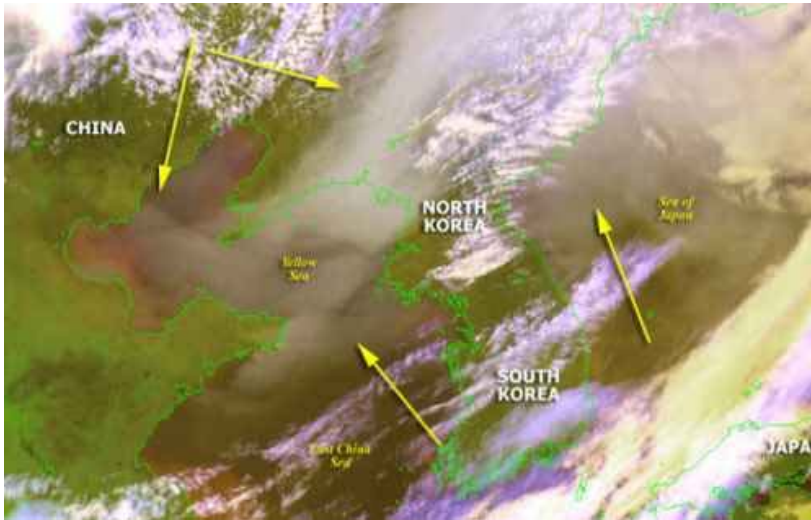


China and the Path to Environmental Sustainability

by Ethan Goffman

Introduction

With a rapidly growing economy, and as the world's most populous nation, China faces great stresses on its resources and environment. Old paradigms of growth will not work in an increasingly fragile worldwide environment for a country where 1.3 billion people are squeezed into an area smaller than that of the United States. China therefore presents a paradigmatic test case for environmental sustainability in the 21st Century.



A dust storm from China impinges on neighboring countries, April 2002
NOAA, US Dept of Commerce
<http://www.islandnet.com/~see/weather/almanac/arc2002/alm02jun.htm>

Like many developing countries, China has emphasized economic growth over environmental issues. “The gross value of industrial output has nearly tripled over the period 1998–2004” (Poon 14) and growth continues at a prodigious pace. A heavy reliance on coal, one of the dirtiest energy sources but one that

China possesses in great abundance, adds to the environmental stress. In addition, China's centralized government and lack of democratic processes has made for a paucity of environmental watchdog groups that might alert policymakers to environmental problems and trigger mitigating action. This situation is beginning to change, as awareness of environmental problems has spread to numerous levels of government and society. (Wang)

In controlling human population, which many environmentalists, dating back to Garret Hardin (and even earlier Thomas Malthus) believe to be one of the keys to sustainability, China's “one-child” policy has largely succeeded. Ironically, China's authoritarian government can simply decree measures that might be considered draconian in democratic states. For example, when India's Indira Gandhi tried to institute strict population control in the 1970s, her party was swept from power in the ensuing elections.

Still, China suffers numerous environmental degradations, notable in the highest rate of respiratory diseases in the world (Economy, 102), and in heart and lung diseases. Of course, China is still considered a developing country, and most developing countries

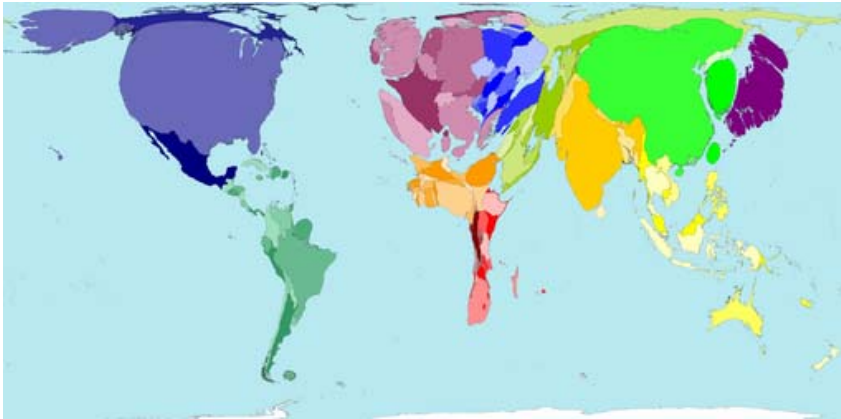
struggle with mortality caused by AIDS, malaria, and other infectious, communicable diseases. That China leads the world in chronic diseases of the lungs and heart makes the case for sustainable development all the more compelling.

