics and its own population's needs. The following snapshots highlight how four nations are incorporating gender perspectives in their defense sector COVID-19 efforts, reflecting similar experiences yet unique approaches as each country continues to advance WPS implementation.

New Zealand Defence Force

The government of New Zealand developed its WPS National Action Plan in 2015, and the NZDF was a key partner in its development and implementation. The NZDF was tasked with eight of the 17 plan outputs, which included increasing the number of uniformed women deploying and embedding a gender perspective into training and operations. The NZDF has a full-time WPS implementation officer who oversees this work, in addition to an officer supporting WPS efforts in the Pacific islands on a part-time basis. Their oversight has proven critical to successful COVID-19 mitigation, management and response.

In March 2020, the NZDF launched Operation Protect to coordinate its internal response and contribution to the all-of-government response to COVID-19. From the start, small numbers of experienced NZDF personnel were deployed to support the government response management center, drawing on the NZDF's planning, analysis and logistics expertise. The first round of predeployment training for military personnel included a brief on the gendered aspects of



Royal Australian Air Force Flight Lt. Nicole Maroske prepares to administer a COVID-19 test at a drive-through clinic in Victoria. AUSTRALIAN DEPARTMENT OF DEFENCE

COVID-19, with material drawn from international research and based on New Zealand population data. The brief noted the disproportionate effect on women from COVID-19 and the lockdown, the need to address these impacts in planning and the importance of NZDF teams to include females.

As the pandemic unfolded, NZDF personnel were increasingly tasked to support the managed-isolation and quarantine facilities (MIQFs), which were initially based at a hotel in one city but soon evolved to more than 30 facilities nationwide. The MIQFs house a diverse range of New Zealand citizens, each for 14 days, with the majority having returned from abroad.

NZDF personnel coordinated efforts between hotel owners and other providers, including security, police, welfare and hotel staff. As of September 2020, over 250 personnel continued to support the COVID-19 response at any one time, with most supporting the MIQFs.

As a result, the gender perspective brief was adapted to include gendered considerations specific to the MIQF setting. Drawing on lessons learned from internally displaced people camps and discussions with personnel supporting MIQFs, the refined brief highlighted valuable insights. First, within the MIQFs, gender-based violence appears in diverse forms: domestic violence within family bubbles, accusations of sexual assault between guests, potential sexual exploitation of at-risk females, and inadvertent placement of guests near guests with criminal or sexual offense records. Also noted were disruptions to sexual and reproductive health within the MIQFs, highlighting the need to consider pregnant women, especially those requiring clinical management on-site or needing to leave the MIQF to give birth.

Furthermore, planning considerations need to include how females access feminine hygiene products if unable to leave the MIQF. The refined brief also emphasized potential challenges facing single parents (typically women) in the MIQFs, especially those with multiple or special-needs children. Finally, the brief highlighted that personnel should recognize opportunities to engage with MIQF guests who are influential within larger groups and have them disseminate information and feedback, especially where language is a barrier.

NZDF personnel are providing valuable feedback on the gendered impact of the MIQF experience. This

information is continuing to improve MIQFs and better prepare the next rotation of personnel.

Republic of Fiji Military Forces

WPS implementation in the RFMF involved policy and training development, including base-wide gender awareness training and a multiagency gender advisor course for members of Fiji's government and military. A WPS committee was established to work alongside legal partners to adapt policies that disproportionately impact women and ensure support mechanisms are in place.

As COVID-19 threatened the health and well-being of Fijians, an RFMF team was established to support the response. This involved setting up contingency plans, supporting quarantine enforcement and briefing ministers from across the infrastructure, health and defense portfolios. From the early stages, a gender advisor was part of the team and became responsible for highlighting the gendered aspects of this crisis (such as analyzing population demographics, movements and risk levels) and identifying humanitarian response plans. Due to the threat's complexity, plus the additional dynamic of

responding to Tropical Cyclone Harold in April 2020, a multiagency approach was employed.

