China’s Crisis is America’s Crisis: Common but Differentiated Responsibilities for the Pacific Rim Environment
by Pamela Nagashima, M.A.

In recognition of China’s unprecedented growth and its important role in the global dynamic, and in commemoration of the 20th Anniversary of our founding, the USF Center for the Pacific Rim and its Ricci Institute will publish a series of Pacific Rim Reports in the 2007-08 academic year with a China focus. These reports are intended to enrich our understanding of China’s history and culture and of its relation to the West and to the Pacific Rim as that great nation continues to undergo significant social, economic, and environmental transformations.

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The rush of various Asian countries to experience an ‘economic miracle’ has come with environmental costs. China, currently enjoying its economic miracle with unprecedented economic growth, is also undergoing an environmental crisis that is only one of many worldwide that constitute a shared global and regional exigency. Because of China’s size the scale of these environmental costs—as with many other issues—is remarkable. Pollution produced in China, at levels where it is already killing people there, has reached and crossed the borders of the U.S. and other Pacific Rim countries. Yet any viable, sustainable solution will have to be met by employing models that do not threaten the Chinese economy and its engagement with international players. Multinationals that operate in China, either as manufacturers or as packagers for export, have contributed to the pollution. And now some of those parties are experiencing the effects of that pollution on their native soil. The United States is one of the countries that has a vital interest both in Chinese economic activity and in the pollution whose production America now shares. The U.S. also has resources, ideas, and experienced individuals who can contribute to solving the problem. What neither party has is time to waste before collaborative solutions are found. The project manager for China at the U.S. Environmental Protection Agency, Lida Tan, says, “This is a golden opportunity for the world to say: This is what we have learned. We share this with you.”[1]

China’s Environmental Issues in a Broader Context

Environmental pollution is emanating from and spreading to all parts of the Pacific Rim. Greenhouse gas emitters in this region are among the world’s largest, including the United States, which alone produces one quarter of the world’s emissions. Industrial pollution is poisoning the waters of the Pacific Ocean and global warming is melting the ice caps. Ships carry pollution wherever they go and especially where they dock, including large ports on the western coasts of the United States and Canada. Shipping-related ground traffic pollution and automobile emissions everywhere around the Pacific region have increased as car (not to mention SUV) ownership has increased. And on top of this, thousands of tons of South Korean, Japanese, and Taiwanese (and U.S. and Canadian) spent nuclear fuel have to be disposed of. Russia, with its long Pacific coastline, is currently embroiled in domestic environmental campaigns over the location of its oil and gas pipelines.

When pollution is referred to as being ‘Chinese’, it must be remembered that China’s polluters include state owned enterprises, town and
village enterprises, and multinational corporations; (some 60 percent of the country’s exports are controlled by foreign companies.)[2] The forces pushing back include the national government, NGOs, the pressures of societal repercussions, and the transparency forced by modern communication technologies such as cell phones and the internet. Although China’s environment is suffering in many aspects, a look at the air and the water alone reveal emergency enough.

The Air
In her 2004 book, The River Runs Black: The Environmental Challenge to China’s Future, Elizabeth Economy, director of Asia studies at the Council on Foreign Relations, writes about “alarmingly high” death tolls in Asia from air pollution and gives an impressive, almost daunting, overview of the facts and the players in China’s environmental crisis.[3]

And Asian air turns out to be a problem for people who are not even living in Asia. An upper atmosphere ‘smog conveyor belt’ carries pollution on the wind from Asia to the west coast of North America and beyond throughout the year. Although levels vary according to season, the U.S. Environmental Protection Agency claims that on given days, 25% of the particulate over Los Angeles came from China.[4]

“We’re a small world. We’re breathing each other’s effluent,” says Tom Cahill of UC Davis where he is professor emeritus of physics and atmospheric sciences and a research professor in applied science.[5] The Los Angeles Times reported that in 2002, one-third of the mercury released in the United States came from fossil-fuel burning in Asia. Pesticides banned in the U.S., industrial pollutants from farms and factories, and dust from desertification due to drought, deforestation, overgrazing, and intensive cultivation are also included in the mix that travels from China across the Pacific Ocean.[6]

While the United States is still the world’s largest producer of greenhouse gas emissions, China is expected to catch up as its economic activity continues to grow,[7] doubling (at least) the U.S. contribution and everyone’s bad news. Long term studies take time and then must be written up and published. Their official results lag behind current truths, therefore, and the air traveling across the Pacific Ocean is likely to be even more polluted than the most recent figures show. Although U.S. President George Bush stated in 2006 that “we need to set aside whether or not greenhouse gases have been caused by mankind or because of natural effects and focus on the technologies that will enable us to live better lives and at the same time protect the environment,”[8] knowing which—and where—greenhouse gases are being produced leads us rather more directly to solutions for reducing those gases than not knowing or not caring.

