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Engaging the World to Better Address Climate Change

What does the Indian city of Surat's innovative response to flooding tell us about how to combat climate change? The answer, according to Ricky Passarelli, is a familiar one. In an era of political logjams, major global problems will only be solved through multi-stakeholder approaches.

By Ricky Passarelli for ISN

Mobile weather technology may seem like a first-world convenience created for local news and those with plenty of leisure time or discretionary spending. But for a host of rapidly emerging cities around the globe, urban-mobile technology is one of many promising paths towards addressing one of our most pressing security challenges: climate change. Indeed, any grassroots advances of this type are to be welcomed. Almost two decades after Kyoto, the international community is still spinning its wheels over how to manage climate change, and with decades of threats looming, should be looking towards new alternatives.

The Flood that Led to Innovation

In 2006, the Indian city of Surat was devastated by floods that affected approximately 90% of its inhabitants. Not only did the flood waters inundate three-quarters of the city's area, but relief agencies dropping supplies by air had virtually no guidance on how or where to reach shifting populations. As a result, around half of these supplies never reached those who needed them the most. The city wanted answers, but more so, it desired a long-term solution for its persistent flooding problem.

Surat's response has been cheap, simple, and innovative. In 2008, the Surat Climate Change Trust, Surat Municipal Corporation, and other partners embarked upon a basic messaging and mapping project. A new flood warning system would monitor temperatures, rainfall, and water levels through a series of automated weather stations that rely on information from river-gauges and existing satellite data-sets, all for the relatively affordable price of $500,000. When the same type of flood conditions appeared in 2013, the city was nimble and responsive.

In 2006, almost half of Surat's population did not receive any flood warnings from the local authorities. Today, the city's early warning system provides warnings 2-3 days ahead of time, including via SMS messaging, thereby allowing people to prepare their properties, buy groceries, or move temporarily to higher ground. A Geographical Information System (GIS)-based map of the city is updated to indicate where flooding is greatest and where supplies are safe to be delivered. In an era of political logjam,

such upstart approaches to adaptation and response are and will have to play a greater role in securing our world from the threat of climate change.

Addressing the Global Logjam

As the world prepares to craft a new climate agreement in Paris this December, Surat's relatively cheap and agile solution should provide the international community with food for thought. Negotiators will have to recognize that novel and innovative approaches to climate change are, for the time being, compromised by outdated thinking at the United Nations and other international organizations. A 20th century mindset is preventing effective global responses to a problem that's been building for decades.

In this respect, recent comments made by Pope Francis and Barack Obama underscore the need for such fresh thinking. Both leaders are in agreement that climate change is not just an environmental concern - it's a matter of security and justice. Droughts in China, for instance, can affect food prices across the globe, sparking civil unrest in Africa and the Middle East. In the case of Egypt, grain imports in 2011 spiked from $157/metric ton to $326 per metric ton, doubling consumer costs and sparking waves of political unrest. From extremist actors in Niger to the populist protests of the Arab Spring, scholars have linked such rising tensions in part to growing environmental pressures and limited government response. Increased flooding can also ripple through supply chains, affecting output from production to point of sale, thereby uprooting economic norms and stressing global markets.

As Obama's speech to the Coast Guard Academy highlighted, the military is not immune to the specter of climate change either. Stronger storms and rising tides will continue to threaten military assets from the Pacific to the Arctic. Facing a one in 50-year storm, Norfolk Naval Shipyard, the largest naval base in the world, could face up to 70% flood inundation under anticipated sea-level rise conditions. Such damage could hinder global operations or shift conflict response times significantly. Given that the U.S. Navy alone has over 100 ports of call worldwide, military branches are beginning to prepare by commissioning climate action roadmaps, highlighting climate threats in quadrennial defense reviews, and earmarking investments for climate planning efforts. Evolving strategic awareness will have to account for new impacts on everything from disrupted operations, to new routes of maritime passage, to increased calls for humanitarian support.

A report released last month by the *Global Commission on Security, Justice, and Governance*, led by former U.S. Secretary of State Madeline Albright and former U.N. Under-Secretary-General for Political Affairs Ibrahim Gambari, points out these ever-growing similarities between modern fragile states, the global economy, and climate change challenges. This report builds off accumulated scholarship from the fields of conflict studies, climate science, and international economics to outline the linkages between often disparate governance approaches. What becomes increasingly clear is that threats to national security and conceptions of social justice, via conflict, financial strain, or resource degradation, inherently ripple across borders in our ever more global, 21st century society. The international powers that be must adapt, and so too now must our response.

