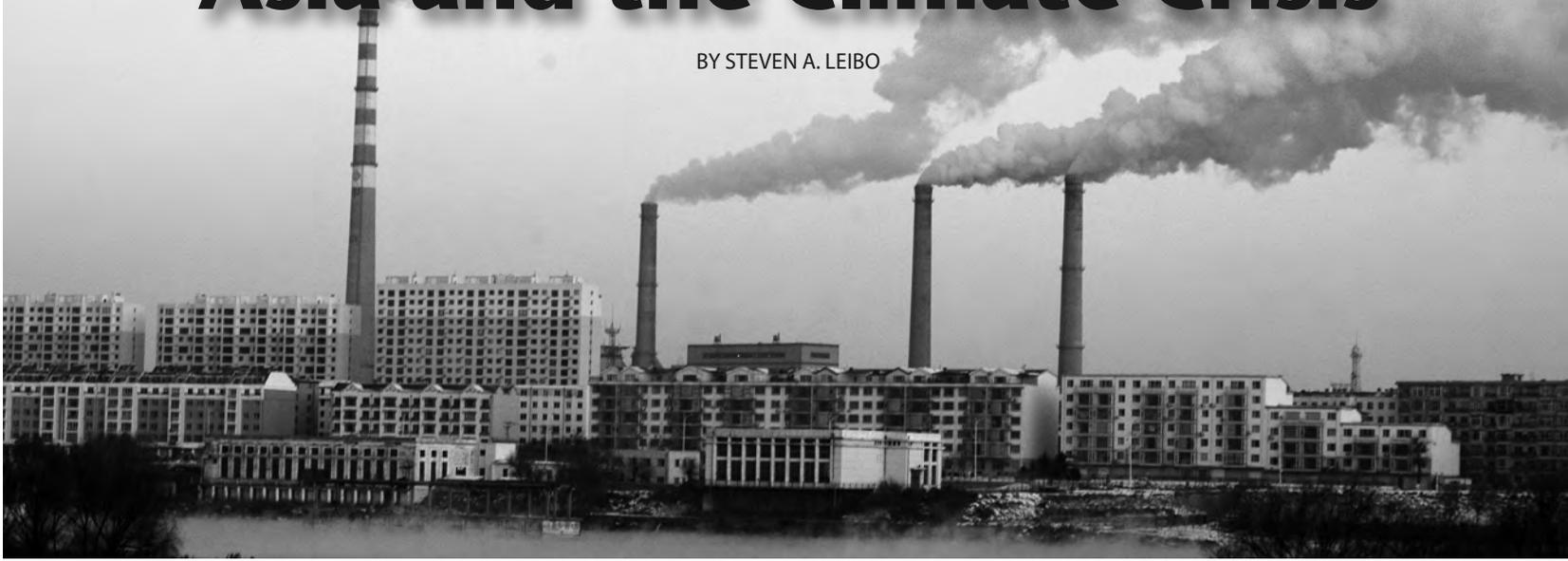


Asia and the Climate Crisis

BY STEVEN A. LEIBO



Smoke is seen emitting from chimneys at plants on the bank of Songhua River in Jilin City, northeast China's Jilin Province, November 2009. ©2010 Imaginechina.

If life were fair, Asia would not have to deal with the climate crisis at all. After all, its population per capita emits significantly less greenhouse enhancing gases like carbon dioxide than the Western countries. Moreover, despite recent growth, it has not been industrialized nearly as long as Western Europe and the United States. That reality is especially significant considering that what really matters with the longer lasting atmospheric gases is the cumulative impact of decades of industrialization. (Carbon dioxide can last over a hundred years in the atmosphere.)

Japan is the only Asian country with a relatively lengthy history of pumping carbon dioxide into the atmosphere. The US, in contrast to most Asian countries, itself long industrialized and physically enormous, is and remains the cumulative leader in humanity's unknowing and accidental disruption of the earth's heat balance and the subsequent dramatic build-up of planet-warming greenhouse gases.

