HIGH STAKES

WHAT RESEARCH SAYS ABOUT THE ISSUES THAT MATTER MOST IN ELECTION 2016

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Food, Energy, and Water SCARCITY

DOMESTIC VIOLENCE and mass shootings
1. Understanding Brexit
RAND experts gathered in Cambridge, United Kingdom, to discuss the consequences of the historic UK vote to leave the European Union.
MORE AT www.rand.org/a160706

2. Teen Pregnancy Prevention
Research has shown that organizations using the Getting to Outcomes (GTO) tool to help prevent teen pregnancy implement programs with greater fidelity and achieve more positive outcomes compared with organizations that don’t.
MORE AT www.rand.org/t/TL199

3. Reevaluating Blood Donation Restrictions
After this year’s mass shooting in Orlando, local hospitals urgently needed blood donations, which spotlighted a long-standing ban on donations from sexually active gay and bisexual men. The question is, In 2016, is such a ban medically and scientifically warranted?
MORE AT www.rand.org/b160705

4. Book Launch!
MORE AT www.rand.org/v160621

5. Dementia Long-Term Care
In testimony submitted to the Senate Finance Committee, Subcommittee on Health Care, earlier this year, Regina Shih described dementia long-term care policy options for family caregivers and Medicare.
MORE AT www.rand.org/t/CT457
The Hot Spots of the World
Exploring the nexus of food, energy, and water to improve relief efforts and future planning in a world of scarcity
America in the Mirror: How’s the Homefront Looking?

This year’s presidential election is about much more than Donald Trump and Hillary Clinton. It’s an opportunity to assess the state of the nation, to stop and consider the issues we face, and to set a course for the next four years.

Do we want to change our systems of health care or higher education? How do we address climate change and domestic terrorism? What do we know about marijuana legalization, or about healing the relationship between police and the people they serve?

In this most partisan of political seasons, RAND offers a unique take on the big issues facing America: research that is independent, reliable, and rigorously nonpartisan.
Voters in at least five states will decide this November whether to legalize the production and possession of marijuana for recreational purposes. It’s a question with few easy answers, says Beau Kilmer, codirector of the RAND Drug Policy Research Center and coauthor of Marijuana Legalization: What Everyone Needs to Know.

States that do legalize will face ten key choices that will determine whether marijuana ends up being good or bad for society, he wrote in a recent commentary. He calls them the Ten P’s.

How much and what kind of production will be allowed? Will it be a for-profit industry? How will promotion be restricted? What will the state spend on prevention? Or on policing? What are the penalties for breaking remaining marijuana laws? Will there be limits on potency? Requirements for purity? How will prices be set? And will decisions made now be permanent, or open to revision?

That last one is critical, Kilmer wrote, given how little real-world experience we have with legalizing and regulating marijuana. Since no one knows the best way to tax or regulate marijuana, states should consider how they would make significant changes in the future.

“When it comes to marijuana legalization,” Kilmer wrote, “we are in uncharted waters.”

Building back trust

Transparency and technology can help police agencies from Ferguson, Mo., to New York City start to repair strained relationships with the people they serve.

Building back trust first requires that the public has the data it needs to make fair and informed decisions about how police do their jobs, senior physical scientist Brian A. Jackson wrote. The lack of any national standard to track police shootings, for example, called into question the validity of what few data points did exist and forced the media and public to build their own databases.

New technology such as body cameras can enhance the transparency of police agencies, if they are used to provide an unbiased accounting of officer actions. The federal government can play an important role, Jackson shared at a recent congressional forum, by encouraging the development of more tools to improve police transparency and accountability, and setting standards for their public release.

Police and the public are best served when they can both answer three key questions, Jackson wrote: What is the police department doing, and why? What are the results of the department’s actions? And what mechanisms are in place to weed out problem officers or problematic policies?
Going beyond free tuition

Americans owe $1.2 trillion in unpaid student-loan debt. But reforming higher education must go deeper than wiping that slate clean and promising a future of debt-free college degrees. For starters, the debate over “free” tuition misses another statistic: More than 60 percent of community-college students arrive on campus unprepared for college-level coursework. Without policy changes to better assess and address those learning gaps ahead of time, too many of those students will spend significant time and tax dollars without ever graduating.

At the same time, making more money available to colleges and universities through tuition subsidies risks driving up the costs they charge for an education. Economist Trey Miller wrote recently that states could encourage innovation and quality in higher education by tying at least some funding to performance measures, such as the average time it takes to earn a degree.

The promise of subsidized tuition “rings hollow” when young college grads have seen their real earnings stumble, assistant policy analyst Diana Gehlhaus Carew wrote. Colleges and universities need to become as dynamic and responsive as the labor markets they’re supposed to prepare their students for.