By 2020, and probably earlier, China is also expected to replace the United States as the number one generator of global warming emissions (Poon 2). Indeed, although estimates vary, a study by Netherlands Environmental Assessment Agency shows that China has already become the predominant source of carbon dioxide, the main global warming emission (Netherlands). The 2005 Environmental Sustainability Index (ESI), which ranks countries based on such measures as health, governance, technology, and international cooperation, places China 133rd out of 146 countries. The ESI, is intended to “quantif[y] the likelihood that a country will be able to preserve valuable environmental resources effectively over the period of several decades. Put another way, it evaluates a country’s potential to avoid major environmental deterioration” (23).

2005 Environmental Sustainability Index Building Blocks – Components

COMPONENT	LOGIC
Environmental Systems	A country is more likely to be environmentally sustainable to the extent that its vital environmental systems are maintained at healthy levels, and to the extent to which levels are improving rather than deteriorating
Reducing Environmental Stresses	A country is more likely to be environmentally sustainable if the levels of anthropogenic stress are low enough to engender no demonstrable harm to its environmental systems
Reducing Human Vulnerability	A country is more likely to be environmentally sustainable to the extent that people and social systems are not vulnerable to environmental disturbances that affect basic human wellbeing; becoming less vulnerable is a sign that a society is on a track to greater sustainability
Social and Institutional Capacity	A country is more likely to be environmentally sustainable to the extent that it has in place institutions and underlying social patterns of skills, attitudes, and networks that foster effective responses to environmental challenges
Global Stewardship	A country is more likely to be environmentally sustainable if it cooperates with other countries to manage common environmental problems, and if it reduces negative transboundary environmental impacts on other countries to levels that cause no serious harm

The Environmental Sustainability Index, on which China performs poorly
Source: Esty, et al. p. 11



A map of the world according to ecological footprint. The United States appears swollen due to its large consumption per person, China due largely to its enormous population.

<http://www.worldmapper.org/display.php?selected=322>

Another measure of environmental impact is the ecological footprint, which estimates the amount of biologically productive land used per capita. One source places the amount of such land at 2.0 hectares per person on planet earth (encyclopedia).

However numbers vary depending upon the source consulted. For instance, NationMaster.com gives the United States an ecological footprint of 12.22 hectares, with China's at 1.84 hectares as of 2000 (nationmaster). The Worldwatch Institute, by contrast, estimates China's footprint at 1.6 hectares and the United States' at 9.7 hectares (Flavin & Gardner, 16). Whichever numbers one accepts, if every human on earth behaved like the average Chinese today, it seems that the environment would be able to sustain itself. Yet the trends are extremely disturbing. According to *Asia-Pacific 2005: The Ecological Footprint and Natural Wealth*, "since 1961 China has grown faster than any other country in the region, nearly doubling its population and its per person footprint" (world 11). With an enormous, and still growing, population, and an economy growing even faster, China's swelling environmental impact is simply not sustainable. Certainly, if China were to come close to the per capita environmental footprint of the most developed countries, the impact on the global environment would be catastrophic.

Population

Fearful of the negative effects of a population boom on modernization and development and with its population continuing to rise exponentially, in 1979 China instituted its "one-child policy," which limited each woman to a single child, with a few exceptions. Over the years the policy has been somewhat relaxed, particularly in rural areas, which may allow a second child if the first is a girl, or if enough time elapses between children (Hemminki).

Although designated a temporary measure, the law continues to this day. It has been effective, lowering the birthrate to an estimated 1.75 per woman (Central), well below replacement level (Ding et al). Nevertheless, the Chinese population continues to grow, to over 1.3 billion today. This is at least in part due to number of women reaching the age of fertility; as China's population ages, the number of babies should continue to decrease.