The original approach to international climate negotiations that emerged as part of the 1972 Stockholm Earth Summit overtly recognized the historical differences in emissions by exempting developing nations like China and India from the effort. At that time, the approach certainly seemed to make sense. Then as now, the average Asian used significantly fewer fossil fuel-based energy sources, and their nations were still trying to catch up with the living standards of the West. It would not have been fair, nor were they likely to agree to retard their own development, simply because the West had already messed up the global atmospheric heat balance.¹

A Growing Sophistication of Knowledge

That initial approach came before a more sophisticated science of climate change had emerged. Since then one thing has become obvious: Asia had already become an important source of the problem long before China passed the US as the largest *annual* emitter of greenhouse gases, and even more recently, according to the International Energy Agency, emerged as the largest single national energy user on the planet.

Moreover, due to the massive amounts of carbon dioxide released when forests are destroyed, Indonesia's long history of burning their tropical forests had made them among the top three national emitters of greenhouse gases. The cumulative effect of the rising smoke of small cooking fires and the other fossil fuel-based exhausts throughout South Asia has

deposited massive amounts of what is known as black soot aerosols on the Tibetan glaciers. Often called "black carbon," many scientists believe this very dark material is facilitating Himalayan glacial melt by augmenting the mountains' heat absorbing properties rather than reflecting sunlight as ice usually does.²

Even more recently, as China and India opened their national economies successfully enough to enter the new technology-driven era of economic globalization, it has become abundantly clear that what happens in Asia is an essential factor in confronting climate change. Today an increasingly developed Asia represents one third of the global emissions of greenhouse gases.³ Still, no one seriously expects Asia to hold back its own economic development to confront a problem largely caused by Westerners. It has become obvious to regional national leaders that Asia's economic growth must be decoupled from future increases of greenhouse gas emissions. It is not just a question of Asia's growing responsibility for the problem. Asia's own development goals cannot be accomplished if the different nations of the region find themselves not advancing economically but simply trying to respond to changing global climatic circumstances that will find them particularly vulnerable.⁴

Asia's Special Vulnerability to Climate Change

Humanity may be upsetting the earth's heat balance and changing long familiar climate patterns globally. Nevertheless, that does not mean each region will be impacted equally. Some communities will probably experience relatively positive impacts while others a much more dire fate. Russia's vast and terribly cold northern Siberian plains would most likely be improved by a more general warming, while at the other end of the spectrum many South Pacific nations like Tuvalu will see their very existence threatened.⁵

Unfortunately, much of Asia is likely to fit into the category of the especially stressed regions as dramatic climate change continues to unfold. The immediate impacts of climate change have already begun in Asia, from the increasingly powerful storms hitting Southern China as well as South and Southeast Asia to the drying out of north central China. The vast Mongolian Gobi Desert's rapid expansion is significantly challenging the lives of farmers in both Mongolia and China.⁶ Within Indonesia over the last several years, farmers have been challenged by the nation's increasingly unpredictable

The plight of nations like the Republic of Maldives, an island nation in the Indian Ocean, has received significant international attention



The President of the Maldives, Mohamed Nasheed, holds an underwater cabinet meeting on the 350.org day of action, October 2009. Courtesy 350.org.

weather patterns that make it especially difficult to plan annual plantings.⁷ At the core of the climate crisis is that essential commodity—water. Some areas, like North Central China, have experienced droughts, while other parts of China are flooding. Overall, China has experienced periods of extreme rainfall at rates that have increased by a factor of seven since 1950.⁸

An especially dramatic and existential threat is the impact of rising waters on low-lying coastal regions. The plight of nations like the Republic of Maldives, an island nation in the Indian Ocean, has received significant international attention, especially since President Mohamed Nasheed's dramatic 2009 underwater cabinet session publicizing his nation's plight. Bangladesh is not quite as mortally threatened, but given how close to sea level much of the country is, it could lose an enormous percentage of its national territory.⁹ Meanwhile to Bangladesh's Southeast, Việt Nam has estimated that rising waters seriously threaten the Mekong Delta.¹⁰

Less dramatic is the impact of increasing salinization that is polluting the fresh waters that feed Việt Nam's economically important coastal mangroves.¹¹ The northern migration of largely incurable tropical diseases like Dengue Fever is becoming an increasingly big concern for some Southeast Asian populations that have not heretofore had to deal with the challenge.¹²

The heart of the climate crisis and the real root of the problem is rising heat. There the numbers are especially dramatic. Pakistan, for example, just broke the long-standing Pakistani record by measuring a temperature of 54°C (129°F) in May 2010. In the following months, Pakistan then experienced a series of horrendous rainfalls that inundated somewhere between one fifth and one quarter of the country and created millions of refugees.