While the COVID-19 threat had lessened significantly by May 2020, the multiagency cooperation continued, both in direct response to the pandemic and toward the effects of lockdown measures. Reflecting a global trend, the government of Fiji saw an increase in calls to the domestic violence hotline — from 87 in February 2020 to more than 500 in April 2020. A multiagency approach was again mobilized through an alliance of nongovernment agencies under the direction of the Ministry for Women, Children and Poverty Alleviation. Alongside sexual harassment training delivered by the Fiji Women's Rights Movement to the Republic of Fiji Navy and the ongoing RFMF quarantine enforcement support to the Ministry of Health, cooperation across agencies has become the hallmark of Fiji's success combating COVID-19 and its gendered impacts.

Australian Department of Defence

In the 20th year of UNSCR 1325, Australia was maintaining a high tempo to implement the WPS

A nurse swabs a patient for COVID-19 at a drive-through clinic in Caloundra, Australia, in April 2020. REUTERS



agenda through dedicated personnel and resources to boost capability. The Australian DOD made significant progress in implementing the WPS agenda and mainstreaming awareness across the department along six lines of effort: ensuring strategic settings are in place through integration of gender perspective into policy and doctrine; training a broad pool of people across the organization; dedicating personnel to implementing the WPS agenda; maintaining mission readiness through deployment of gender advisors on operations and exercises; supporting international partners through capacity-building initiatives and programs; and developing a robust governance and reporting framework to ensure Australia meets its UNSCR 1325 obligations.

Since 2012, DOD has built expertise assessing the gendered impacts of disaster and conflict, which provided the foundations for it to contribute to the pandemic response. The gendered impacts of COVID-19 have been well documented. According to the nonprofit aid organization CARE Australia, 80% of Australians work in industries providing services such as health care, education and retail, which have been the hardest-hit sectors. Women face greater insecurity because they comprise the majority of part-time and casual workers, as well as taking on unpaid care roles. Furthermore, experts have reported an increase in the frequency of violence against women. This follows global trends, with the U.N. Population Fund predicting that for every three months of lockdown, an additional 15 million cases of domestic violence will occur worldwide. The beginning of the pandemic followed a disastrous bushfire season in Australia, compounding the stress on many families and businesses.

As of August 2020, over 3,000 Australian Defence Force (ADF) members were deployed in a variety of roles to support the nation's COVID-19 response. This includes testing, logistics, contact tracing and managing border closures. Given the ADF's community interaction, a network of gender advisors and gender focal points was embedded as part of the response. A tiered system was established, from the strategic headquarters to the unit level, allowing flow of information and a feedback loop. An online training package and video, titled *Gender, Indigenous and Culture Awareness*, was developed for all members deploying and working with the community. A "Soldiers Smart



Women wear face masks to limit the spread of COVID-19 as they walk through a subway station in Seoul, South Korea.

THE ASSOCIATED PRESS

Card" checklist for commanders and family and domestic violence pocket brief were developed as guides for integrating gender considerations throughout planning and execution. The DOD is well positioned in addressing gender impacts during the pandemic and also in meeting emerging threats, humanitarian response needs, and other crisis or conflict situations through its WPS approach.

U.S. Indo-Pacific Command

The U.S. Department of Defense has supported WPS since the release of the first U.S. National Action Plan in 2011. This was further codified with passage of the WPS Act in 2017, the U.S. Strategy in 2019 and the department's Strategic Framework and Implementation Plan in 2020. USINDOPACOM established an Office



to other vulnerable communities. In Hawaii, the Native Hawaiian and Pacific Islander communities are suffering most. The pandemic has exacerbated structural and social system inequities such as lack of access to health care, crowded living conditions from multigenerational housing, and informal and formal employment in front-line industries. The gender and COVID-19 training focuses on an inclusive security approach, understanding that men, women, boys and girls experience this public health crisis differently; that their gender roles may expose them to harm or lead them to take risks for survival in different ways; and that their access to relief and recovery resources may differ.