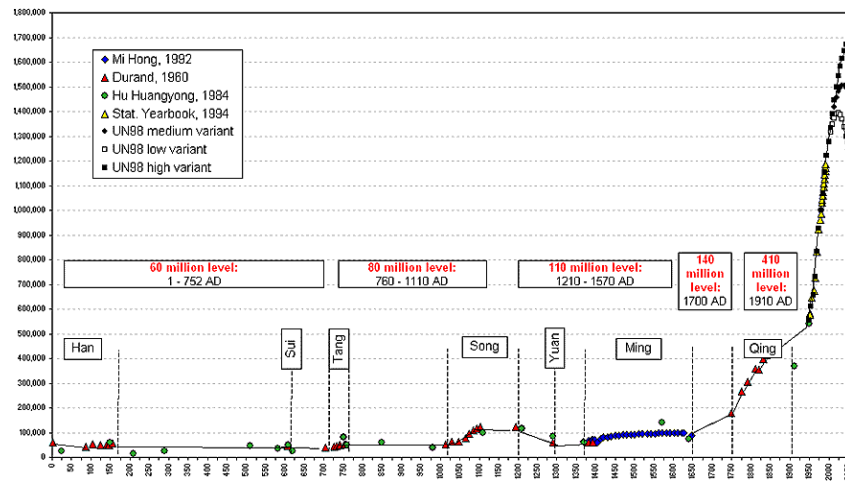
A celebration parade for the 35th anniversary of the founding of the People's Republic of China
<http://www.china.org.cn/english/features/47641.htm>

Fewer children means that a population will become, on average, older. With some 10% of the population over 60 years old as of 2002, China can now be classified as an aging society (Benbo). While less acute than in some Western societies, this situation means that China will have to confront lower work productivity and greater health problems for a large portion of its citizenry.

Still another challenge is China's drastic increase in urban population. Since 1950, China has undergone an unusual history of modernization due

in large part to extraordinary social experimentation by a highly centralized, communist government that often placed primacy on peasants working the countryside. Through the 1970s, therefore, China was notable for a "peculiar pattern of rapid industrialization without a parallel growth of the urban population" (Shen et al, 288).

The 1980s began a shift to a free market economy that saw a more common urbanization pattern that continues to accelerate. This has had its costs, both social and environmental, in dislocation of people and in resource consumption, so that "as urbanization continues into the future, it will be inevitably accompanied by dramatic increases in the consumption of water, land, energy, and mineral resources" (Shen et al, 288). Such increases correlate strongly with urbanization, industrialization, and a consumption-oriented society. China today is on the verge of being majority-urban, with an estimated two thirds of Chinese living in cities by 2030 (half).



After thousands of years of relative stability, China's population zoomed in the 19th Century, and even more in the 20th Century
http://www.iiasa.ac.at/Research/LUC/ChinaFood/data/pop/pop_21_m.htm

Economic Growth



DC coreless motor production in China
<http://www.e-ds.cn/english/homepage.htm>

In conjunction with its huge population, China's soaring economy, with the energy and resources it consumes and the pollution it produces, is causing unprecedented environmental strain. Because Chinese industry is relatively energy-inefficient and high-polluting, the stress is all the greater.

In many ways, the Chinese experiment in free market economics has been an enormous success, compressing into a few decades growth comparable to what many countries took centuries to achieve. As Flavin and Gardner explain, "since embarking on economic reforms two decades ago, China's economy has averaged a remarkable 9.5 percent growth rate, doubling in the last decade alone" (3). Such rapid growth, however, generates a ravenous demand for new energy and materials, particularly when not connected to more efficient resource use: "As China becomes wealthier and more populous, demand for energy-using products and services, including appliances, space heating and cooling, personal and freight transportation, and all the intermediate industrial products needed to produce them, will continue to grow. This presents a fundamental challenge, since, without changes in energy efficiency and energy supply structure, economic growth will drive up energy demand and consequently pollution" (Zhu, 28).

Indeed, China has followed a traditional path of resource-intensive growth, dependent on heavy industry and negligent regarding social and environmental aspects. With its huge population and rapid growth, this has led to tremendous environmental disruption, so that, "over the past 20 years China's economic explosion has created an ecological implosion. Environmental degradation is costing the country nearly 9 percent of its annual gross domestic product (GDP)" (Turner & Zhi 153). Environmental costs, that is, turn into economic costs, as an unhealthy society cannot work as efficiently as a healthy one, a problem which China has just begun to face seriously.

Energy

Despite greater efficiency, energy consumption has zoomed in China, by "70 percent between 2000 and 2005" (World Bank xi). All possible energy sources have been increasing to keep up with the demand.