She envisioned a future of customized education, blending classroom and online learning, better aligned with the demands of high-skill jobs. Colleges and universities should be “more about educating and preparing citizens for the workplace of the future,” she wrote, “instead of about granting four-year degrees.”

What works, and what doesn’t

More than 16 million people gained health insurance coverage in the first two years of the Affordable Care Act, RAND surveys found. The act could be strengthened, RAND researchers have shown, but not in the ways some politicians claim.

Implementation of the Affordable Care Act has been informed by a groundbreaking computer model—COMPARE—developed at RAND to study the likely effects of different coverage options. Its results have been cited in White House briefings, congressional hearings, and even a Supreme Court decision upholding a key part of the act.

The model suggests that 21.9 million people will have obtained insurance coverage under the act by next year. But repealing one of the act’s most politically charged provisions—the individual mandate, under which most people must get insurance or pay a penalty—would reduce that number by 12.3 million. That also would drive up individual market premiums by 8 percent as younger, healthier people drop their insurance, the model shows.

That’s not to say there aren’t ways to expand coverage and reduce costs. A recent RAND study found that eliminating tax incentives for employer-sponsored health plans, and instead giving all qualified Americans a subsidy for their insurance, could save $14 billion and add 4 million people to insurance rolls.

But whether that would be politically feasible is another question. “‘Leveling the playing field’ makes for a good sound bite,” the researchers wrote, “but it implies that someone’s subsidy level is going down.”
**Get ready**

The coming years of climate change will subject more power plants, pipelines, highways, and other critical infrastructure points to extreme weather and other natural hazards—a threat that engineers must start planning for now.

Even under the most optimistic scenarios, the risk of disasters ranging from drought to flooding to severe ice storms will expand and overlap in more parts of the country by 2040, RAND researchers found. The risk will be most acute not just in well-publicized hazard zones like California and the Pacific Northwest, but also in parts of the Midwest and the mid-Atlantic coast.

That will pose an ever-growing threat to the nation’s transportation, energy, and communication infrastructure, the researchers warned. Yet planners and engineers often lack the information they need to build preparedness for such dangers into their projects, the researchers found.

Failing to plan for the effects of climate change will pose an increasingly grave threat to public safety, wrote Robert J. Lempert, the director of the Frederick S. Pardee Center for Longer Range Global Policy and the Future Human Condition.

Scientists and engineers should work together to better understand what information is needed, he wrote, and to develop best practices for climate-safe infrastructure. “Engineers need a new blueprint,” he added, “to prepare for a future that’s hard to know.”

**Keeping the promise**

American veterans, especially those living in rural areas, experience wide variation in the quality and timeliness of health care they receive through the Department of Veterans Affairs.

In general, VA health care performs at least as well as private-sector providers on measures ranging from preventative care to managing medications, a recent RAND assessment found. But that quality is not always consistent across VA medical centers and specialties, and not easily accessible to veterans living far from a VA facility.

Congress is considering whether to expand a program that allows veterans with poor access to VA facilities to receive care in the private sector. That may improve their access to primary care, but RAND research has shown that they still often lack easy access to specialty care.

The VA needs to better study the program, known as Veterans Choice, and ensure that the care it provides meets the same standards the VA has set for itself. Otherwise, it risks “jeopardizing its promise to care for those who have served their country,” senior policy researcher Carrie M. Farmer and adjunct economist Susan D. Hosek wrote.
Airport security

With devastating attacks in Belgium and Turkey this year, terrorists returned to what has been a favorite target of theirs for more than forty years: the open and crowded terminals of an airport.

The attacks renewed calls to tighten airport security, not just in the protected areas of the boarding gates, but also in such public areas as the check-in counters. But “the response to every terrorist attack cannot be the creation of another security perimeter,” wrote Brian Michael Jenkins, senior advisor to the president of RAND and an internationally recognized expert on terrorism.

New checkpoints create new bottlenecks, he warned. More than a decade ago, a RAND study of Los Angeles International Airport warned that long lines of people were as much a vulnerability as any security shortcoming. It’s not just the size of the bomb that matters, the study noted, but where it is detonated.

Since then, airports and airlines have become better at moving people through ticketing and security and decluttering crowded areas. But there is still room for improvement, wrote Henry H. Willis, director of the RAND Homeland Security and Defense Center.

Just outside the terminals, for example, curb-side traffic congestion continues to be a problem and a potential vulnerability. Roadway sensors and other “smart” infrastructure could be used to detect backups and route traffic around them, Willis wrote. The same navigation apps that commuters use to get around traffic jams could also be used to keep traffic moving at the airport.