A large gender data gap remains regarding COVID-19 globally, and USINDOPACOM's WPS office developed reporting and analysis that emphasize the need for more data for effective decision-making. This includes regional gendered socioeconomic trends, gendered health impacts, articles on the importance of a gender lens in planning, as well as a study reviewing existing gender-related data on COVID-19 and providing policy recommendations.

Recovery Efforts

Governments' short- and long-term efforts to recover from COVID-19 must consider the unique vulnerabilities women and girls face during this crisis and ensure they are protected and have safe access to relief and recovery assistance. Their recovery strategies must incorporate gender perspectives. The WPS agenda equips defense and security sectors to better engage with their populations and provide inclusive solutions. Defense sectors should continue to build gender advisor capability, which will greatly improve interoperability and coordination, as well as increase mission effectiveness.

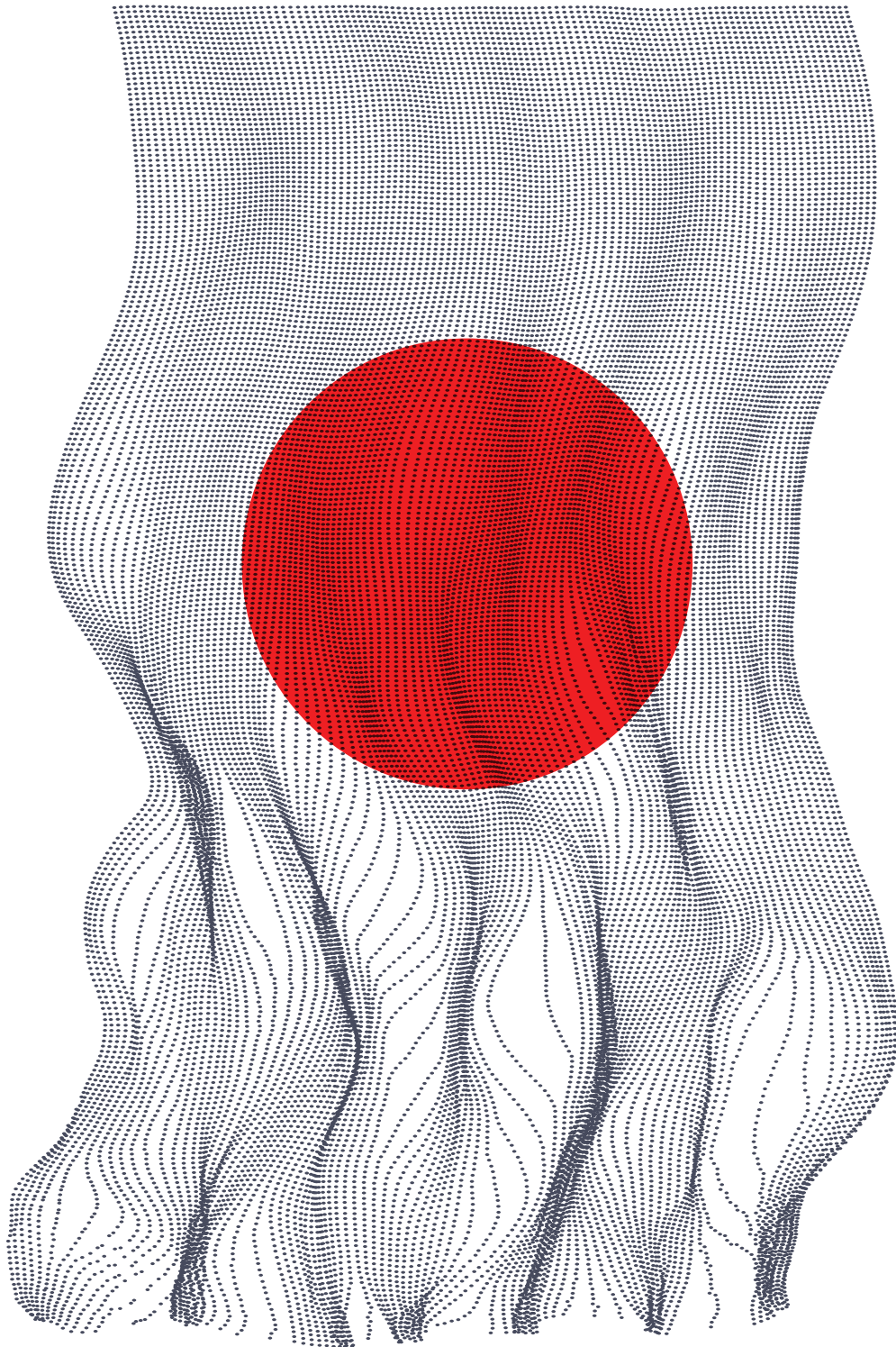
The gendered impacts of the pandemic will be revealed over many years. Our nations' defense and security sectors will continue to learn and use these lessons to train our respective departments; ensure that the needs of women, men, girls and boys are met during our missions; increase information-sharing on WPS implementation; and strengthen national and regional resilience to effectively counter the often unpredictable, complex challenges of 21st-century security. □