Coal, an energy source straight out of 19th century England, provides over two thirds of China's energy. Indeed, China is the world's "largest consumer of coal (1,531 Mt [metric tons] in 2003), accounting for approximately one third of the world's total annual consumption. More than half of China's coal is used to generate over three quarters of the national electricity supply" (Creedy et al 1). Still a relatively poor country, yet with abundant coal reserves, the choice of coal seems obvious in raw economic terms. Yet the

cost is heavy in emissions of sulfur and soot, causing skyrocketing rates of asthma and other respiratory diseases. New technology might be expected to lower the reliance on coal, but the economy is growing so quickly that it is difficult for new efficiencies to fully offset this growth. Coal consumption, therefore, “is estimated to be rising at more than 10 percent per year” (Economy, 102).



Like China, England in the Industrial Revolution depended upon coal
 Coalbrookdale at night, 1801, Philipp Jakob Loutherbourg the Younger
http://en.wikipedia.org/wiki/Industrial_Revolution

Greater efficiency in mining coal, however, is possible, for instance in replacing small, poorly run mines with large ones operating under tightly controlled rules (Creedy et al, 25). Indeed, China is now planning to “call a halt to building new coal-fire power plants below 300,000 kilowatts” (Interfax ban). The latest trends in environmental economics are also being implemented on an experimental basis: “tradable SO₂ emissions projects—are particularly noteworthy because they have brought together

Chinese government agencies with domestic and international research institutes and NGOs to address China’s acid rain problems” (Zusman & Turner, 131). This illustrates China’s increasing acceptance of international environmental policies.

Oil, another key global energy source, may be limited in its future expansion in China, as global demand accelerates. Already, costs are rising as China has “gone from near self-sufficiency in the mid-1990s to overtake Japan as the world’s second largest oil importer—3.2 million barrels a day in 2004” (Flavin & Gardner, 10). As China uses more automobiles its oil imports will undoubtedly go up. While peak oil may be some years off, China will want to limit its dependence on an unpredictable energy source often located in unstable foreign countries.



Not too gorgeous: An aerial view of the Three Gorges Dam, July 2003. UNEP/Digital Globe.
http://na.unep.net/digital_atlas2/webatlas.php?id=115

Hydropower, like coal, is an energy source abundant within China, and a renewable one, but one with large social and environmental costs. Dams, by their very nature, change the surrounding hydrology and environmental structure. The dispute over dams is typified by controversy over the enormous Three Gorges Dam Project, to be completed by 2009: “the

installed hydroelectric capacity from the project is expected to be 18,200 MW [megawatts], or approximately 24 percent of the current total hydroelectric capacity in all of China” (Cann et al, 21). The project has displaced some one million people, spurring protest. The environmental impact is also enormous: “problems that result from dams include wildlife habitat destruction and division, silting of waterways, increased emission of methane (a greenhouse gas), and the leaching of toxic heavy metals from the soil” (Cann et al, 21). However, in a country with an ever-increasing demand for energy, and with a need to balance cost against impact, the Chinese government feels that there is no choice, “that the dam is needed to provide electricity, claiming that it will replace ten large coal-fired power stations that otherwise would burn fifty million tons of coal, or the energy equivalent of twenty-six nuclear plants” (Wang & Lee, 188).

A relatively clean option is natural gas, which is expected to see “a significant increase in its share in China’s energy mix, from 3 percent in 2001 to 8 percent in 2025” (Wang & Lei, 191). Nuclear energy currently accounts for some 1% of China’s energy use, a number that is unlikely to increase much due to the high start-up costs of new nuclear plants.



A mighty wind: Dan Nan wind farm in Nan’ao, China
<http://www.greenpeace.org/international/photosvideos/photos/chinese-windfarm-power>

Finally we come to renewable energies other than hydroelectric. Methods under examination “include expanding wind power on a large scale and applying solar, geothermal, biomass and tidal power in niche applications” (Zhu, 25). Wind power is growing particularly rapidly, and, according to one source, in 2005 China and Germany were the two top investors in non-hydropower

renewable energy (Interfax China & Germany). The goals are quite ambitious: “China aims to have renewables account for 10 percent of the country’s primary energy consumption by 2010 and 16 percent by 2020” (Interfax World Bank).

Still, the impact so far has been negligible; in 2001 nonhydro renewables amounted to only “0.02 percent of China’s energy mix” (Wang & Lei, 189). Like nuclear power, solar and wind power have a high start-up cost. On a large scale, wind is the most viable and least costly of these, and China has recently cut the value-added tax on wind power in half. Still, “wind power in China is approximately twice the cost of electricity from coal” (Cann et al, 21). Nevertheless, with improving technology and economy of scale this price gap is likely to shrink.

