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China as a Risk Society

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China as a Risk Society

The intense reaction in the United States in the summer of 2005 to China National Offshore Oil Corporation's (CNOOC) attempt to purchase the American oil company, Unocal, focused attention once again on the political consequences of China's growing economic clout and ever increasing demand for resources. The debate over the rise of China, while useful in highlighting the security implications of China's emergence as an economic power, fails to address the numerous non-military challenges Chinese economic growth poses for Asia-Pacific countries. Environmental degradation, resource scarcity, and public health concerns are a few of the issues that will shape China's interaction with the region. These problems, emanating from the developmental choices Chinese governments have made over the past 25 years of reform create risk for China and its neighbors. How leaders in China and in neighboring states manage that risk will play a key role in determining the Asian security environment in the 21st century.

The China Threat Debate Reassessed

Depending on the focus of analysis, there is a striking difference in the evaluation of the consequences of Chinese economic development. On one hand, scholars of China's domestic politics rightly call attention to the significant governance problems Chinese leaders face as they proceed with the third decade of economic reforms. These analysts study the effectiveness of the Chinese state in regulating social ills to better understand China's prospects for democratization and social stability.¹

On the other hand, as we will see below, scholars of China's foreign policy, who seek to evaluate China's role in the international system, focus on a different slice of

Chinese reality. They center their attention on China's military capabilities and intentions and the security consequences of China's economic rise. Non-military factors of security are rarely included in their assessments, although issues like the environment and public health figure prominently in the risk management strategies that China's neighbors employ.

While the rise of China debate generates policy prescriptions along the familiar containment/engagement continuum, transnational problems engendering risk call for a wider range of risk management strategies, which may be used in combination, including containment and engagement, but also involving intervention (such as the role of the World Health Organization (WHO) during the SARS epidemic), defensive strategies (border controls, quarantines), financial incentives (for example to install green technology) and competition (for energy resources, etc.).

This paper reexamines the debate over the rise of China. Instead of focusing solely on China's military intentions and capabilities, it is argued that non-military factors of security also should be taken into account to gain a more balanced assessment of the security consequences of China's rise. The concept of risk, derived from Ulrich Beck's *World Risk Society*, is introduced and applied to two cases: 1) environmental risk and Northeast Asia; and 2) public health risk and Southeast Asia. These cases show that a China with poor transparency and weak regulatory capacity causes risk for China's neighbors, requiring a varied set of risk management strategies.

This is a working paper, reflecting work in progress on the conceptual framework and case research, not a completed study. It is being presented here to stimulate

discussion as I refine my ideas further and gather additional information about the cases. Future plans for the project are outlined in Part III.

Part I: Conceptualizing China's Rise and Its Consequences

The debate over the consequences of China's rise reflects the remarkable economic growth it has achieved during the past 25 years of reform. Since Deng Xiaoping first launched economic reform in 1978, China has had an average annual growth rate of more than 9% and China now has the second largest economy after the United States.² In its July 2005 report, the Pentagon estimates that the Chinese military budget could be as high as \$90 billion, making China the third largest defense spender after the United States and Russia, and the leader by far in defense spending in Asia.³ With a population of 1.3 billion, China has 21.5% of the world's population.

In the early 1990s a debate unfolded in the United States about the security implications of China's economic growth. Scholars and policy analysts have divided into two camps. Realists focus on Chinese capabilities: some see signs of a rising China, with expanding military and economic power that could pose a threat to its neighbors in Asia, while others dispute the "China threat" thesis and view China as relatively weak and plagued by social problems. Liberal institutionalists acknowledge that China's power has grown, but claim that China is becoming more responsible, joining international organizations and accepting global norms. Despite many fundamental disagreements, both realists and liberal institutionalists are united in their focus on Chinese intentions and capabilities. They seek to understand how much power China has and how Chinese leaders seek to use these resources.

In 1993, in one of the early contributions to this discussion, *New York Times* journalist Nicolas Kristof noted: “The rise of China, if it continues, may be the most important trend in the world for the next century.”⁴ Viewing China’s nuclear arsenal, border disputes with its neighbors, and fast growing economy and military budget, Kristof posed the following questions:

- * Does China’s attempt to expand its influence reflect the hostile intentions of an aggressive regime or is it the natural consequence of a rising power?
- * Is China trying to achieve a more powerful foreign policy role that matches its economic power?
- * Will China be responsible with its new power?