Engaging Nations, Cities and Corporations

A shift from old-school thinking to practical policymaking is necessary to govern such a complex, international, and unprecedented issue. Simply mandating emissions cuts and encouraging the world to pay for them out of "duty" has never been enough. Even in the days of the Montreal Protocol, the single treaty approach never stood a chance at fighting on multiple fronts. Montreal targeted a narrow band of CFC (chlorofluorocarbons) ozone pollutants that were quickly replaceable. Climate change has much broader and more ingrained social causes. Carbon-heavy fossil fuels still account for

approximately 87% of global energy use, including oil and coal which together account for 63%. Opposed to eliminating individual types of chemicals, “new school” thinking will have to inherently shift how traditional energy sources are utilized, and how communities address development priorities and environmental impacts. A more nuanced approach will showcase how collective, multi-stakeholder action, including engagement from nations, cities, and corporations alike, is both fundamentally necessary and in the interest of every party involved.

Reports like the *New Climate Economy* released last fall detail how groups in the private sector stand to benefit from reducing carbon impacts. Recent studies suggest that by 2020 the U.S. corporate sector alone could save $120 billion in annual costs by implementing renewable and energy-efficient technology. Even traditional energy companies can profit from cleaner carbon sources, such as natural gas, in the short-term, or by focusing on their alternative energy portfolios in the long-term. Perhaps that’s why six major oil companies, including Royal Dutch Shell and BP, recently wrote to the UN advocating *for* carbon taxes; it’s more lucrative to plan ahead and focus on cleaner energy than face unpredictable returns. Investment security from climate change is a very real concern, and its impacts on various sectors, whether by increased regulation, damage to infrastructure, or supply chain disruptions, are beginning to top corporate board and investor meeting agendas.

Major cities are also beginning to recognize that tomorrow’s threats can be diminished by strategic investments and sustainable thinking. Urban areas currently account for approximately 70% of energy-related greenhouse gas emissions and some 80% of economic output. By 2050, $35 trillion-worth of assets in port cities with over 1 million residents are anticipated to be at risk from coastal climate impacts.Yet, greenhouse gases won’t only affect coastal areas. A recent WHO study found that 12% of urban populations live in cities that do not meet safe air quality standards; over half live in urban areas where air is 2.5 times worse than WHO limits. To address these challenges, cities, some as economically and industrially influential as countries, have begun to secure themselves and form networks in lieu of national-level action.

In the fall of 2014, organizations like the C40 Cities Climate Leadership Group and International Council for Local Environmental Initiatives signed the Compact of Mayors, a UN-Habitat-supported initiative that falls outside international negotiations. This compact set up a platform for cities to pledge carbon and adaptation goals aside from national aims and builds a framework for monitoring standards for cooperation and investment. A key component of the initiative is enhancing data-collection and gathering emissions totals through a central registry. The framework also facilitates capacity-building for local governments to benchmark their progress and build community action plans. By doing so, cities hope to influence the talks in Paris, and regardless of the outcomes, get a jump on improving conditions while limiting costs.

A Work in Progress

Evidence that carbon reduction and adaptation strategies can benefit government priorities, national security, and social stability is emerging, but these linkages need continued focus. Even as the private sector and local governments lobby for global goals, they are but pieces of a larger, still unfinished puzzle. International actors need to know how, and by how much, their interests are dependent upon each other, proving that innovation, not repetition, is necessary.

A more effective strategy will require a new type of treaty. Creative public-private finance and bringing together urban, corporate, and national carbon pledges would be a step in the right direction. A non-binding UN authority could accept and monitor these pledges, uniting existing state and non-state frameworks, and thereby shepherding a diversity of efforts while pinpointing straggling entities. Effectively licensing green technology patents for the developing world, encouraging institutions to disclose climate risks for public and private investments, and setting standards for

settling international climate-based disputes through the International Court of Justice would also help. Such a treaty could even finance private and local government efforts more directly, bypassing bureaucracy and leveraging existing momentum instead of trying to create it from scratch. All of these reforms would chip away at institutional barriers in individual sectors, from commerce to law to the energy industry, without relying solely on influential but unreliable national statements.

Meeting ambitious goals will require a combination of state and non-state actors, and a willingness to bring diverse stakeholders to the table. As recent innovations in urban response and corporate investment have shown, the world's success with climate change will depend on making smart incremental advances, not swinging wildly for the fences. Just as climate change spans national borders and defies sectoral distinctions, so too must the rules that address it. Such integrated diplomacy demands this reasonable response—effective security, justice, and governance have now become all of our concerns.

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