Researchers on both sides of the Pacific have been using satellites, aircraft, ships, land-based sensors, and computer models for years to track the trans-Pacific pollution plume.[9] Richard A. VanCuren of the California Air Resources Board studied sites at Crater Lake, Oregon, and Mount Lassen, California, for pollutants with an “Asian dust signature” over the 10-year period between 1989 and 1999. He observed that “the dusty Asian continental aerosol plume is a regular component of the troposphere over western North America with a relatively stable chemical composition (that is, it is statistically separable from other sources)” and concluded that the data “indicate that the Asian continental aerosol plume is a prominent feature of the midlatitude troposphere over North America, and that it has a largely anthropogenic origin.”[10]

What is this ‘signature’, and how can anyone know for certain that it is Asian in origin? VanCuren allows that when he started his research, other observers were “skeptical (even a little hostile)” and that, indeed, “Urban and industrial pollution is much the same worldwide, so how can we tell where it comes from?” He says that over 10 years of study, consistent patterns have emerged from monitoring sites that have a “distinctive chemical signature,” but that the analysis works only in remote places like the ones in his 2003 study.

“Even at that,” VanCuren goes on to say, “I may have allocated a small amount of material to Asia that actually comes from Europe but arrived via China, and thus was mixed with Chinese dust. The other approach to the problem is to run a transport model that simulates global air circulation, but then the problems are how much confidence can be put in the model, and are the inputs (especially Asian emissions) correct? In the long run, results from my work, models and source data all need to converge to give us confidence that we have it ‘right’… Continued work by me and others has shown that the Asian material is indeed a common visitor.”[11]

More recently, in 2001, Cahill and colleagues from The DELTA Group (for Detection and Evaluation of the Long-Range Transport of Aerosols) participated in a project called ACE-Asia (Aerosol Characterization Experiment-Asia) along with other research institutions in the U.S. as well as in Asia (including other countries besides China) and Australia. For six weeks in April and May of that year samples were gathered for detailed analysis, their work luckily coinciding with a mid-April dust storm “so heavily laden, it was visible from California to the Great Lakes and triggered volcanic-ash sensors in Alaska.”[12] Dust storms are frequent spring events in Asia due to the combination of the above-mentioned weather patterns and human activities such as cultivation practices and, increasingly, desertification and deforestation. “Dust serves as a carrier for pollution-derived species,” the group’s published findings concluded, adding that this large international field experiment “yielded physical, chemical, and radioactive properties of the abundant aerosols originating from Asia.”[13]

The greatest cause of air pollution coming from China is the burning of coal. Negative superlatives abound when reporting the amounts of coal mined and burned, the pollution produced, and the effects on the landscape and human health. The New York Times reported in 2006 that the use of coal as an energy source in China will cause an increase in global warming gases that will “probably exceed that for all industrialized countries combined over the next 25 years.”[14] The immediate question for countries outside of China is what they can do to alleviate the problem. More modern equipment is the short answer and, as the Times reports, that such equipment “for the time being must come from other nations.”[15] The longer answer would include introduction of alternative energy and more modern technology practices across the board; other nations can play a part there, too. Other important actors include government, NGOs, and industry—in all cases, both Chinese and international.
In atmospheric science, as in a debate, there is a difference between heat and light. In addition to global warming the phenomenon of ‘global dimming’ must also be considered. The pollution particles that travel on the cloud paths around the globe block sunlight by causing a mirror effect that reflects sunlight before it can reach the planet. On the face of things it would seem that while the reduction in sunlight and its benefits to life is a bad thing, the cooling effect of this phenomenon is a neutralizing balance to the warming effects of increased, man-made greenhouse gases. But this effect may not be so welcome. A Nova television production in April 2006 titled “Dimming the Sun” suggests that global dimming may be “masking” the true effects of global warming, causing less concern about the latter and prolonging recognition of the dilemma we face. Worse, if the pollution particles are reduced but the greenhouse gases are not, the canceling effect will end and greater warming will be unleashed faster. Pick your poison. Or maybe there are not necessarily opposing outcomes to choose from; the ACE-Asia findings mention that “studies of aerosol effects on the earth’s energy budget usually consider only the cooling effects at short (solar) wavelengths, but our studies demonstrate that they also have an important warming effect at thermal infrared wavelengths.”

The Water

The air and the waters act in concert, and the waters are troubled. If rivers run to the sea, then the countries around the ocean that defines the Pacific Rim will want to be aware of what is happening to the rivers of China.

On November 13, 2005 100 tons of benzene spilled into the Songhua River from a chemical plant. A 50-mile slick of the cancer-causing substance began to float up the river toward the city of Harbin, where the government had no choice but to acknowledge the crisis on state television and cut running water to the almost four million people of the city. The former was, possibly, more remarkable than the latter. Schools were closed, hospitals were put on standby, bottled water and other beverages were hoarded, and “the airport and railroad stations were reported to be jammed as residents tried to leave.” The chemical plant explosion that had caused the spill had already killed five people in the event and forced 10,000 others to evacuate. Days later, the benzene slick reached the river town of Dalianhe, and their water was cut off too. By the end of the month, the chief of China’s State Environmental Protection Agency (SEPA), Xie Zhenhua, had resigned over the incident.