Since the early 1990s, the debate in the West⁵ over the rise of China has largely focused on answers to these questions. Responses can be broken down into three positions: 1) A rising China poses a potential threat; 2) China remains weak and poses no threat; and 3) China is becoming increasingly responsible and integrated. The first two positions examine China’s intentions and capabilities from a realist perspective, while the third takes a liberal institutionalist view of the role of international institutions and norms in moderating Chinese behavior. Some examples of these positions are provided below. This review is meant to be illustrative, rather than comprehensive.

Position One: A Rising China Poses a Potential Threat

In *The Coming Conflict with China* (1997) Richard Bernstein and Ross H. Munro outlined how a rising China could become a threat to its neighbors. The authors asserted that it was a mistake to believe that reforms were helping China to become more like the

United States. Instead, they argued, Chinese leaders are driven by nationalism to replace the United States as the dominant world power. Because the United States represented the main obstacle to Chinese ambitions, conflict is inevitable. Thus, according to Bernstein and Munro, China's efforts to improve relations should be viewed as tactical. China's integration into the world economy was not moderating its behavior: to the contrary, China now has greater cause for nationalism and more resources to repress dissidents, threaten peace and security, and challenge U.S. interests.

John Mearsheimer's *The Tragedy of Great Power Politics* (2001) took this argument further. He contended that if the Chinese economy keeps growing, China has the potential to become a regional hegemon in East Asia threatening U.S. interests. Therefore, according to Mearsheimer, the United States has a profound interest in slowing China's economic growth, since a wealthy China is likely to be aggressive. Mearsheimer's view proved influential in Pentagon circles and shaped the early thinking of the George W. Bush Administration, which came into office viewing China as a "peer competitor."⁶

Position Two: China Remains Weak and Poses No Threat

Countering Ross and Munro's opening salvo, Robert Ross claimed that the assumptions of the China threat view are wrong.⁷ He contended that China was not a threat because it is a status quo power. Ross pointed out that China was too weak to challenge status quo, however much it might like to do so. He noted that Chinese military power was still insufficient; for example, China continues to lack adequate power projection capabilities and has no aircraft carrier with which to challenge the United States militarily. Ross asserted that while China cannot yet become a regional hegemon,

it could still destabilize Asia. According to Ross, however, if China is treated as an enemy it will become one. In his view the United States should engage China and make it a participant in global rule making.

Other scholars echoed this view. For Gerald Segal, the rise of China debate was misplaced: China is still only a potential great power that presents a regional challenge not a global one.⁸ Moreover, Segal and others argued, that, despite impressive progress, China's economic results do not yet present a major economic threat. George Gilboy has termed China a "phantom economic menace" due to its continuing economic dependence on the United States and other states and inability to supplant them economically.⁹

Position Three: China is Becoming Increasingly Responsible and Integrated

A third group, sharing the view that the rise of China does not pose a threat, focuses on China's international responsibility and integration, rather than on Chinese military and economic weakness. Though recent U.S.-China differences over a range of economic issues have created some new frictions, for the most part, since 9/11, scholars have increasingly called attention to the cooperative trend in U.S.-China relations and highlighted Chinese efforts to take part in international institutions and multilateral efforts.¹⁰

China's leadership has taken pains to reinforce this perspective. Former President Jiang Zemin was quick to call President Bush after the 9/11 attacks, despite a rocky start to U.S.-China ties due to the downing of a U.S. spy plane over Hainan Island in April 2001 and the Bush Administration's early statements indicating strong support for Taiwan. At the November 2, 2003 at 2nd annual Boao forum (the economic summit on

Hainan island for regional leaders, that is supposed to be Chinese version of Davos), Chinese Prime Minister Wen Jiabao advocated a new security concept, “featuring mutual trust, mutual benefit, equality, and cooperation.”

Indeed, Evan Medeiros and M.Taylor Fravel assert that China is more engaged in world affairs than ever before—with the six-party talks on North Korea, economic relations with ASEAN, and more pragmatic steps to resolve outstanding disputes with neighbors and improve relations with other great powers.¹¹ Now that China has entered the World Trade Organization, scholars contend that its increasing economic integration in the global economy creates greater pressure for adherence to international norms, makes China more responsive to foreign pressure, and strengthens domestic constituencies favoring continued economic reform and international cooperation.¹² Alistair Ian Johnston further argues, that Chinese rhetoric about the desirability of a multipolar order notwithstanding, the Chinese leadership has chosen to become more integrated in the existing international order, rather than actively seeking to alter it.¹³

Yet China poses many non-military challenges to its neighbors, which are the unintended consequences of its economic and political development. For example, its breakneck pace of modernization creates major air pollution problems for Northeast Asia, particularly Japan and South Korea. As the SARS crisis demonstrated, China’s lack of transparency and inadequate public health infrastructure has serious economic and social consequences for its neighbors throughout East Asia. As the section below will show, international relations theories increasingly have been factoring in non-military threats to security.