Conservation is probably China’s best hope for reducing unsustainable energy use, as it is for the rest of the world. According to Wang and Lei, “there is a huge potential in China for energy efficiency. Based on World Bank estimates, 10 percent of total Chinese industrial energy demand can be met through energy efficiency efforts by 2010 (190). With

a long-term program of energy conservation that included cleaner production, automobile fuel standards, public transportation and smart growth, and green buildings, potential gains would be much greater.

A crucial method of avoiding the harmful effects of coal, oil, and some other sources is simply to use less energy, as well as to use less hazardous forms of energy. China is moving in this direction through a strategy known as cleaner production (CP), which reduces both energy consumption and hazardous wastes (Millison, 201). The benefits of this approach, and of improved energy efficiency in general, became obvious at the end of the 20th century, as China turned into a net energy importer (Millison, 203). Overall, China still has an enormous way to go; “there is huge promise for suppressing growth in energy consumption by introducing new energy technologies, adjusting the current energy structure, and implementing new energy conservation and environmental protection policies” (Zhu, 13).

Transportation



Bicycles remain a crucial mode of transportation
http://www.treehugger.com/files/2006/06/china_keep_them_1.php

Two decades ago any picture of Chinese transportation would have included a predominant place for the bicycle, and this is still true, only less so. While it is clear that the bicycle cannot be the central transport mode of a modern technological and industrial society, it is also clear that, in China, the opposite approach—at least one car for every family—is not sustainable. This is due to population density, and also because global supplies will not allow the kind of oil use per capita that is common in the United States. “China currently has eight vehicles per thousand people compared with the U.S.’s 780 vehicles per thousand—a ratio suggesting relentless pressure on oil markets in coming decades” (Parry & Anderson, 176) as the Chinese fleet expands. With over four times the population of the U.S., China simply must limit its automobile use to avoid inordinate fuel costs. Furthermore, the environmental impact of building a sufficient road network would be enormous.

Nevertheless, much of China is charging ahead full-speed with automobile use. In 2002 China announced a plan to more than double their road network (Peoples), while annual car production “rose from 320,000 in 1995 to 2.6 million in 2005” (Flavin & Gardner, 5). Still many Chinese are aware of the problems, and some steps are being taken, as with China’s recent adoption of fuel economy standards—beyond those of the U.S. (Agence).

Increased automobile use, together with urbanization, also means changes for China’s transportation patterns, notably commuting. For Beijing, “as the city continues to expand and increasingly fewer people report to a local work unit, more and more city residents

live and work in different parts of the city. These expanded journeys-to-work, along with the constraints by the urban form with the inherited land use and grid pattern in the city core and the lack of consideration of integrating land use and transportation systems, are causing deteriorated urban transport conditions” (Song et al, 4). China’s commuting begins to resemble that of the United States, with ever-lengthening daily trips between suburb and city.



Magnetic Levitation train in Shanghai

http://en.wikipedia.org/wiki/Shanghai_Maglev_Train

Still China has begun to react to the new stresses on its transportation networks. In 2006 China began to restore bicycle lanes that had been shut down to make room for cars (Li, Z). Beijing has begun a program to encourage public transport, lower fares, and begin a Bus Rapid Transit system (Li, L). And Shanghai is home to the world’s first Magnetic Levitation train, capable of reaching speeds over 400 miles per hour.

Stresses

Industrialization has brought unprecedented air pollution to China, so that, “of the 20 cities worldwide with the most polluted air, 16 are in China” (Cann et al, 7). Coal is the primary pollutant, although in recent years automobile use is having a larger effect, especially in cities. As the World Bank explains, “In recent years, air pollution in urban areas in China has been transformed from coal-smog air pollution into a mixture of coal-smog and automobile exhaust. Emissions of SO₂ have decreased gradually and particulate matter has become the principal pollutant of concern in most cities in China” (27).

Soot, sulfur dioxide, and fine particulate matter fill the air of China’s cities, enormously damaging human health. Lung cancer, pulmonary heart disease, and bronchitis are common, while women in industrialized areas “are reported to have the highest rates of lung cancer ever recorded” (Cann et al, 7). The World Bank estimates that “300,000 to 400,000 people die in China every year due to respiratory illnesses triggered by air pollution” (Kim 3).