As November turned to December, Russians over the border, where the river’s name changes to the Amur, were “angrily preparing for the toxic slick.” They began buying up bottled water and filling buckets and bath tubs as the river began its winter freeze. Later, when the spring thaw began, Zhou Shengxian, who replaced Xie at SEPA after the latter resigned, observed that Russian and Chinese experts had independently concluded that the thaw would not cause further pollution and declared fish and milk products from the region safe to eat.

Elizabeth Economy writes in her book that over 70 percent of the water in five of the country’s seven major river systems is “not suitable for human contact.” The Songhua River is one of those troubled five, along with the Huai, Hai, Yellow, and Liao. Zhou told the BBC that there are a total of 21,000 chemical factories located on rivers or coastline in China (more than half of them on either the Yangtze or the Yellow Rivers) and that more than 100 of them posed safety threats, but assured the BBC that “the plants identified as unsafe were being investigated, and the findings would be published.”

By spring 2006 Chinese state media was reporting that the Yellow River delta was “the cleanest in years” due to environmental protection efforts and increased rainfall improving the water flow and contributing “significantly to the local eco-system revival.” Auditors revealed, however, that during the same period local governments had spent hundreds of millions of dollars allocated for a water treatment fund on other projects and purchases such as buildings and cars.

Wen Bo, a founder of the China Green Student Forum and a Beijing-based consultant to Pacific Environment in San Francisco, told the Los Angeles Times in the wake of the Songhua incident:

“The governor can make a symbolic gesture by drinking the tap water. I’m sure he won’t drink it when he goes home. He can afford to buy mineral water. But ordinary people, especially the rural poor, they depend on the river to irrigate the fields and feed the cattle. Their lives will be impacted the most.”

SEPA’s vice minister, Zhu Guangyao, has complained that many polluting industries have strong links to local governments, making officials reluctant to enforce environmental laws. Although local governments and officials often do have economic interests in booming local industry, there may be another dynamics to environmental incidents in China. They present an opportunity for the central government to transfer blame and shame downwards to the local governments that have headline-making disasters in their jurisdictions. The Daily Telegraph points out that China’s relatively new president, Hu Jintao, (who took office in 2002) is “still struggling to establish his authority over independent-minded provincial leaders” and that “he may use their failure to act openly, particularly over environmental problems, as leverage…Many owe their loyalty to his predecessor and rival, Jiang Zemin.” Indeed, Wen Bo is critical of officials on the national level as well: “Everyone at SEPA talks green—that is their business—but unless the economic sector takes the initiative to make growth ecologically viable, then this talk is meaningless. These disasters will continue and will get worse.”

The business sector has incentives to take that initiative. “The real story remains largely untold,” wrote Economy, this time in Time Asia, shortly after the benzene spill. In addition to the hundreds of millions of people in China who drink contaminated water every day, she reports:

“All along China’s most polluted rivers—where factories dump their waste and sewage directly into the waterways and their tributaries—towns and villages record startling rates of cancer, stunted growth, diminished IQs and miscarriages. The economic costs are staggering, too…perhaps, the end of the Chinese economic miracle.”
Economy believes that economic growth is threatened by what is happening to water resources not only in China but throughout the Asia Pacific region.[32] The environmental issues concerning the Pacific Ocean do not belong discretely to particular countries around its rim but to all who share the body of water as commons: “The seas are not seven but one,” Julia Whitty writes in a *Mother Jones* special report, “The Last Days of the Ocean.”

According to this report, an ocean conveyor belt winds through all of the earth’s ocean basins carrying warm upper waters and cooled lower waters, regulating the climate. Not incidentally, this belt is moving polluted water from one part of the world to the others, similar to the particle winds that carry air pollution between countries.[33] In addition to these conditions and the evidence that the ocean is also warming, there are other international consequences evident from fishing practices (the Bering Sea is responsible for 50 percent of fish exports to the United States).[34] Mercury from the coal and chlorine industries is present in fish. The number and size of so-called ‘dead zones’ (such as the one off Oregon’s coast that has quadrupled in size since it first appeared on 2002)[35]—where oceanic oxygen is depleted below the level necessary to sustain marine life—has increased as a result of chemical fertilizer run-off or of climate change, and there is collateral damage from all of the above to living things in and on the ocean.[36]

Another way that shared waterways are conducting pollution around the Pacific Rim is by boat. The *Vancouver Sun* found that by 2002, the hazards posed by ship emissions had been well documented for years and reported, “Ship emissions are considered by European and U.S. authorities to be a major global problem that rivals land-based air pollution sources of nitrogen and acid-rain-causing sulfur.”[37] Authorities cited in the article include Environment Canada, the U.S. Environmental Protection Agency, the Bluewater Network (based in San Francisco), the Greater Vancouver regional district, the South Coast Air Quality Management District of California, the International Marine Organization, the European Commission, the Puget Sound Clean Air Agency, and officials (named and otherwise) from the ports of Vancouver, Seattle, Los Angeles and Long Beach. According to the same article, “U.S. studies have identified the west coast of North America—including Greater Vancouver—as one of the world’s worst ship-caused pollution zones, with ships in the North Pacific pumping out as much nitrogen as half of all ground-based sources in North America.”[38]