of Women, Peace and Security to include three positions critical to WPS implementation: the command gender advisor, WPS curriculum developer and gender analyst.

As the global pandemic surged in early 2020, the WPS office identified two key areas to improve USINDOPACOM's planning and response: first, through gender and COVID-19 predeployment training of Hawaii National Guard units preparing to assist community response and second, through gathering relevant regional data and developing gender analyses to better inform decision-making. USINDOPACOM also used digital articles and training videos to highlight COVID-19's regional gendered security effects.

Predeployment training must be context-specific and tailored to the population demographic, but there are macro-level gender considerations that apply to the local community, for instance: the increase in domestic violence during lockdown, interrupted access to sexual and reproductive health care, women as the majority of health care workers, and disproportionate impacts

Japan's Demographic Shifts and Regional Security Challenges Ahead





DR. ANDREW OROS

Japan is one of the first major countries in the contemporary world to experience population decline. Today, there are about 1.5 million fewer Japanese than a decade ago, a decline that will dramatically intensify in the coming years — by roughly 8 million in the 2020s and 10 million in the 2030s.

Some observers, such as Brad Glosserman in his book *Peak Japan: The End of Great Ambitions*, assert that Japan's changing demographics will lead to a more inward-looking nation in the coming years. The record thus far does not bear this out. Japan experienced its first decade of population decline and what demographers now call “super-aging” (where more than 20% of the population is older than 65) in the 2010s. But as I argued in *Japan's Security Renaissance: New Policies and Politics for the 21st Century*, Japan's military forces grew to be more capable than ever during this period. Recent defense discussion in Japan envisions further increases in capabilities, including perhaps developing strike missiles to enhance deterrence.

Other experts, including Sheila Smith, author of *Japan Rearmed: The Politics of Military Power*, and Rand Corp. analyst Jeffrey Hornung, also have written important works that describe Japan's increasingly formidable military. The conversion of Izumo-class destroyers to carry F-35 aircraft and the deployment of additional Aegis-equipped destroyers (bringing the total to eight) are two of numerous examples of Japan's expanding capabilities — again, despite the demographic challenges it's experiencing. How long can this trend continue? Japan's defense planners need to consider this question carefully as they revise the national security strategy. While Japan's military capabilities may have improved despite demographic decline, the size of its military appears to be more directly affected, and the outlook for funding the military is unclear.

The Japan Self-Defense Forces (JSDF) have not met their recruiting targets since 2014. In 2018, the JSDF set a goal of a standing force of 247,000 but only managed 227,000 — an 8% shortfall overall but believed to be about 25% among lower ranks. This is not surprising

because the number of Japanese ages 18 to 26, the target recruiting age, peaked in 1994. Japan has not enjoyed a replacement birthrate since 1974.