Part II: Globalization and Non-Military Security Challenges

Efforts to expand the security agenda to include non-military factors and transnational threats are far from new. This approach, now commonly termed “non-traditional security,” first emerged in the late 1970s in response to growing awareness of the security consequences of environmental degradation. One of the early proponents of this view, Lester Brown, wrote in 1977 that the military approach to security is linked to assumption that main security threats come from other states, but threats may arise more from the relationship of humans to nature (such as dwindling oil reserves). Brown argued that the degradation of the earth’s biosystems poses a security threat, affects economic growth, and may threaten the survival of civilization itself.¹⁴ In his view, sustainability is the key to security in the late 20th century: “In effect the traditional military concept of national security is growing ever less adequate as nonmilitary threats grow more formidable.”¹⁵

A few years later Robert Ullman redefined a security threat as an action or sequence of events that

- 1) Threatens drastically and over a relatively brief period of time to degrade the quality of life for the inhabitants of a state.
- 2) Threatens to narrow the range of policy choices available to the state, or non-state actors (individuals, groups, corporations).¹⁶

Ullman noted that military and non-military threats had to be approached differently. Natural disasters, for example, are not intentional and cannot be deterred. Although protection measures are largely in hands of individuals (who choose place of residence, home construction materials, etc.), most non-military threats require

government resources and organization. Ullman distinguishes three types of non-military threats 1) resource wars, which are likely to increase as demand for key goods increases and supplies dwindle; 2) threats due to demand pressures on resources, resulting from population growth, migration, and other demographic pressures; and 3) threats due to unsustainable resource use.

In a widely read article in the *Atlantic Monthly*, Robert Kaplan outlined a bleak vision of 21st century insecurity stemming from interrelated scourges, including surging populations, epidemics, environmental degradation, and mass migrations. Noting that 95% of population increases occur in the poorest areas of world, Kaplan saw two starkly different worlds emerging: one where people are well fed and pampered by technology (Fukuyama's last man), and another where life is poor, nasty, brutish, and short (Hobbes' first man).¹⁷

For more than a decade Thomas Homer-Dixon has been studying the linkage between resource scarcity and violent conflict. He has concluded that decreasing quality or quantity of a resource, population growth, and unequal access to resources contribute to conflict, though may not be a direct cause.¹⁸ His research has been controversial, both among environmentalists who oppose the militarization of environmental issues, and among political scientists, who criticize environmental security for its ambiguity.¹⁹

Other scholars have turned to constructivist theories to explain how non-military threats become "securitized." The Copenhagen School, a group of European scholars centered in the Copenhagen Peace Research Institute, including Ole Waever, Barry Buzan, and other colleagues, view security as a social process. In their conception, security is not an objective condition, but the outcome of a "securitizing" speech act.²⁰

Thus, actors use the language of security, i.e. “securitize” an issue when it is perceived as an urgent threat to a given referent object (which may be a state, but also a region, a community, a class, the biosphere, or the economic system). An issue is successfully securitized when an audience agrees that there is an existential threat to a shared value.²¹

According to the Copenhagen school, security encompasses five issue areas or sectors exemplifying particular values: 1. military (territorial integrity of the state); 2. political (legitimacy of political authority) 3. societal (group identity); 4. environmental (global ecosystem); and 5. economic (access to resources, finances, and markets sufficient to sustain livelihood).²² The Copenhagen School has attracted criticism on many fronts, particularly for its conception of societal security.²³ As a constructivist approach, “securitization” is a process of rhetorical construction. In practice, distinguishing between politicization (an actor’s manipulation of a problem for political ends) and securitization proves difficult without going beyond the rhetorical level and examining specific measures actors take to respond to a situation they depict as a security threat.

In the early 21st century, globalization studies have flourished, highlighting a wide range of transnational processes. Nonetheless, the link between security and globalization has not been addressed sufficiently. As Victor Cha has noted, “theory wars” among proponents of constructivist, realist, and liberal institutionalist schools of thought, as well as the tendency of scholars of globalization to focus exclusively on economic processes, have limited the scope of research on its relationship to security.²⁴

Some scholars, such as Jean-Marie Gu  henno and James Rosenau, however, have noted that globalization poses particular challenges for security because of the contradictory mixture of integration and fragmentation that the process engenders.²⁵