A liquefied natural gas (LNG) terminal off the coast of Tijuana, recently approved by the Mexican government, would create another kind of environmental port hazard for the west coast, as discussed in *Pacific Rim Report* No. 38.[39] Plans to use super-cooled and condensed natural gas transported on ships are underway in China, Russia, and Japan, and terminals for shipments of LNG have been proposed for locations on the west coast from Mexico to Oregon. A letter from 20 California environmental groups to Governor Arnold Schwarzenegger in 2006 strongly reiterated those groups' position that the state should remain free of any such terminals pending “a thorough and transparent assessment of the impacts of LNG on our climate, our environment, the safety of our coastal communities, and our economy.”[40]

Compounding the problems that come in on ships are the concentrated levels of diesel particulate emissions from the other forms of transportation—trains, trucks, and loading vehicles—that terminate at and concentrate around the great ports. Diesel particulates have been identified as particularly harmful to human health.

“There is a major debate going on in the state on the relationship between economic traffic from China, Goods Movement in the state and its relation to air pollution and related health effects” says John Froines, of UCLA, speaking of California.[41] Froines, professor of environmental health sciences at the UCLA School of Public Health and director of the UCLA Center for Occupational and Environmental Health, is also director of the Southern California Particle Center, a seven-year-old investigative project that won a five-year grant in 2005 from the Environmental Protection Agency to study the health impacts of airborne particulates “from a variety of sources” in the Los Angeles Basin.[42] At a UC Berkeley symposium on occupational and environmental health, shortly before the grant was awarded, Froines commented, “We are being dramatically impacted in California by China’s economic activity.”[43]

Finally, when discussing the Pacific Ocean and the interests of all the countries that share its perimeter as a commons, it should be noted that located at the top and the bottom of any map of the Pacific Rim are the polar ice caps. For now, at any rate.[44] After the polar regions, the largest ice area in the world is the Tibetan glacier plateau, which is melting at a pace that will reduce it by 50% in each decade that this pace continues. The Chinese Academy of Sciences, which reported the melting, also predicts increased desertification as a result of the disruption this will cause to the water supplies of Asia’s largest rivers including not only the Yangtze and Yellow, but the Ganges, the Brahmaputra, and the Mekong.[45] Jared Diamond, author and UCLA professor, maintains that on a global scale “water is a time bomb set to go off within decades, not centuries.”[46]

**Where Health, Politics, and Economics Intersect**

Whatever part of China’s air and water pollution does reach the west coast of the U.S. is only a fraction of what the Chinese people themselves are breathing and drinking. With the 2008 Olympics coming to Beijing, concerted efforts are planned to clear the air for the visiting athletes and visitors, and these efforts outline the scope of the problem. Car use will be significantly restricted and building sites and factories closed for the duration of the festivities. Clouds will be seeded to dampen down particulate and roads will be sprayed to prevent dust.[47] The Xinhua news agency reported some early successful dry runs at making rain for this purpose in the spring of 2006, although U.S. sources noted that “whether cloud-seeding actually works has been the subject of debate in the scientific community.”[48]

The problem for China, as it has been for developing (and developed) nations throughout history, is how much of this environmental abuse the country can bear in its quest to attain a certain level of economic success. That is, is it taken as a given that economic success in China cannot be attained by means that do not pollute? Other nations have suffered an environmental price for rapid gains in industrialization and
modernization.’ The United States, which continues to be the greatest contributor to the greenhouse gas problem it helped to create, can hardly hide behind the ‘catch up’ argument that is used by some developing countries to explain why they should not have to comply with various trade or environmental initiatives. But then, who can? China, still wanting to be regarded as a ‘developing country’, is nonetheless a source of investment and economic growth in other developing countries in Africa, Southeast Asia, and Latin America and has been accused of lax environmental practices and exploitation of resources in those places. In any case, economic success can be thwarted by factors other than environmental protection laws. Two such factors would be the passive resistance of the populace to participation in the economic march forward due to environmental deterioration, or their downright rebellion against such ‘progress’.

A factory owner interviewed by the BBC in 2005 mentioned a trend in migrant workers (that is, from one part of China to another) staying away and creating local labor shortages of up to two million workers. Many such workers are women and/or are from rural areas, and their demonstrated health problems have become a well-known cost for China’s economic miracle. Inadequate protection against toxic materials is compounded by inadequate compensation—when a health problem can be proved. The frustrations of trying to bring the weight of legal judgment to bear are highlighted by cases where actual worker death has taken place. “Although China has very strict laws about obligations of employers to protect their workers in dangerous environments,” the BBC reports, “more than 100,000 people a year are estimated to die in work related accidents. Very few cases are brought against employers successfully.”