After all, Willis wrote, “a moving target is hard to hit.”

Winners and losers

Technology and globalization are changing the very nature of work in America, benefiting high-skilled, college-educated workers while squeezing out manufacturing and other middle-income jobs.

The U.S. labor force is projected to grow at a much slower pace in the coming years than it has in past decades. That will open more opportunities for older workers in particular, but also create new demands for lifelong learning and retraining opportunities.

The new economy also has placed a growing number of workers into alternative work arrangements, such as on-call or contract jobs or freelancing, a recent survey conducted on the RAND American Life Panel found. That makes the labor force more flexible, but it also leaves many of those workers without traditional job benefits, such as health insurance or pensions.

Trade competition and technological change will continue to polarize the American workforce, with gains in both high-skilled occupations and low-skilled manual tasks. Routine manufacturing and clerical jobs that can be done cheaper by someone in another country, or by a computer, will likely suffer.

“It is hard to imagine a stable scenario of growth and prosperity unless the issue of an uneven sharing of gains from the trends of demographic change, technological change, and globalization is addressed,” senior economists Lynn A. Karoly and Krishna B. Kumar wrote.
America in the World: Decisive Moments, Tectonic Shifts?

From Russia to North Korea to the slaughter in Syria, the next president will face foreign-policy challenges that test the very fundamentals of world order.

In recent months, RAND researchers have outlined the decisions that must be made, the dangers involved, and the least-bad options that now often pass for good ones. They have assessed the fight against ISIS, developed a peace plan for Syria, and mapped a future for the world economy.

Senior political scientist Michael J. Mazarr set the scene in a recent op-ed. “U.S. foreign policy over the coming decade,” he wrote, “is likely to focus on the task of managing relations among a collection of tough, ambitious great powers that are determined to shift at least some of the global balance of power away from the United States.”

The U.S. must manage “tough, ambitious great powers that are determined to shift at least some of the global balance of power.”

The long fight

The Islamic State has been driven from some of its most important cities and now finds itself under siege in others. But defeating it on the battlefield is only the first step in what will be a long fight to dismantle what it stands for.

Western perceptions of the Islamic State as the command-and-control hub of an international terror corporation are misguided. Instead, it is a three-part threat, RAND experts wrote: the self-declared caliphate itself; its franchisees in places like Libya and Nigeria; and its ideology, open-sourced for anyone to claim.

The coalition fighting ISIS on the ground has made great strides since senior international policy analyst Linda Robinson traveled through the region in the early months of the campaign. She found that the local forces on the front lines were, with some exceptions, fragmented, outgunned, and unprepared to reliably hold ground. Her recommendations, that the U.S. and its partners provide significantly more training and equipment to those local fighters, have since become strategy.

Success in the fight against ISIS will require further developing those local fighters into competent hold forces, she said, as well as establishing effective governance in Iraq and Syria.

But as an ideology, ISIS is only the symptom of a disease, not the underlying cause, senior policy analyst Andrew Liepman and political scientist Colin P. Clarke wrote. The coalition still must address the social and political forces that gave rise to ISIS, such as vicious sectarian divisions in Iraq and the civil war in Syria.

There is reason for optimism in an unlikely place. ISIS may be known for its deft use of social media, but a recent RAND analysis found that its opponents on Arabic-language Twitter outnumber its supporters, six to one. They could represent a potent force in the fight against the idea of ISIS.
Lessening the risk of radicalization

As millions of displaced Syrians crowded into desert camps and urban slums, RAND researchers sought to better understand the forces that pushed former waves of refugees into the arms of radicals.

Their study of more than half a dozen previous refugee crises, from Asia to Africa to the Middle East, identified several common threads that seem to lead toward greater risk of radicalization. They found, for example, that refugees kept in isolated camps, with little opportunity for work or education and little sense of security, have been especially vulnerable to infiltration by militant groups.

Those findings provide a guide to the international community as it struggles to accommodate refugees now and in the future in a way that lessens the risk of radicalization. Host countries, in particular, should allow refugees some freedom of movement, provide adequate security, and establish opportunities for youth beyond primary school.

Critical to those efforts, of course, is international support and funding that doesn’t wane as a refugee crisis drags into years.

Some of that funding could support local businesses that employ both refugees and non-refugees, said senior political scientist Barbara Sude, the study’s lead author. That would improve the lives of people on both sides and strengthen the ties between their communities—all good defenses against the threat of radicalization.

A practical peace plan

The United States can no longer afford to wait for a comprehensive political settlement to bring an end to the bloodletting in Syria. Its principal goal, at least for now, should be to establish and sustain an enduring ceasefire, even if that means postponing a decision on the homicidal regime of President Bashar al-Assad.