III Risk and Global Security

While international relations theorists have been debating the security consequences of globalization and examining the merits of widening security studies to include non-military threats, social theorists have been developing a conception of risk. For the German sociologist Ulrich Beck, risk refers to a specific category of non-military challenges: the unintended environmental and health consequences of economic and technological decisions.²⁶ In Beck's view, the current era is sowing the seeds of its own annihilation through wasteful and unsustainable resource use and the creation of technologies of destruction.²⁷ Risk is of a different magnitude than externalities; according to Beck "the associated risk-conflicts place a question mark over the whole institutional structure."²⁸

Unlike rational choice theorists who equate risk with clear probabilities of certain outcomes, Beck's conception of risk highlights the lack of control and predictability over the new hazards engendered by such economic decisions, and is similar to what economists refer to as conditions of uncertainty.²⁹ Because of the unpredictability of life in a risk society, it is characterized by what Anthony Giddens termed 'ontological insecurity,' a condition of uncertainty regarding what can be expected in the future.³⁰

Complexity theorists in international relations also speak of uncertainties stemming from the "unintended consequences of complex interactions."³¹ While Beck

views risk as unpredictable, complexity theorists look for regularities in the interaction of complex systems, an effort that some critics view as futile given the contradictory path of post-cold war development.³²

In Beck's terminology, modernization is "reflexive," in the sense that it proceeds, on the one hand, without concern for the broader environmental consequences. On the other hand, he argues that eventual awareness will prompt society to take measures to address the risks that were created.³³ In this respect, Beck's work bridges the gap between what Alexander Wendt terms "scientific realists" who focus on measurable threats and constructivists, like the Copenhagen School, who are concerned with the inter-subjectivity of threat perceptions.³⁴

Beck's concept of risk has been integrated in a range of case studies, from U.S. foreign policy to South Korean society, and is useful in raising questions about social challenges.³⁵ Nevertheless, Beck does not purport to present a theoretical model, nor does this project intend to mechanically apply his conception of risk. Beck's conceptualization is useful, however, for the study of globalization and security, by creating an intermediate zone of "risk," to capture the challenge of transnational problems for the state, society, and the international system, without presupposing that all non-military challenges represent security threats.

This working paper marks the beginning of a book-length study that will incorporate the concept of risk into a conceptual framework and apply it to the analysis of transnational problems in China and their regional impact, with a focus on three issue areas: environment/energy, public health, and migration. The book project will further endeavor to examine how the Chinese government and neighboring states manage risk

and under what circumstances risk is perceived as a security threat. Three levels of analysis will be considered in the book: 1) State (Chinese priorities, political process, regulatory capacity); 2) Society (information flows regarding transnational problems, role of NGOs in promoting awareness, development of transnational epistemic communities); 3) International (securitization of risk, risk management strategies).

Part III China as a Risk Society

Globalization has expanded transnational linkages between China and its neighbors, creating new opportunities for economic exchange and collaboration, but also making China's partners vulnerable to a range of socio-economic risks engendered by Chinese modernization. While the debate over the rise of China identifies the potential security implications of China's increasing economic and military capabilities, viewing China as a risk society highlights how unintended consequences of Chinese reforms place its neighbors at risk in non-military areas, such as the environmental and health spheres.

For China, globalization (*quanqiuhua*) is a relatively new concept, dating to September 1996 when Foreign Minister Qian Qichen referred to it in his State of the World message as a new trend promoting greater international cooperation.³⁶ In Chinese usage, it has a purely economic meaning, referring to the increasing proliferation of global economic flows of goods, capital, and technology. While Western commentary focuses on the retreat of the state confronted with globalizing dynamics, Chinese scholars take the opposite stance, arguing that globalization enhances the need for state intervention and that the state retains the capacity to regulate these flows, (though not without some difficulty).³⁷ In effect the Chinese state is trying to "manage" globalization,

by trying to take advantage of opportunities to advance China's development, while controlling the direction of economic change, and seeking to limit negative consequences, such as the accentuation of regional disparities.³⁸ To address the multifaceted challenges that globalization poses, however, the Chinese government will need both sufficient regulatory capacity and transparency, areas where China remains relatively weak.