As individual workers have begun to push back at industrial polluters, so have whole villages. But a village does not have the option to refuse an enterprise that has chosen them as a site. Social uprisings, such as the 74,000 protests recorded by the government in 2004, have resulted from a cluster of causes related to the economic boom, but environmental issues are a large and sticky part of the cluster. Plans for a coal-fired generator in the village of Dongzhou led to a protest in December 2005, ending in the reported deaths of at least 20 people at the hands of paramilitary police using live ammunition and blocking off all access roads in the largest known use of armed force against civilians in China since Tiananmen. Villagers claim they were attacked without provocation while police claimed they were hit first by homemade bombs.

The incident came within six months of another when a group of villagers, who make their living mostly from fishing and who feared the environmental repercussions of the plant, were delegated to complain to authorities and then were arrested for their efforts. Although this incident was not reported in the state media, the New York Times wrote, “Like the Dongzhou incident itself, most of the thousands of riots and public disturbances recorded in China this year have involved environmental property rights and land use issues.” One month later the paper reported the death of a 13-year-old girl killed by security forces after a week of land-use protests in Panlong, a village described as surrounded by “the most heavily industrialized land anywhere.” The police involved in the incident claimed that the girl had died of a heart attack.

Villagers who try to sue factory owners for health damages have, if anything, a harder time than individual factory workers. In a 2005 report by Agence France Presse about China’s “cancer villages,” Xu Kezhu of the China Politics and Law University’s Environmental Pollution Victim Support Center said that her center alone was dealing with 70 cases of villagers trying to sue for compensation from polluting factories in the wake of cancer diagnoses, and she had no statistics on how many total cases there were in the country. Cancer rates in the two villages profiled for the article were way above the national average, and factory owners and wealthier residents have moved away leaving only those too poor to do anything but stay and continue to drink the water.

As the incidents recounted here highlight, problems with assessing and addressing the scope of the environmental crisis in China are related to problems with the free flow of information there. The EPA’s Tan believes that the proliferation of cell phones and the internet will force transparency, marveling at how she was seeing photos of the Songhua River explosion on the internet within four hours of its happening. But the Chinese government has had the same insight.

Beginning with the traditional media, a new “Law on Response to Contingencies,” proposed in 2006, is aimed at fining journalists who do not get proper governmental approval for reporting news of “natural disasters, outbreaks of disease, riots, and other ‘sudden events’ or ‘contingencies.’” While the law was still in draft form before the legislature, one minister, Wang Yongqing, told the New York Times he thought it should apply to foreign news organizations that have heretofore been operating under different rules than local Chinese media.

Wang cited, as an example of what the law is intended to punish, an incident when reporters accepted bribes to cover up the full scale of a coal mining disaster. In the view of the Times, however, “A far more common problem is local government officials seeking to restrict news coverage for fear that social unrest may spread or that they might lose face with their superiors. Under the new law, those same local officials would be the ones to decide if fines on the news media were warranted.”

However, news travels fast in other ways. “China’s population of internet users, already the world’s second-largest after the U.S., has jumped by nearly 20 percent over the past year to 123 million, with broadband access soaring,” the government announced in summer 2006. The internet is subject to the same scrutiny by the government that other media have come under, particularly where the dissemination of information about environmentally linked disasters and protests is concerned. After the Dongzhou protests, the New York Times reported that web users trying to find information about the incident through search engines found nothing at first and, if they kept trying, found their browsers freezing, which “spurred a lively commentary among China’s fast-growing blogging community.”

It is difficult to say whether even the central Chinese government can marshal the power to affect how a computer treats its user, but in April 2006 the New York Times ran a story titled “Google’s China Problem (And China’s Google Problem),” which examined claims that Google has complied with the government’s directives to purge search results on banned topics. “Google wasn’t the only American high-tech company...
to run aground in China in recent months,” the article explains, “nor was it the worst offender. But Google’s executives were supposed to be cut from a different cloth.”[61]

Where government pressure cannot be brought to bear, as is the case inside China’s geopolitical boundaries, the actual fiber-optic wires bringing information into the country are required by the Chinese government to have specially configured router switches so as to block entry of designated content. Cisco Systems, an American company, makes some of the routers used for this purpose.[62]

Yahoo, which entered China earlier than Google, learned a number of things the hard way and, by the time their share percentage of the Chinese internet search engine market had fallen to single digits, they purchased 40 percent of a Chinese company called Alibaba and gave it complete control of all of Yahoo’s services in China.[63] In a lengthy interview with the San Francisco Chronicle, Alibaba’s president, Jack Ma, says, “Of course, some things should be blocked.” He delineates national security items, terrorists, and “criminals or people cheating on the internet” as examples and then goes on to play the cultural differences card:

“Consider freedom of speech. The education system in the U.S. teaches all the kids to protect freedoms. We are not educated in that system. You suddenly tell people ‘You’re free,’ and the whole country will be bad. We are educated in a different way.”[64]

Whatever one’s nationality, framing China’s environmental situation first and foremost as a global health crisis does not over-simplify the problem or work around the other issues involved. Even a problem as definitively critical as the AIDS pandemic has been not only a health crisis but an ethics crisis, a political crisis, a social stability crisis, and an economic crisis. The history of the AIDS crisis from its beginnings to date, with all of its progress and its setbacks, has involved all these facets. In the case of environmental crises, privileging human health over economics and nationalism would be an important first step. It might help that wealth and geographical positioning are not protections against the problems of air and water pollution. Unlike with AIDS, there are no personal practices that can move you from a high risk to a low risk group.