That is the only practical way to end the fighting, a team of RAND experts led by former ambassador and special envoy to Afghanistan James Dobbins concluded.

Their peace plan would freeze the conflict along existing battle lines, effectively dividing Syria into several semi-independent zones—one controlled by the regime, one or more by the Arab opposition, and another by the Kurds. At least some state authority would devolve to those groups, allowing them to govern the areas they now hold, with international oversight.

A fourth zone, the vast and desolate east of Syria, would remain a free-fire zone. There all sides could turn their attention to the destruction of a common enemy, the Islamic State.

A durable ceasefire would at least buy negotiators time to work out the future shape of a Syrian state—and the fate of the Assad regime—without the running clock of a daily body count. Anything else risks making “the best’ (that is, Assad’s removal) the enemy of ‘the good’ (maintaining the ceasefire),” the RAND experts wrote—and ending up with the worst, a resumption of violence with no realistic plan to stop it.
The Baltic question

Sixty hours. In repeated war games at RAND, sixty hours is all it took Russian forces to punch through NATO’s thin defenses in eastern Europe and reach the capitals of Estonia or Latvia.

It may seem unlikely that Russian President Vladimir Putin would risk war with NATO, senior research analysts David A. Shlapak and Michael Johnson wrote. But, as their games showed, the potential consequences if he did are so dire that it “may be less than prudent to allow hope to substitute for strategy.”

Both NATO and the United States have announced stepped-up troop rotations in eastern Europe, a good first step at reinforcing deterrence. But RAND’s research concluded that NATO would need a force of about seven brigades—including three heavy armored brigades—on the ground, properly supported and backed by air power, to fundamentally change the strategic equation for Moscow.

That would represent a small part of overall spending of NATO member countries, Shlapak and Johnson wrote. Without further strengthening its eastern flank, they added, NATO will remain outnumbered, outranged, and outgunned.

At the same time, the United States should look for ways to engage Russia, Mazarr wrote. There are areas for mutual cooperation, he noted, such as counterterrorism and nonproliferation. Russia aspires to a respected position in the world order, he wrote—not “the role of hated troublemaker.”

The wild card

An underground explosion in rural North Korea in early September rattled seismographs in South Korea and homes fifty miles away in China. It was North Korea’s most powerful nuclear test to date, the latest escalation in one of the world’s most dangerous guessing games.

This year alone, the erratic regime of leader Kim Jong-Un has test-fired more than 30 ballistic missiles, sent a rocket into space in what was widely seen as another missile test, and detonated two nuclear bombs. Those tests show that the North is determined to advance its weapons programs and the threat they pose, even in the face of ever-tightening international sanctions, senior defense analyst Bruce W. Bennett wrote.

The tests also call into question the United States’ long-standing approach of “strategic patience” with North Korea, Bennett wrote. The U.S. sent two B-1 bombers over South Korea in a display of resolve after the September nuclear test, and has moved to deploy an advanced missile-defense system there.

The quickening pace of provocations from the North this year suggests a weak leader feeling more and more internal pressure, Bennett wrote—and seeking to divert attention through displays of force. That raises another troubling question for the international community: What would happen if the North Korean regime collapses?

That could plunge parts of the North into anarchy, leave its weapons of mass destruction exposed, and threaten civil war in a country with more than one million military and security personnel, Bennett said. At the same time, it would likely cut off food distribution, provoking a humanitarian disaster “even more serious than is normally the case in North Korea,” he said.
Nearly 40,000 unaccompanied children, fleeing poverty and violence in Central America, made the treacherous journey to America last year and were stopped at the border. Even more have been coming this year. The United States is working with the governments of El Salvador, Honduras, and Guatemala to slow the exodus by stimulating economic growth, promoting education, and targeting criminal networks. But more needs to be done on this side of the border, senior policy researcher Daniel M. Gerstein and associate sociologist Ernesto F. L. Amaral wrote.

Given the numbers and the need, the most relevant question for policymakers may be how to best integrate those children allowed to stay into American society. U.S. officials should better monitor how children fare in their host families, in their schools, and in their communities, Gerstein and Amaral wrote.

More broadly, America needs to streamline its immigration court system, with more judges to hear more cases in less time, Gerstein wrote in a separate paper. It also should invest in better technologies to secure the border and target suspect air and sea cargoes as well as individuals.

A wall across the southern border—"a thin brittle line," in Gerstein’s words—would only divert money and resources from those needed reforms. The evidence of history, he wrote, from the Great Wall of China to the French Maginot Line, has repeatedly shown the futility of building “impenetrable” barriers to keep people out.

International free-trade deals may have few friends in presidential politics, but they could strengthen economies at home and abroad as the world adapts to some 21st-century realities.