Japan's Ministry of Defense has considered many ways to address the shortfall in planned forces, which the 2019 National Defense Program Guidelines describe as “an imminent challenge.” In 2018, the JSDF raised the maximum age for new recruits from 26 to 32, the first increase since 1990. In 2020, the retirement age for senior officers began to rise gradually. The ministry also set a goal to increase the share of women in the JSDF to 9% by 2030. Women made up 7% of JSDF members in 2018, compared with an average of 11% among NATO countries. Other ideas include outsourcing some JSDF functions, such as maintenance and, more controversially, disaster relief activities, and reallocating Ground Self-Defense Force personnel (which comprise well over half of Japan's total forces) to the Maritime and Air Self-Defense Forces.

There is a bigger picture to consider, however: Japan is not aging and shrinking alone. Indeed, all of Japan's neighbors — potential partners and security concerns



First Lt. Misa Matsushima of the Japan Air Self-Defense Force finished her initial training to fly F-15s and was appointed as the nation's first female fighter pilot on August 24, 2018. AFP/GETTY IMAGES

The conversion of Izumo-class destroyers to carry F-35 aircraft and the deployment of additional Aegis-equipped destroyers (bringing the total to eight) are two of numerous examples of Japan's expanding capabilities.



Japan Maritime Self-Defense Force helicopter carrier JS Izumo, second right, destroyers JS Akebono and JS Murasame, as well as BRP Davao del Sur of the Philippine Navy participate in a drill in the Sulu Sea of the Philippines. THE ASSOCIATED PRESS



Japan Ground Self-Defense Force personnel attend an annual live-fire exercise at Higashi-Fuji range in Gotemba, southwest of Tokyo.
THE ASSOCIATED PRESS

alike — face a similar future, though on different timelines. That includes other United States allies in the region (South Korea and Thailand, though not the Philippines), other security partners to Japan and the U.S. (Singapore, Taiwan and Vietnam) and, importantly, principal security concerns (China, North Korea and Russia). Working-age populations in China, South Korea and Taiwan already are shrinking, with their total populations projected to decline this decade.

Meanwhile, potential security partners for Japan will grow in population and also maintain robust youth populations. India and Indonesia are two of the top 10 states for population growth through 2050. Not coincidentally, these states — and the growing Philippines — are among those with which Japan is seeking to deepen security ties. Demography alone does not drive Japan toward these relationships; other factors, such as shared concerns about China, geographic location and convergence on maritime interests, also are important.

New technologies also will play an important role in how Japan and other states manage the effects of demographic change on their security strategies. Robotics and other unmanned systems, including artificial intelligence, may help offset shrinking populations. At the same time, such technologies are altering the nature of the regional security landscape. As Christian Brose wrote in the magazine *Foreign Affairs*: “Artificial intelligence,

autonomous systems, ubiquitous sensors, advanced manufacturing, and quantum science will transform warfare as radically as the technologies” of the early 20th century. The emergence of new security domains in cyberspace and outer space creates new burdens. We cannot expect new technologies alone to offset challenges states face with demographic change. Difficult choices lie ahead.

In sum, there will be a changing regional security landscape as a result of demographic change in the Indo-Pacific in the coming years — and Japanese and U.S. military strategists will need to focus more attention on coming to terms with this. The impact of demographic change on national security depends on a number of factors. These include the nature of the specific security threats that each state faces; some threats can be more readily addressed with less labor-intensive alternatives. The availability of technological solutions, and whether the political and social systems are willing and able to adopt them or other options, also is a big variable. Demography is not destiny — but it will need to be reckoned with more than it has been to date, in Japan and elsewhere in the region. □

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Kanjuro Kiritake, a Bunraku puppet master, sits in front of a painting of his late father, also a puppeteer, at his home in Osaka, Japan.