The problem is also America’s for reasons beyond the shared health crisis. The growth of the Chinese economy is tied to the U.S. economy not only through the provision of very cheap goods made there for the U.S. market, but through Chinese investment of most of their excess cash in U.S. government bonds. A decision to stop lending (or the inability to do so) would affect the price of the dollar on a global basis, not least for purchase of low-cost Chinese goods. A decision such as that would lead to hardship for the Chinese as well, and so the interdependency of the two countries maintains a certain equilibrium.[65] But an inability to keep going, caused by serious health problems in the population or the collapse of current industry or social unrest—or all of these—would be a development outside of anyone’s control. And there are unintended consequences enough when economic moves are made out of intentional policy.

The United States has not ratified the Kyoto Protocol, the goal of which is reduction of six specified greenhouse gases using national targets for its 163 members. China ratified the treaty, but is exempted under current provisions from reducing carbon emissions. Both countries are part of the Asia Pacific Partnership, or AP6, a voluntary treaty signed by six Asia-Pacific countries (Australia, China, India, Japan, South Korea and the United States) which has no mandatory goals that must be met or enforced. Treaties, like laws, are only as good as their implementation and enforcement. In the meantime, the U.S., China, and other concerned countries might consider addressing what the United Nations Framework on Climate Change calls their “common but differentiated responsibilities” through other means.[66]

Working Toward Solutions

At least one U.S. government agency has already begun to act. In 2003 The United States Environmental Protection Agency, Region 9, which covers Arizona, California, Hawaii, Nevada, the Pacific Islands and Tribal Nations, signed a formal agreement with China’s SEPA to share tactics with China that have worked for the EPA’s own Superfund projects. EPA China Coordinator Lida Tan suggested the project to her managers where she was already working, in the EPA’S San Francisco office, after reading The River Runs Black. “It broke my heart,” says the China-born Tan, a former student of biomedical engineering. “Because of my roots, the connection with China, I am very passionate about doing this. You look at all these things. It’s impossible. It’s overwhelming. Where are you going to start? I say, I have to take one step at a time.”

Since setting up her team, Tan has met with Chinese delegations to introduce them to what she calls “frameworks,” sets of very practical projects that fit into an overall strategy to deal with specific environmental challenges such as clean up of PCBs, emergency response, community right-to-know, and making enforcement a component of any program. “EPA’s part is to give them our approach,” Tan explains. She believes there are good reasons that “Region 9 takes the lead on China.” Geographical proximity is one, cultural affinity due to the large local Asian population is another. Tan feels the delegations who visit the San Francisco offices of the EPA find it physically convenient and psychologically comfortable.

“When we talk about policy and how to introduce ideas,” Tan cautions, “especially in sensitive areas like public outreach, human rights and potential health risks, we must ask: What does ‘risk’ mean to us and what does ‘risk’ mean to them? It’s different. We have to admit that not everyone is going to adopt our standards for risk and what level is safe. They are going to decide on their own. We can only teach them what our criteria are. You really need to be sensitive.”

She feels, however, that the Chinese leadership is open and that “China is a very powerful country” if its central government sets its collective mind to doing something about the situation. She has seen progress on some of the projects already underway after consultation with her team. “The Songhua River [incident],” she noted, which happened two weeks after a delegation’s visit to the Region 9 offices, “has brought emergency response to the top of their priorities.” Tan goes on,
"As the public becomes more aware, as more disasters happen, California, other countries, will get more active. Korea and Japan will be more affected by the pollution. You will have more and more international pressure, and the government is going to have to respond. That's one positive thing about globalization."

“China is the manufacturer to the world,” Tan says, pointing to the USEPA lapel pin she was wearing. (She noted with humor that the pins, which were made in China, were handed out to members of a recent Chinese delegation visiting her San Francisco office.) Although she has asked SEPA for figures on how many multinational firms are known polluters in China, they do not keep that information on the central government level, nor has she found any comparative surveys between Chinese-owned manufacturers and multinational manufacturers. Many small, Chinese-owned manufacturers also supply larger, sometimes foreign-owned, companies, further obscuring any breakdown of statistics.

Ironically, she points out, some multinationals set examples of better practices for locally owned enterprises, even if the same multinationals were fleeing more stringent environmental law enforcement in their own countries when they came to China. Tan thinks they are the lesser part of the problem, but she acknowledges that when other countries set up manufacturing plants in China, “the pollution becomes international.” Referring to China’s traveling pollution, she says, “It’s like karma. Temporarily, yes, you keep your land clean for 20, 30 years by moving your activities away. But Earth is just so small. It will come back to you.”[67]

“You don’t have to invent any new technology, it’s all there,” says Barbara Finamore, senior attorney and director of the China Clean Energy Program at the National Resources Defense Council (NRDC). What’s more, she says, “It’s all being manufactured in China!” But that’s for export. Inside China, older types of lighting and cooling systems, motors and equipment of various kinds are not only still in use from the planned economy days but are being put into use in new buildings going up now. Money, of course, is an issue. Subsidized pricing is another holdover from the planned economy. NRDC is aiming to improve energy efficiency, which Finamore calls the “low hanging fruit” of the Chinese environmental crisis, by setting mandatory standards, establishing labeling systems and advocating incentives. The main barrier, she says, is education and, “That can be overcome.”