Smoke from a metal alloy factory, northwest China
<http://www.time.com/time/world/article/0,8599,1558890,00.html>

Illustrating how environmental spheres are connected, China's air quality has affected vegetation and agriculture. Sulfur dioxide has given China "some of the world's worst acid rain. An estimated 30 percent of China's cropland is suffering from acidification, and the resulting damage to farms, forests, and human health is projected at \$13 billion" (Flavin & Gardner, 7). One-quarter of China's land is desert, and desertification is proceeding at a pace of more than 1,300 square miles per year (Economy, 102). While desertification can be a natural occur-

rence, in China human action has greatly accelerated it and changed its character. Practices such as "overcultivation, overgrazing, and firewood collection," along with the destruction of natural vegetation, have intensified desertification (Tao & Wei, 238). Ground cover destruction "reduces the capacity of soil to hold water, suppresses airflow rise and convergence, enhances surface albedo, intensifies downward airflow, and ultimately leads to climatic aridification" (Tao & Wei, 237).

Destruction of vegetation and land character, in turn, affects water quality through erosion and runoff, and air quality through severe dust storms, familiar in the United States through the dust bowl of the Great Depression. The current dust storms "have played havoc with air quality and transportation in China and neighboring countries such as Japan and the Republic of Korea. Plumes of dust from these storms have been identified even in the mainland United States" (Ferris & Zhang, 68). Environmental challenges become multifaceted and international.

Water is another element, central to human life, to agriculture, and to industry, suffering degradation in today's China. Water is a scarce resource in a country that "has just 8 percent of the world's fresh water to meet the needs of 22 percent of the world's population" (Flavin & Gardner, 7). Surface water is polluted, with an over-reliance on groundwater, and aquifers are depleting in northern China (Cann et al, 6).



A villager plants trees to fight desertification in northern China
<http://en.epochtimes.com/news/6-6-9/42541.html>

While China has produced enough food for its population in recent decades, water scarcity may threaten this achievement. Recent analysis suggests that a decline in wheat production "can be attributed to

the rapidly declining groundwater resources in arid northern provinces” (Flavin & Gardner, 14). The days in which China was unable to feed itself are returning. Of course, with its greatly increased economic resources, China is easily able to compensate by buying food from abroad. As with oil, however, China’s needs are likely to increase prices in an already stressed world market, while land degradation and water shortages may be harming the global food supply.

Nowhere is the international character of environmental problems more evident than in global climate change. Efforts to cut back on greenhouse emissions, notably in Europe, will likely not compensate for China’s growing emissions. According to one projection, “if sustainable policies for energy development are not pursued, energy-related carbon emissions could more than double between 1998 and 2020 (Zhu, 2). And global warming in turn enhances other aspects of environmental damage: desertification, air quality degradation, coastal erosion, species loss, and so on.

Environmental Governance



Seal of China's State
Environmental
Protection
Administration (SEPA)
<http://www.energyefficiencyasia.org/geriappartners.html>

Numerous avenues are being explored for mitigating China’s environmental crisis, and implementing reforms requires an effective governance structure. A top-down, authoritarian structure has great advantages when a country decides to act on contentious issues, as China did to control its population. On the other hand, such governments may have little incentive to deal with environmental problems; they may prefer to disregard or hide them, as occurred in the Soviet Union, typified by the virtual disappearance of the Aral Sea following decades of communist rule. An open system like the United States, by contrast, allows for a vibrant network of environmental groups that perform a watchdog function.

The State Environmental Protection Administration (SEPA) is China’s main environmental agency, roughly equivalent to the Environmental Protection Agency (EPA) in the United States. Historically, SEPA has been relatively weak, as priority has been given to development. At the top of the power structure, SEPA has been overruled by high-level agencies, while local governments, often empowered to enforce SEPA rulings, often have agendas of their own. One source explains that, “Over the past twenty years, economic bureaucracies as well as provincial and lower-level regional governments have been SEPA’s chief organizational rivals because they believed that harsher environmental regulations would force coal mines to shut down, power plants to reduce energy production, logging industries to lay off workers, and, most importantly, localities to slow economic growth” (Zusman & Turner, 123). Rapidity of development has often overruled environmental concerns.

Facing severe environmental degradation, and in reaction to outside criticism, China has recently shown heightened awareness of environmental problems, with some government officials acting as strong advocates. Local groups have entered the environmental gov-

ernance mix, as have international nongovernmental organizations (NGOs). Such NGOs as Friends of Nature and the Worldwatch Institute are now working in conjunction with the Chinese government. Indeed, China now considers international expertise as crucial; there has been “a sea change in the formerly authoritarian and isolated approach to law-making in the Chinese government” (Ferris & Zhang, 96).