America will remain the dominant player in the world economy for the foreseeable future. But it will have to accommodate rising world powers like China, as well as developing nations whose economies are growing while those of America’s closest allies slip.

The United States stands to gain more from strengthening world economic institutions and rules—and engaging with those rising powers—than from pulling back, senior economist Howard J. Shatz wrote. Despite the rhetoric, trade and investment deals represent valuable tools in that effort—measured both in domestic dollars and cents and in the expansion of the world economy.

Because of that, the United States should approve some version of a Pacific trade and investment agreement, Shatz concluded—and include an on-ramp for China to join. The U.S. also should sign a new trade and investment agreement with Europe to help restore growth there and benefit both economies.

This is a decisive moment for the world economy. The United States should strive to maintain and strengthen the global system of trade it helped create—“spurring growth so lives are improved,” Shatz said, “and demonstrating to countries that a U.S.-led economic system is a desirable one in which to participate.”
MARIJUANA POLICY
For more on Marijuana Legalization: What Everyone Needs to Know (commercial book), visit www.rand.org/t/CSB25-1
Marijuana Legalization, Government Revenues, and Public Budgets (Testimony) is available for free download at www.rand.org/t/CT449
"The Ten P's of Marijuana Legalization" is available on The RAND Blog at www.rand.org/b150622mar
"Researcher Q&A: Beau Kilmer on the State of Marijuana Legalization" is available on The RAND Blog at www.rand.org/b160526

POLICE
Respect and Legitimacy—A Two-Way Street is available for free download at www.rand.org/t/PE154
Strengthening Trust Between Police and the Public in an Era of Increasing Transparency (Testimony) is available for free download at www.rand.org/t/CT440
"Police-Community Relations" (an Events @ RAND CT440) is available online at www.rand.org/.../a160505

HIGHER EDUCATION
"The High Cost of Free College" is available on The RAND Blog at www.rand.org/b160801college
"Reframing the 'Free College' Debate" is available on The RAND Blog at www.rand.org/b160414college
"America’s College Promise: Meeting the Higher Education Challenge" is available on the RAND Blog at www.rand.org/b150119college

HEALTH CARE
Assessing Policy Options for Subsidies to Improve the Affordable Care Act: One Approach Could Insure More People, Reduce Premiums, and Save $14 Billion per Year is available for free download at www.rand.org/t/RB9886
"Insurance Enrollment Holds Steady in Advance of the 2016 Open Enrollment Period" is available on The RAND Blog at www.rand.org/b151112aca
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"The Response to Every Terrorist Attack Cannot Be Another Checkpoint" is available on The RAND Blog at www.rand.org/b160701checkpoint
"Out of Line: How to Better Protect Airports from Terrorist Attacks" is available on The RAND Blog at www.rand.org/b160502air

THE AMERICAN ECONOMY
"Evolving 21st-Century Workplace and the American Workforce: Trends and Policy Responses" is available on The RAND Blog at www.rand.org/b160823work
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Assessment of the Politico-Military Campaign to Counter ISIL and Options for Adaptation is available for free download at www.rand.org/t/RR1290
Examining ISIS Support and Opposition Networks on Twitter is available for free download at www.rand.org/t/RR1328
"Demystifying the Islamic State" is available on The RAND Blog at www.rand.org/b160823is

SYRIA
A Peace Plan for Syria is available for free download at www.rand.org/t/PE182
A Peace Plan for Syria II: Options for Future Governance is available for free download at www.rand.org/t/PE202

REFUGEES
Lessening the Risk of Refugee Radicalization: Lessons for the Middle East from Past Crises is available for free download at www.rand.org/t/PE166

RUSSIA
Reinforcing Deterrence on NATO’s Eastern Flank: Wargaming the Defense of the Baltics is available for free download at www.rand.org/t/CT404
"Outnumbered, Outranged, and Outgunned" is available on The RAND Blog at www.rand.org/b160421russia
"Russia and America: The World Is Big Enough for Both of Us" is available on The RAND Blog at www.rand.org/b160623russia

NORTH KOREA
Preparing for the Possibility of a North Korean Collapse (Testimony) is available for free download at www.rand.org/t/CT440
"What to Look for in North Korea’s Fifth Nuclear Test" is available on The RAND Blog at www.rand.org/b160415

CENTRAL AMERICA
"Understanding and Addressing the Unaccompanied Minor Immigration Issue" is available on The RAND Blog at www.rand.org/b160422minor
"Walls Won’t Keep Us Safe" is available on The RAND Blog at www.rand.org/b160415

INTERNATIONAL TRADE
U.S. International Economic Strategy in a Turbulent World is available for free download at www.rand.org/t/RR1521

IN ADDITION
RAND has compiled an online guide to some of the biggest issues facing the United States this election year. VISIT WWW.RAND.ORG/ELECTION2016 FOR CAPSULE REVIEWS of some of our most important research, as well as links and expert commentaries.