The NRDC, founded 35 years ago, has focused on bringing law suits which Finamore says are “a key factor in any effort to develop a sustainable, environmentally friendly climate under any government.” California, she mentions, when trying to legislate caps on carbon emissions from cars, was sued “by the auto industry joined by the Bush administration.” The Supreme Court ruled on the case in April 2007—and found in California’s favor. Given that the state of California alone has one of the world’s largest economies, Finamore observes, “That’s major action. You’re like a major country right there.”

In addition to action on the state level, Finamore sees activity on the corporate level as another current avenue for progress. NRDC has been approached by “a slew” of U.S. industries whose interests are threatened by the attitudes towards climate change represented by the current, supposedly business-friendly administration, including the insurance industry, the ski industry and the maple syrup industry. Although some large corporations are adopting “sustainability policy” (she mentions Goldman Sachs as having recently met with her personally), Finamore would like to see binding limits on a nationwide basis rather than leaving the initiative solely up to individual companies. In the meantime, any business can begin with “greening their operations” in ways that the NRDC has at its San Francisco headquarters, where Finamore has an office, and where building materials, architectural modifications and temperature policies are all part of an effort to reduce adverse environmental impact. The new NRDC office in Beijing was also “greened” in preparation for its opening in late 2006.[68]

Japan, which lies in the path of much of the pollution traveling eastward from China, has been working with SEPA through the Japanese International Cooperation Agency (JICA) by focusing on relevant technology transfer. Anyone who has lived—and hung out laundry—in Tokyo can attest to what the Japanese call the ‘yellow wind’ that blows through every spring when the winds pick up the sands from increasing desertification in China and mix them in with all else that travels on the air currents. JICA is a branch of the Japanese government’s Overseas Development Assistance program (ODA). Although the program’s budget was slashed by almost 30 percent in 2003,[69] and although ODA aid to China in particular has been losing support both among the Japanese populace and the ruling Liberal Democratic Party of Japan (not always the same thing),[70] there are two glimmers of hope for ODA in relation to China’s environmental crisis. The environment was one of the issues specifically targeted for ODA work with China when the Japanese government adopted a new economic cooperation plan in 2001. And in 2003, JICA was transformed into a government agency to act with greater autonomy on technical cooperation and grant assistance.[71]

JICA is now in the third phase of a ‘technical cooperation plan’ with China, called the Sino-Japan Friendship Center for Environmental Protection Project, which began in 1992. With a research compound in Beijing and a starting grant of ¥10.5 billion from the Japanese government, the project focuses on capacity building through personnel training and technology transfer. As the project’s web site understates the situation, “Japan, having its own experience of overcoming pollution and environmental destruction, proposed to cooperate in addressing the environmental problems in China.”[72]

Concern for their own air quality may not be the only reason for Japan’s generous participation in these schemes. This very activity came under attack from the San Francisco Chronicle as one of three mechanisms in the Kyoto Protocol that help member nations who are big polluters to close the gap between their commitment to reduce emissions and the fact that their emissions are in the meantime rising: Japan’s emissions have risen 7.4 percent between 1990 and 2005. The ‘clean development mechanism’ by which Japanese companies gain credit for investing in projects in China and other nations (Vietnam’s Rang Dong oil field is cited), along with selective-cut forest projects to create “carbon sinks” and emission credit trading through the European Union Emission Trading Scheme, are ways that the Chronicle sees Japan as “gaining credit without cutting their own emissions.”[73]
Self interest as a motivator is not looked down on by all concerned, however. Some large international conservation groups, sometimes collectively called 'Big Green', receive funding from corporations who pollute. (Calling The Nature Conservancy “the titan of green groups,” author Jeffrey St. Clair wrote almost 10 years ago that TNC “sits on nearly a billion dollars in assets and is awash in cash, thanks to a tidal wave of corporate donations, much of it from notorious polluters.”)[74] But they also bring connections and clout to the cause. China Program Associate for Pacific Environment, Daniela Salaverry, a former TNC staff member, says:

“Many of these large international conservation groups get funding from sources that are less than friendly to the environment, and often they are giving money to support their own projects. However, I do believe that they play a valuable role in biodiversity conservation in China. They are able to use their scientific approach to conservation (and their money) to put into action large-scale projects. I think it’s great that someone like Hank Paulson [U.S. Treasury Secretary and a TNC board member], representing both TNC and Goldman Sachs, could have a conversation with Jiang Zemin about Tiger Leaping Gorge[75]...Environmental work in China should really work within the context of economic growth.”