Japanese Master Preserves Tradition, Making Bunraku Puppets for Children

STORY AND PHOTOS BY REUTERS

Stuck at home for weeks while Japan was under a state of emergency due to the coronavirus, renowned Japanese Bunraku puppet master Kanjuro Kiritake experienced deep anxiety.

His art, a traditional, male-only Japanese puppet theater, emerged in Osaka in the late 1600s, but in 2020 felt existentially threatened, he said. All his performances were canceled for months.

“Many things crossed my mind: When would the pandemic end? When would performances resume?” Kanjuro, 67, said in his home, which has a room dedicated to puppetry. He also wondered if his 87-year-old master would ever perform again.

The solution was to spend his time at home making puppets for children. It is a rare pursuit for a Bunraku puppeteer. To him, it tied into his decades of work. The Japanese government designated him a Living National Treasure for his performances of the traditional puppet drama.

Nearly 30 sixth graders took part in recent classes, with children practicing their puppetry in a gymnasium amid scorching heat, as a T-shirt-clad Kanjuro instructed them.

In Bunraku, each puppet is operated by three people: the head puppeteer and two others, dressed in black, their faces covered. The head puppeteer manipulates the head and right hand, while one person manipulates the left hand and another both feet. Performances are accompanied by narrators, or *tayu*, and traditional instruments.

The five puppets Kanjuro made had comical faces framed by yarn hair. They also wore neon socks he purchased online.

FROM THE FEET UP

Following his father's path, Kanjuro started his career as a puppeteer at 14, becoming a disciple of Minosuke Yoshida, who at age 87 is now the oldest living puppeteer. Like everyone else, Kanjuro started with the puppets' feet, then moved on to the left hand. It can take more than 30 years until a puppeteer is allowed to manipulate the head. “It is an invisible and tough role,” he said of operating the limbs. “Audiences do not know who you are and the applause goes to the main puppeteer.”

Understanding how to manipulate the feet is crucial; the performer doing that touches the waist of the lead



Kanjuro Kiritake gives lessons in the traditional puppet drama Bunraku at an elementary school in Osaka amid the coronavirus pandemic in August 2020.

puppeteer, feeling how he moves. It was a lesson Kanjuro learned from his late father, who even after illness left him thin used his whole body to animate the puppet as head puppeteer.

“I learned from him that you would have to use your entire body — from your toes to fingertips — to make the puppet come to life,” Kanjuro recalled. “And how a small and thin puppeteer could manipulate a big puppet by doing that.”

Kanjuro is one of Japan's best-known Bunraku performers, but he still worries about securing young talent.

The National Bunraku Theatre in Osaka provides a free, two-year training course from which more than half of the 83 current performers graduated. The art's popularity was waning even before the pandemic, and only two students were in training as of September 2020.

Perhaps, Kanjuro mused, people hired to open curtains or hand out stage properties might fall in love with Bunraku and want to study it. Performances in Tokyo resumed in September.

“Like sumo and rakugo where foreigners are active, one day we may have foreign performers,” Kanjuro said, referring to the traditional Japanese forms of wrestling and storytelling. “And it could only be a matter of time before women take part as well.”

AFRICA



Continent Free of Wild Poliovirus, But Polio Threat Remains

Health authorities in August 2020 declared the African continent free of the wild poliovirus after decades of effort, though cases of vaccine-derived polio are still sparking outbreaks of the paralyzing disease in over a dozen countries.

The declaration leaves Pakistan and neighboring Afghanistan as the only countries thought to still have the wild poliovirus, with vaccination efforts against the highly infectious, water-borne disease complicated by insecurity and attacks on health workers.

The African Regional Certification Commission for Polio Eradication made the declaration after no cases were reported for four years. Polio once paralyzed 75,000 children a year across Africa.

Health authorities see the call as a rare glint of good news in Africa amid the coronavirus pandemic, an Ebola outbreak in western Democratic Republic of the Congo and the persistent deadly challenges of malaria, HIV and tuberculosis.