RAND also is tracking public opinion and voter intentions through Election Day with its Presidential Election Panel Survey. Go to www.rand.org/electionsurvey16 for the latest results.
A FOCUS ON THE RESEARCH OF
Henry H. Willis, David G. Groves, Jeanne S. Ringel,
Zhimin Mao, Shira Efron, and Michele Abbott
The Hot Spots of the World

Scarcity of food, energy, and water endangers the lives of millions. So RAND created a tool with the potential to help make aid initiatives more effective.

More people survive today without adequate food or clean water than live in the United States and the European Union combined.

For those poorest of the poor, the bottom billion, life can turn with every flicker in the worldwide supply of food, water, or energy. Analysts have come to see those three pillars of human existence as so tightly interconnected in a world stretched to its limits that a weakness in one can bring down the others.

Better understanding that nexus between food, energy, and water could strengthen international aid efforts—as well as preparations for global challenges to come, such as climate change. Researchers at RAND and students at the Pardee RAND Graduate School have spent years tracing the links and nodes of the nexus, country by country.

The result has been an unprecedented look at where people struggle the most just to survive—a map of the world, alight with need.

A global assessment of the food-energy-water nexus would make aid efforts more effective and could help anticipate threats posed by conflict, natural disasters, and climate change.
Connecting the dots

Spring 2008: Food riots convulse countries from Bangladesh to Senegal. Egypt mobilizes its army to bake bread. In Haiti, people learn to survive on little more than mud patties mixed with sugar and oil.

No single disaster could explain the global food crisis that year. Analysts later pointed to a withering drought in Australia, soaring oil prices in Ukraine, and acre upon acre of United States farmland planted not with grain, but with corn for fuel ethanol.

A new way of thinking emerged in the years after that calamitous spring: Shortages of food, water, or energy could no longer be treated as independent catastrophes, but as interwoven threats to the world at large. A drought in one part of the world could drive up food prices in another—but so could a tight supply of energy.

“Each of these issues—food, water, energy—was always bubbling up to the top when people talked about the biggest risks to the world,” said Henry H. Willis, a senior policy researcher at RAND and a professor at the Pardee RAND Graduate School.

“But in fact, they’re all related. In order to grow food, you need irrigation. And one of the challenges of irrigation is, you need energy for the pump. It’s all intertwined.”

Willis and other researchers set out to take the full measure of food, energy, and water scarcity in every country in the world. Such a global assessment of need, they wrote in their research proposal, would make aid efforts more effective and could help anticipate threats posed by conflict, natural disasters, and climate change.

They recruited three students from the Pardee RAND Graduate School, the nation’s largest public policy Ph.D. program. Each had seen the interplay of food, water, and energy up close.

Zhimin Mao grew up in China, listening to news reports about shortages in the coal regions caused by the diversion of water for drills. Shira Efron came from Israel, keenly aware of the destabilizing role that hunger and scarcity play in the broader Middle East. And Michele Abbott had spent years working on health projects in East Africa, a crash course in managing scarcity across disciplines.

Their challenge was daunting. Prior research had looked at worldwide supply and demand on one or two sides of the nexus—water and food, for example, or food and energy. But nobody had attempted to map all three elements at once, for every country in the world for which data were available, in such a unified and transparent way.

“In order to grow food, you need irrigation. And one of the challenges of irrigation is, you need energy for the pump. It’s all intertwined.”

HENRY H. WILLIS, SENIOR POLICY RESEARCHER
A snapshot of the world

The researchers collected data on domestic food prices, water availability, the share of people using modern cooking and heating fuels—even the dietary consumption of starchy foods, a marker for low-quality diets. In the end, they merged nearly a dozen data sets to show where food, water, and energy are not just available, but accessible to ordinary people on the ground.

The final product: An interactive, online map, free to anyone, that shows every country’s overall nexus score—and, with a mouse click, the specifics of its food, energy, and water supplies. The most desperate need appears on the map in dull reds and oranges, spreading across central and eastern Africa; parts of south and southeast Asia face only slightly better conditions, painted mustard-yellow on the map.

“The tool has its value in simplicity, in its concise way of looking at the problem,” Mao said. “You’re able to identify countries at highest risk, and that can help you stop potential problems.”