For teachers of Asian civilization, the impact of climate change on China's famous Yellow River is particularly helpful pedagogically. Previous generations of teachers have told students of the massive floods that so often inundated the Chinese. In contrast, today's Yellow River, deeply impacted by human activities from the draining of regional ground water to the impact of global warming on the permafrost of the Tibetan Plateau of its origins, often does not even reach the ocean to disgorge its once mighty flow.¹³ Mean-

while in South Asia, climate refugees have emerged as glacial melt has forced some farmers to relocate because their traditional glacial-based water supplies have diminished.¹⁴

Long Term Impact

The long-term impact of the climate crisis is much more problematic and potentially explosive. The core of the challenge for many mainland Asians is that the glaciers of the Plateau of Tibet supply water for forty percent of the people of the world. As is well known, a controversy developed last year over an erroneous quote buried in some of the non peer-reviewed media reports that carelessly ended up in one of the Intergovernmental Panel on Climate Change (IPCC) documents about those glaciers melting by 2035. It was an error that turned out to be more about the IPCC's final proofing processes than anything significant to the actual findings. Nevertheless, the controversy, like so many of the assaults against climate science, masked the reality of the threat; something very dramatic is happening in the Himalayan glacial area. In fact, India's minister of the environment, Jairam

Ramesh, makes it very clear that he and his government are "very concerned" about the apparent retreat of the majority of the Himalayan glaciers. Ramesh also explains that his government is taking proactive steps to understand more about the impact of global warming on the Himalayan glaciers.¹⁵

For reasons that are not altogether clear, the temperatures in the Himalayan glacial region are heating faster than the world's average. Such melting will initially release significantly more water and then trickle away. Or, As Zheng Guoguang, head of the China Meteorological Bureau recently put it: "If the warming continues, millions of people in western China will face floods in the short term and drought in the long run."¹⁶

Under such circumstances, long term geo-political tensions are likely. The world's military leaders began long ago to plan for the geo-political implications of climate change.¹⁷ It is particularly significant that India, Pakistan's long-term rival, controls the headwaters of the rivers necessary to Pakistan's survival. China, of course, could potentially divert water from the Plateau of Tibet for its own needs.¹⁸ The nations of the lower Mekong of Southeast Asia are currently working together to deal with the river's resources. China is not involved, yet controls the headwaters of the Mekong, and given its recent dam building is increasingly able to control those vital water resources needed by its Southeast Asian neighbors.¹⁹

Asia Confronts the Climate Crisis

It is certainly easy enough to find those in Asia who, as in the West, deny the findings of climate scientists, but Asia was not generally subjected to the paid lobbying efforts by fossil fuel industries to confuse the public about the threat of climate change.²⁰ Residents of the region have had their own reasons to resist the changes that dealing with this challenge requires. Regionally based resistance has been more likely to focus on the equally familiar arguments about the short-term economic costs of confronting the challenge or the mini-tempest over whether the Indian government should rely on Western scientists or rely on their own experts to judge developments in the Himalayan glacial region.²¹

What Is Being Done?

Not surprisingly, most commentators focus on China's terrible environmental record and its prolific carbon dioxide emissions. The fact that China enthusiastically continues to open new coal burning plants is, of course, regularly cited in the media. The reality is that for decades Chinese leaders tended to dismiss the issue of anthropogenic climate change almost entirely. In addition, even if they understood the science of the climate crisis, it was assumed to be a problem created by the West. The central government's priority was growth, and if lip service needed to be paid to the growing pollution danger, the assumption was that China would clean up its environmental act, just as the West did, after its core development had been accomplished. Moreover, the reticence of the then world's leading greenhouse gas producer, the United States, to accomplish something truly transformative gave China "cover" to do less than it might otherwise have done.