"This is an incredible and emotional day," World Health Organization [WHO] Africa director Matshidiso Moeti said, but she urged vigilance as the coronavirus threatens vaccination and surveillance efforts.

This is the second time a virus has been eradicated in Africa, after smallpox four decades ago, WHO said. Patchy surveillance across the continent of 1.3 billion people raises the chance some cases of the wild poliovirus remain, undetected.

The final push to combat the wild poliovirus focused largely on northern Nigeria, where the Boko Haram Islamic extremist group has carried out a deadly insurgency for more than a decade. Health workers often carried out vaccinations on the margins of insecurity, putting their lives at risk. Africa's last reported case of the wild poliovirus was in Nigeria in 2016.

The declaration doesn't mean Africa is polio-free. Cases remain of the so-called vaccine-derived virus, a rare mutated form of the weakened but live virus contained in the oral polio vaccine. The mutated virus can spark polio outbreaks, and 16 African countries were experiencing one as of August 2020: Angola, Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Guinea, Ghana, Mali, Niger, Nigeria, Togo and Zambia. The Associated Press

EUROPE

HINDERING THE SPREAD OF FAKE NEWS



Two years after agreeing to a self-regulatory code of practice to tackle disinformation, Facebook, Alphabet's Google, Twitter and other tech rivals must try harder to be more effective, the European Commission said.

Fake news related to COVID-19 accelerated calls for the social media companies to be more proactive. The companies, including Mozilla and trade bodies for the advertising industry, agreed to the code in 2018 to stave off stricter regulation. Microsoft and TikTok also joined the group.

The code has several shortcomings, according to a commission assessment of its first year in operation. "These can be grouped in four broad categories: inconsistent and incomplete application of the code across platforms and member states, lack of uniform definitions, existence of several gaps in the coverage of the code commitments, and limitations intrinsic to the self-regulatory nature of the code," the report said.

Vera Jourova, commission vice president for values and transparency, called for more action to counter new risks.

"As we also witness new threats and actors, the time is ripe to go further and propose new measures. The platforms need to become more accountable and transparent. They need to open up and provide better access to data, among others," said Jourova, who is working on a plan to make democracy more resilient to digital threats.

The commission is also developing rules to increase social media companies' responsibilities and liability for platform content. Reuters

VIETNAM

Helmet Lets Front-Line Workers Remain Productive Longer

Three Vietnamese students have designed a helmet that allows front-line health workers to have a snack or even scratch their nose without exposing themselves to the risks of coronavirus infection.

The pandemic has thrown a spotlight on the trade-off between the comfort and safety of personal protective equipment (PPE), especially for workers who are required to suit up in such outfits for many hours.

To address this problem, students were given a challenge to design a helmet connected to a respirator that not only protects but allows front-line workers to remain productive for longer.

The group came up with the Vihelm, a blending of Vietnam and helmet. It has a glove box access so wearers can fit their hands inside and, for example, wipe away sweat or clean a visor while keeping the helmet sealed.

"A big difference with this helmet is the glove box. ... You can use it to interact with your face safely," said Tran Nguyen Khanh An, 14, one of the students who won a Best Invention Design Award at the International Invention Innovation Competition in Canada in August 2020.

The futuristic helmet also has an internal compartment



that can hold a snack and is attached by a tube to a powered air-purifying respirator.

While such respirators are considered significantly safer than standard masks, they can be far more uncomfortable than other forms of PPE.

The Vihelm, which costs less than U.S. \$300 to make, even has pockets around the head so users can scratch an itch.

Vingroup, Vietnam's largest conglomerate, said in a statement that the company had evaluated the helmet and offered technical feedback on its design. Vingroup has been producing ventilators throughout the pandemic. Reuters

SINGAPORE



Nation Battles Record Dengue Outbreak With More Mosquitoes

From the high balcony of a Singapore public housing block, an environment official steadies his mosquito launcher, the latest contraption authorities have devised to combat a record outbreak of the tropical disease dengue.