On the opposite end of the spectrum, local groups are becoming stronger players in pointing out environmental shortcomings. Indeed, China is tolerating, and at times even encouraging, a growing number of watchdog groups: “one of the most important sources for improving China’s environment is the Chinese public” (Economy, 116). Although always contentious, and often unacknowledged, public protest is a growing part of the picture: “In the summer of 2005, the central government for the first time announced that during the preceding year 3.76 million Chinese, mostly people in disadvantaged groups, took part in 74,000 mass protests” (Turner & Zhi 169). Of course even in countries



Deputy Minister of the Environment Pan Yue, noted for bold statements regarding China’s environment
<http://www.newstatesman.com/200612180028>

with a tradition of protest, such actions are often perceived as unpatriotic. In China environmental groups must tread with care, undertaking a “balancing act of carrying out projects that support government goals while also periodically taking risks and challenging the government” (Turner & Zhi 168).

Still, the rhetoric of environmental reform has not always manifested itself in action. Bai and Peijun argue that efforts to clean up China’s Huai River basin fall far short of the government’s claims. They explain that, “the measures adopted under the Huai Pollution Control Plan were essentially mass campaigns and end-of-pipe approaches. The campaign approach was inadequate as it targeted only the phenomena and not the root cause” (12). A better approach would be to have cleaner manufacturing and greater conservation, rather than allowing problems to accumulate before beginning a clean-up effort.

Conclusion

Although the Kyoto Treaty exempts China, as a developing nation, from capping greenhouse emissions, a development path absent strong environmental awareness is no longer viable. Neither China nor the planet can reproduce the twentieth century industrial route, in which development takes precedence until a certain amount of affluence is achieved. According to the Worldwatch Institute: “Global ecosystems and resources are simply not sufficient to sustain the current economies of the industrial West and at the same time bring more than 2 billion people into the global middle class through the same resource-intensive development model pioneered by North America and Europe” (Flavin & Gardner, 4). This is true not only because of global climate change, but also due to biodiversity loss and an increasing water shortage.

Energy and food resources, too, are not infinite. Although past predictions of doom have proven false due to substitutability and technological advance, avoiding resource exhaustion requires forethought and care. And, at the national and subnational level, China, with its huge population and rapid industrialization, has already subjected itself to tremendous environmental stress. At least one projection shows, “that China cannot meet the targets



Beijing's energy efficient Olympic Stadium
http://www.itt.com/advhumprog/2007/03/beijing_engl.html

of the current urbanization strategy while continuing current energy and resource consumption for industrialization and modernization” (Shen et al, 289).

In many ways, China has come to realize its environmental overshoot, and has taken at least some steps toward a new path to sustainability. And it seems fruitless to replicate the mistakes of the past when better practices have already been developed. Flavin and Gardner explain that “the idea of ‘leapfrogging’ western countries appears far more

practical than it did a few years ago. China, for example, has become the world leader in producing essential new technologies—super-efficient compact fluorescent light bulbs as well as solar water heaters, which have been installed on 35 million buildings” (21).

The efforts so far are piecemeal. Yet a new awareness seems to have arrived in China, exemplified by Deputy Minister of the Environment Pan Yue, who has given unprecedented, candid interviews with Western news sources (Lorenz). How this plays itself out in the wider Chinese government, what new environmental policies are passed, and how they are implemented, will determine whether China can indeed move onto a new sustainability path. The 2008 Olympics in Beijing will be one test case as to how much China can transform itself and display a new, environmentally friendly Beijing before the eyes of the world. The increase in respiratory illness due to pollution is a major concern for athletes attending these games. So China will do everything possible to curtail pollution, to make these Olympics as green as possible. For instance, the government will shut down coal-burning factories and greatly curtail traffic before the games (ABC).

Yet critics believe that such reforms are superficial. Recent problems with contaminated exports of pet food, toothpaste, fish and other goods continue a pattern of lack of health and safety standards and cover-up by the Chinese government (Barboza). Further evidence that China still lacks the transparency needed for an aggressive environmental policy comes in its recent request that the World Bank censor a report that pollution kills 750,000 Chinese each year (McGregorin). Perhaps this is merely a diversion on the circuitous route to a deeper transformation? Such a transformation is crucial to China’s future, to fulfilling its desire to become a truly sustainable society and a global leader.

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