Those days are fast ending though. In the last several years, China has shut down more than a thousand older coal plants and is increasingly forcing regional authorities to shutter inefficient factories. Impressively, even as the US continues to fight over the imposition of some sort of carbon trading system to facilitate a move toward a greener energy infrastructure, Beijing's leaders announced in the summer of 2010 that such a plan, focused on the coal industry, would be included in its upcoming twelfth five-year plan that begins this year.²² There is even talk of extending the carbon-trading plan to work cooperatively with California.²³

Moreover, China—the nation that once largely ignored environmental issues—has issued dramatically enhanced vehicle emissions standards and become a major player in the world's production of wind and other types of green energy. Indeed China's wind energy capacity increased from 760 megawatts in 2004 to over 20,000 in 2009 as the nation became the third largest wind power market in the world.²⁴

What is happening in China is what some have hoped for in the United States—the linking of environmental and economic concerns into the goal of invigorating the economy and generating new jobs through a massive green energy revolution of the sort that once stimulated the fossil fuel-driven industrial revolution of another age.

The giant Asian nations are not the only countries that have played significant roles. The Maldives, for example, has seen their president, Mohamed Nasheed, emerge as a world leader as his government announced the goal of making the nation carbon neutral by 2020. Leaders of larger Asian countries have also stepped forward. Japan's Democratic Party of Japan, which came into power in 2009, proclaimed an especially ambitious agenda to reduce carbon emissions. Susilo Bambang Yudhoyono, President of Indonesia, personally took part in the sym-



Solar and wind energy in use in Taiwan. Courtesy of the Republic of Taiwan.

bolic planting of a million new trees, an effort he referred to as a gift to the international community on the eve of the 2007 Bali Conference. Under his leadership, Indonesia has been especially involved in this struggle.

Popular Activism

It is not just Asian national governments that are slowly coming around to the threat of climate change. Increasingly, Asian communities are taking up the matter for themselves. These activities have included indigenous movements, and as part of Asia's global integration, deepening links to Western international organizations. Within China, for example, the China Youth Climate Action Network was formed in August 2007 with the goal of taking on global warming.²⁵ Meanwhile, former US Vice President Al Gore, America's domestically controversial, but internationally acclaimed and re-



Global Warming: The Basics

Although global climate change is an extraordinarily multifaceted and complicated topic, the basic premise of "global warming" is simple. Earth's energy comes from the sun in the form of electromagnetic radiation and exits the earth in the form of infrared radiation, or heat energy. Apart from the greenhouse effect, this heat energy is not enough to maintain a temperature that is conducive to life on earth as we know it. If the immediate flow of the sun's energy were the only source of heat, our planet would on average be around zero degrees Fahrenheit (-18°Celsius). The greenhouse effect, powered by the earth's greenhouse gases, slows the rate of heat loss, thereby making earth warmer than it would be otherwise. These gases, discovered almost two centuries ago, developed naturally over the eons but are now being augmented by humanity's burning of fossil fuels. The vast majority of scientists believe that this enhanced greenhouse effect is contributing to global warming and global climate change.



Kashmir 350 day of action. Courtesy of Bill McKibben.

On October 24, 2009, Bill McKibben and the 350.org organization—dedicated to getting the amount of carbon dioxide parts per million (ppm) down to a safer 350 ppm in the atmosphere—put on what CNN called the most widespread day of political action in history.

spected Nobel Laureate climate activist, has trained hundreds of Asians, from China to India, from Indonesia to the Philippines, to give updated versions of the presentation he gave in the Academy Award winning documentary *An Inconvenient Truth*. Additionally, on October 24, 2009, Bill McKibben and the 350.org organization—dedicated to getting the amount of carbon dioxide parts per million (ppm) down to a safer 350 ppm in the atmosphere—put on what CNN called the most widespread day of political action in history, including hundreds of separate events in India and China.²⁶ That effort was then followed up throughout Asia by a similar series of climate actions organized by 350.org on October 10, 2010.

Indeed, several prominent Asians have become world leaders in the effort to deal with the challenge. Examples include India's Dr. Rajendra K. Pachauri, who leads both The Energy and Resources Institute (TERI) in New Delhi and chairs the United Nation's International Panel on Climate Change, as well as Ban Ki Moon, the Former South Korean Foreign Minister and today's United Nations Secretary General.

Perhaps most importantly, within Asia and especially in China, there is a growing belief that confronting the challenge of climate change is not an impediment to future economic growth, but rather it is a principal part of the effort to push their countries deeper into the new economies of the twenty-first century. Clearly, the days when what happened in India or China were largely irrelevant to global developments are long gone; in dealing with today's climate crisis that is now more true than ever. ■

NOTES

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