With the click of a button and a whir of a fan, a hatch opens and 150 lab-reared male mosquitoes are

sent flying, off in search of a female companion with whom they can mate but not reproduce.

The dengue virus, which in rare cases can be fatal, is spread to humans by infected mosquitoes.

Singapore's specially bred mosquitoes carry a bacteria that prevents eggs from hatching, leading to "a gradual reduction of the mosquito population," said Ng Lee Ching, the official heading the Wolbachia project, named after the bacteria.

Some areas with high mosquito populations have seen up to 90% declines using this technique, she added.

Singapore had recorded more than 26,000 dengue cases as of September 2020, surpassing the previous annual record of about 22,000 in 2013. Through August 2020, 20 people had died of the disease, which can cause extreme fever that leads to internal bleeding and shock.

A new strain of the disease, combined with unseasonably wet weather and coronavirus lockdowns that left construction sites and other mosquito breeding grounds undisturbed, are seen as factors behind the dengue outbreak.

The strategy the Wolbachia project uses has been successful in Australia but some experts say it might have limits in dense urban areas such as Singapore.

Reuters



INTERNATIONAL CENTRE FOR RADIO ASTRONOMY RESEARCH/CURTIN UNIVERSITY

A SCAN OF 10.3 MILLION STARS TURNS UP NO SIGN OF ALIENS — YET

Scientists have completed the broadest search to date for extraterrestrial civilizations by scanning roughly 10.3 million stars using a radio telescope in Australia, but they have not found anything — so far.

Seeking evidence of possible life beyond our solar system, the researchers are hunting for “technosignatures” such as communications signals that may originate from intelligent alien beings.

Using the Murchison Widefield Array telescope in the outback of Western Australia, they searched for low-frequency radio emissions, frequencies similar to FM radio, from stars in the constellation of Vela. The findings appeared in *Publications of the Astronomical Society of Australia* in September 2020.

“It is not surprising that we didn’t find something.

There are still so many unknown variables,” said astrophysicist Chenoa Tremblay of the Astronomy and Space Science division of Australia’s national science agency, the Commonwealth Scientific and Industrial Research Organisation.

“The search for life outside of our solar system is a big challenge,” Tremblay added. “We don’t know when, how, where or what type of signal we may receive to get an indication that we are not alone in the galaxy.”

While the search was 100 times deeper and broader than ever before, according to astrophysicist Steven Tingay of Curtin University in Australia and the International Centre for Radio Astronomy Research, it involved relatively few stars in cosmic terms.

“Ten million stars does seem like a lot. However, our best evaluation is that there are

around 100 billion stars [in the Milky Way galaxy]. So we have only looked at about 0.001% of our galaxy,” Tremblay said. “Pretend the oceans contained only 30 fish and we tried to look for them by testing an area the size of a backyard swimming pool. The chances of finding one of those fish would have been small.”

The Murchison Widefield Array is a precursor to another instrument, the Square Kilometre Array, that promises to soon boost the search for technosignatures.

“What is important is constantly improving the techniques and always going deeper and further,” Tingay said. “There is always that chance that the next observation will be the one that turns up something, even if you expect nothing. Science can be surprising, so the important thing is to keep looking.” Reuters

BOARDING PARTY



Royal Australian Navy Sailors engage in boarding training during Exercise Rim of the Pacific (RIMPAC) 2020 to enhance interoperability and strengthen strategic maritime partnerships. Ten nations, 22 ships, a submarine and more than 5,300 personnel participated in the biennial exercise August 17-31 in waters surrounding the Hawaiian Islands. RIMPAC, in its 27th iteration, builds cooperative relationships to support a Free and Open Indo-Pacific. To mitigate the COVID-19 threat, personnel conducted RIMPAC 2020 exclusively at sea.

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