The map itself may provide the headlines, but it’s the click-through details that tell the story. Rwanda, for example, has one of the lowest overall scores on the planet, a blister of red on the map—in part because energy and water are in desperately short supply there, but also because

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<th>Country</th>
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most people can’t even access what few resources there are. The Russian Federation appears comfortably green on the map, but only because its strong water and energy supplies are propping up low food scores.

The United States had the highest overall score, followed by Luxembourg, Canada, Austria, and Iceland. The countries with the lowest scores: Burundi, Niger, Chad, Malawi, and Rwanda.

“Right now, it’s to help focus people’s attention,” Abbott said. “It’s a hot-spot tracker, an advance tool.”

It is, as much as anything, a snapshot of the world at a crossroads.

Sometime in the next 15 years, the human population is projected to tick past 8 billion, up from around 7.3 billion today. At that point, the world will need to produce at least 40 percent more food, energy, and fresh water by some estimates, just to meet the bare minimum of human demand.

RAND’s index shows where we’re already falling short. But it also offers a baseline for future research, a starting point to better understand—and manage—the evolution of food, water, and energy scarcity in the years to come. It could, for example, help researchers study the impact of climate change, or the link between resource shortages and armed conflict.

“It really helps pave the way,” Efron said. “This is just the beginning.”

Michele Abbot, Shira Efron, and Zhimin Mao are Pardee RAND students who contributed to the development of the index. Efron, a recent graduate, is now an associate policy researcher at RAND.

Funding for the development of the Pardee RAND Food-Energy-Water Index was provided by philanthropic contributions from RAND supporters and income from operations. Additional funding was made available via the Pardee Initiative for Global Human Progress, established in 2013 through the generosity of philanthropist and former RAND researcher Fred Pardee. The initiative offers bold new ideas for economic development and developing countries, and draws on the talent and innovation of Ph.D. candidates and RAND research staff while advancing RAND’s work in international development.
Domestic Warning Signs of Mass Shootings

In the aftermath of shootings, there is inevitably a public debate about gun safety, constitutional rights, police tactics, terrorism, race, and politics. But these discussions rarely focus on a common factor among the perpetrators—a history of violence against women.

Reports suggest that the shooter in Dallas left the Army after a sexual harassment charge. The Orlando shooter allegedly abused his first wife. The Colorado Springs Planned Parenthood shooter was accused of sexual assault, domestic violence, or stalking by three different women, including his then-wife. The Sandy Hook shooter targeted his mother. And though the police have released little information about the Baton Rouge shooter, a suspect who opened fire on a Milwaukee police officer that same day was a domestic violence suspect. The list goes on and on. And each time there’s a shooting that grabs national headlines, the debate centers on gun control and the Second Amendment. Now it’s time to further explore the connection between violence against women and murder.

Radha Iyengar is a senior economist at the RAND Corporation.

This commentary originally appeared in U.S. News & World Report in August 2016.
Past violence is the best static predictor of future violence. A detailed analysis of the cases of over 300,000 ex-convicts found that offenders with domestic violence charges were the most likely to commit another violent felony.

**WOMEN AND CHILDREN ARE OFTEN THE FIRST VICTIMS**

57% of mass shootings targeted family members or intimate partners, of which almost two-thirds were women and children.
This goes beyond anecdotes. Recent research drawing on FBI data and media reports between 2009 and 2014 analyzed all shootings that resulted in four or more deaths and found that 57 percent of mass shootings targeted family members or intimate partners. In those shootings, 64 percent of the victims were women or children.

While these statistics are troubling, they may point to a means to help reduce violence. Existing research suggests that "by far, past violence is the best static predictor of future violence," and a detailed analysis of the cases of over 300,000 ex-convicts, including those with a history of violent offenses, found that offenders with domestic violence charges were the most likely to commit another violent felony. Of course not all of these felonies will be mass shootings, but some will and so policies to identify, punish, and prevent access to dangerous weapons by abusers may be a key means to reduce all violent crimes, including mass shootings.

In many cases, the core aspects of the policies are already on the books, though the coverage and efficacy varies by state. That variation, however, introduces substantial risks as some victims may be reluctant to report abusers, abusers are not always appropriately identified, and gaps in laws allow known abusers to obtain dangerous weapons.

Efforts should include policies to increase reporting by better supporting victims, including improving police response and ensuring sufficient domestic violence crisis services to enable victims to safely report. But victim reporting is just the first step in preventing intimate partner abusers from accessing dangerous weapons.

Once a victim reports, the crime must be appropriately categorized as "domestic violence" if it is to prevent abusers from obtaining weapons under existing restrictions. This does not always happen, because of the "boyfriend loophole" in many existing laws that does not categorize physical assaults on unmarried partners as domestic violence. Moreover, stalking is often not covered by existing laws aimed at restricting access to guns.