Salaverry thinks it’s important to keep in mind that China’s recent economic activity has lifted people out of hunger and poverty. A regular visitor to China for her work, she has lived there and studied at Harbin Institute of Technology. She doesn’t see the work of large moneyed groups and smaller grassroots groups as being in conflict: “There is room for both types of environmental work in China—in fact, there needs to be.” She explains that larger groups can set up the context and frameworks, giving local groups “a space to work in.” Real progress from here, she believes, depends on education. “People in power need to be educated about how they can continue to grow economically without causing harm to the environment.”[76]

Although business interests are often perceived as being in opposition to environmental ones, China’s recently reiterated commitment to cleaning up its environment[77] can be a business opportunity. This can be an area where multinationals and foreign investors take a lead in being a force for good, moving beyond being exploiters of labor conditions and lax environmental laws. The International Herald Tribune cited Taiwan as being two places ahead of the U.S. (and 70 places ahead of China) on an environmental performance index developed by Yale University and added,

“As China struggles with its environmental woes, there are many lessons that China can learn from Taiwan about green growth. And exchanges of clean technologies and environmental knowledge between these two rivals might also lay a path to peace...

While multinational corporations are often portrayed by activists as guilty of causing environmental damage, the comparison between China and Taiwan reveals that local companies in poorly regulated lands are usually far more problematic than multinationals.

In fact, while activists tend to characterize globalization as an agent of doom, the crossover of norms between countries is likely to improve environmental performance...

Short-term economic indicators should not be our measure of development performance. Instead, a broader, integrated means of sustaining such performance must be instituted in public policy.”[78]

The business of some foreign companies in China is pollution fighting itself. The China market is “more than potential—it’s already a real market for us,” says Jorge Mora, chief executive officer of the French company Veolia Environment China Veolia uses a build-operate-transfer (BOT) model to establish water treatment projects and power facilities that produce methane gas from solid waste. Financial partners share the risk and Mora sees his company’s projects as particularly suited to cities that are not wealthy enough to afford more expensive green technologies.[79] In another example, The Yangcheng Evening News reported that German investment in a cement factory for Guangzhou, projected to have new energy saving technology that would meet European exhaust standards, was followed by remarks from that country’s consul general, Detlef Boldt, that if the project were successful, “More big companies from Germany will be very glad to make money in Guangzhou.”[80]

Conclusion: Education, Attitudes, and Action

The EPA’s Tan points out there are a number of younger Chinese studying abroad, learning English and embracing environmentalism, which represents hope for change measured out over generations. In the shorter term, although Tan gets satisfaction from the steady building on small victories that result from her team’s projects, she feels things will not change dramatically in the next few years. She fears that more disasters will be inevitable. But she takes the long view, looking both back and forward. “Fifteen years ago, when I started working for the EPA, all my friends in China thought, ‘That’s odd.’ Now, they’re like, ‘When are you going to come back and do that here!’” And when she talks about the newest generation of Chinese she has met in her line of work, she has confidence in the day they become managers and leaders.

“These are the people who are going to influence law enforcement. So, we’re hoping to have these exchange programs and some deeper dialogue and have them participate in the process. Let them see how things are going. And I hope that I will be around to see it; I won’t get burned out.”[81]

Salaverry, of Pacific Environment, says that her understanding is that most small Chinese factories produce some component of a larger product which is put together for export. But she does not think that having a corporate business interest precludes participation in significant environmental action. And she believes that environmentalists should act in accordance with those who have business interests:

“I think it’s unrealistic for environmentalists to expect to effect change without working through economic models; these businesses need...
With China building the equivalent of one big coal burning plant per week, the NRDC’s Finamore believes that the window of opportunity for stabilizing carbon emissions is closing (“We’re there now,” she says) and that, on this issue, positions taken by both the U.S. and Chinese national governments are impediments to taking action against the problem. So, for Americans she advocates taking action on the state government level, where real progress has been made with models for regional greenhouse reductions, and having the states share their ideas and initiatives with China directly. She wouldn’t mind seeing the federal government participate by funding some of the travel and other expenses such initiatives involve. Finanmore, who lived in the PRC for three years and currently lives in Taiwan, says, “I’ve been a kind of a one-woman cooperative agency, bringing together California officials and Chinese, because California’s got the models they need.”

Sorting out a solution to the environmental crisis in China is complicated by the different actors involved, but Americans have a stake in the outcome because the problem is America’s as well as China’s. Any approach would have to be two-tiered, with both short-term emergency measures to meet the current crisis and long-term goals for continued reductions in pollution leading to a sustainable environment that resembles the one in which life on earth has evolved to date. It will take some creative thinking to come up with practices that work within economically feasible models, but if decision makers fail to choose where to do this, events and their consequences will choose for them. American policy can begin with support for both the science being done in the field and for effective practices already underway by states, private enterprises, and NGOs. Evaluation has to be part of any competent action so that honest assessments can be made and policy adjusted according to the results. We can start where we are and calibrate as we go, but now is the time.

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