Even if the abuser is appropriately categorized as a domestic violence offender, the offenses must then promptly be entered into the system that is used for criminal background checks for gun purchases. Unfortunately, according to a recent GAO study, states vary greatly in the degree to which this information is entered, delaying the FBI background check results. The delay is particularly dangerous given so-called "default proceed" laws, which allow sales to happen if information is not available within 72 hours.

Many of the public debates after mass shootings focus on the trade-off between public safety priorities, like reducing gun violence and combating terrorism, and individual rights, like those of legitimate gun owners and others. But there is no such trade-off when considering those who commit intimate partner or family violence. The Supreme Court has clearly ruled that domestic abusers do not have a right to own firearms and most states and the federal government already have laws prohibiting ownership. Moreover, members of both political parties have and continue to support efforts to end domestic violence, from the Violence Against Women Act to recent efforts to strengthen federal laws that prevent abusers from purchasing weapons.

The dialogue on gun violence could be advanced by including discussion of its links to intimate partner violence and how addressing those issues may be part of a solution.
Charles Zwick’s signature achievement might seem superhuman in this era of staggering deficits and government shutdowns: He once balanced the U.S. federal budget.

It was a headline moment in a career that took Zwick from RAND to the White House and underscored the profound impact that careful research and analysis could have. The balanced budget he delivered in 1968, despite the war in Vietnam and political headwinds at home, would be unmatched until the boom years of the late 1990s.

Zwick gave his name and a $1 million gift to a special fund that helps RAND expand and broaden the reach of some of its most promising research. Zwick funds have enabled RAND to develop a national blueprint for dementia care, a guide for policymakers to transportation funding possibilities, and a website to help measure teacher effectiveness.

When RAND research showed that prison-education programs could sharply reduce recidivism rates, Zwick funds helped ensure that policymakers knew about it—prompting reform efforts at the state and federal level. More recently, researchers studying hazing in the military have used Zwick funds to create a hazing-prevention training program.

“RAND was one of the most important endeavors in my life,” Zwick said. “It is gratifying to see how the rigorous methodology and commitment to evidence that we valued when I worked here in the 1960s continue to be applied to the challenging problems we face today.”

Zwick worked as a researcher at RAND from 1956 to 1965, heading the Logistics Department and studying military and economic-assistance programs in Southeast Asia. He later served on the RAND Board of Trustees.

He left RAND to become the assistant director of what is now the White House Office of Management and Budget under President Lyndon Johnson. He became the director in 1968; the budget he submitted for 1969 was not just balanced, but even included a small surplus. The federal budget would not be back in the black again until 1998.

Zwick joined Southeast Banking Corporation in 1969 as its president and chief executive. He oversaw its expansion until his retirement in 1991.

He has been generous in his philanthropy in retirement, supporting public-policy research at RAND and elsewhere that addresses the challenges facing the nation and world. He explained his philosophy last year in announcing another gift to further such research: “We are looking to see impact,” he said. “The world is changing fast, and we need to have clear data and thinking to guide us.”
The Trip of the Iceberg

A Polar Express to Solve the World’s Water Shortage

Long before an iceberg sunk the Titanic, entrepreneurs, scientists, and charlatans have talked of harvesting the polar ice caps, home to 70 percent of Earth’s fresh water. In the 1800s, people thought lassoing icebergs and towing them elsewhere could equalize global temperatures; modern-day schemes have aimed to quench the thirst of desert dwellers.

In the 1970s, researchers J. L. Hult and N. C. Ostrander examined the practicality of towing icebergs from the Ross Sea to Southern California. Though filled with caveats, their report breathlessly concluded, “The more avenues that are explored, the more promising the concepts seem to become.”

The researchers proposed configuring multiple icebergs of the right shape and size into “trains” up to 2,000 feet wide, 1,000 feet deep, and 12 miles long. A floating nuclear power plant would drive propellers mounted along the train, accompanied by support ships and icebreakers. The icebergs would be wrapped in a plastic “quilt” that would trap melt water in pockets to prevent erosion.

They estimated the cost of transport, conversion to water, and wholesale delivery at roughly $30 per acre-foot (in 1973 dollars)—reportedly one-third the price of desalination or transporting water from damp areas to dry ones. The results, for the National Science Foundation, made the news but eventually were dead in the water.

RAND wasn’t the last to flirt with the iceberg idea: A 1977 conference in Iowa devolved into discord over cost and feasibility. As recently as 2011, French engineer Georges Mougin planned a real-world trial but later called it off due to lack of funding.

Like the Titanic, the idea seems unsinkable but for now is buried at sea.

Sources: The Atlantic, National Oceanic and Atmospheric Administration, and SciDev.net
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