As a first stage in a longer ongoing project, this working paper explores the domestic and international impact of China's environmental and public health risk, focusing on two case studies. The first case examines problems of air pollution, global greenhouse gases, and energy resource scarcity in China's relations with Japan and South Korea. The second case addresses the SARS epidemic and China's ties with Southeast Asia. In each case international risk management strategies are identified. Possible international responses to risk include: 1) cooperation; 2) containment; 3) intervention; 4) financial incentives; 5) compensation by sharing risk or creating a substitute for the good at risk; and 6) defensive strategies.³⁹

Environmental Risk

Is China's economic growth sustainable? Estimates of China's environmental degradation and resource needs are controversial. Some analysts like Lester Brown take an alarmist view, contending that resource supplies will not be able to keep pace with the needs of its own growing population.⁴⁰ Other analysts balance their assessments of China's severe environmental problems with an appreciation of changes in Chinese politics, allowing for improved oversight, and a role, however circumscribed, for China's

nascent environmental movement.⁴¹ There is some reason for optimism in the discussion of sustainable development by the new Chinese leadership, but it remains unclear whether concrete measures will be undertaken to match the new rhetoric. Resistance to implementation of environmental legislation on the provincial level remains an important barrier to change. Three factors of the environmental risk China poses to Northeast Asia are considered here: trans-boundary pollution, global greenhouse gases, and energy scarcity.

1. Trans-Boundary Pollution

a) *Sulfur dioxide*

Air pollution is a major health and environmental concern in China. China is the third largest source of sulfur dioxide emissions in the world and the largest in Asia due to its reliance on high sulfur coal and its limited treatment equipment.⁴² By some estimates, Chinese emissions account for more than 13% of sulfur deposits in South Korea and up to 50% in Japan.⁴³

In 2003, sulfur dioxide emissions reached 21.6 million tons, after several years of declining levels. This was the first year since 1998 that sulfur dioxide emissions were above 20 million tons. The increase has undermined a government effort to reduce these emissions to 18 million tons by 2005, mainly by improving emission controls in medium and large enterprises.⁴⁴ The rise in sulfur dioxide emissions stems from the Chinese government's effort to boost its domestic energy supply by building coal-powered thermal plants.⁴⁵ As we will see below, coal consumption in China could double by 2010, increasing emissions problem for neighbors. Xie Zhenhua, head of China's State

Environmental Protection Administration, claims that his agency will implement measures to improve air quality, by requiring that all new thermal plants install desulfurization equipment, monitor existing plants, and providing financial incentives for installing scrubbing equipment.⁴⁶

b) *Nitrogen oxide*

Air pollution from motor vehicles (especially nitrogen oxide emissions) is likely to become a much more severe problem in urban areas over the next decade, due to the rapid expansion of private automobile use. Motor vehicles account for 45-60% of nitrogen oxide emissions and 85% of carbon dioxide emissions in Chinese cities.⁴⁷ China has become one of the fastest growing markets for automobiles—car ownership has grown by 80% during the past four years. Ten years ago bicycles were the dominant form of private transportation, but today members of China's expanding middle class are buying cars instead. There is now one car for every 70 Chinese, compared to one car for every two Americans. Currently there are 20 million vehicles on Chinese roads, but this figure could increase tenfold in the next 15 years due to the rapid expansion of private automobile ownership. In 2003, Chinese citizens purchased 1.9 million cars, up from 1.2 million in 2002 and 800,000 in 2001.

As of July 2005 new rules mandate that heavier vehicles will have to improve gas mileage by 10% in 2010 and by 20% by 2020. This means that sedans will have to have rates of 28-31 miles per gallon. Chinese SUVs will have to do much better than their American counterparts (which get 20 miles per gallon) and achieve a mileage rate of 27-29 miles per gallon. Commercial vehicles and trucks are not included in these rules. Some car manufacturers, like Volkswagen Asia, are switching to diesel engines, which

are more fuel-efficient, though more polluting than equivalent gasoline engines. Since automobile manufacturers will have to provide this technology, car prices are likely to increase and slow demand for vehicles. The Chinese government is also trying to reduce demand for car ownership by instructing banks to restrict credit for car loans and imposing taxes of up to 27% on the purchase price of vehicles with big engines, such as SUVs.⁴⁸

However, the Chinese government is unlikely to take steps to harm the country's booming automobile industries, as China now produces as many cars as Germany. China's automobile manufacturers also provide an important source of employment for laid off industrial workers in the Northeast, China's rust belt, where many automobile plants are now located.

c) *Yellow dust*

As cropland and rangeland in China's northwest provinces are depleted, desertification occurs, releasing dust storms every spring, affecting Japan, South Korea, and even the United States.⁴⁹ Storms bring yellow dust to the Korean peninsula and Japan within one to two days, covering everything with dust and blocking the sunlight. Because the dust combines with industrial pollutants, exposure to the dust often results in respiratory and eye problems.⁵⁰ Severe storms require schools to be closed and flights to be canceled in South Korea. The United Nations Environmental Programme (UNEP) estimates that the dust storms result in annual economic losses of \$6.5 billion in Northeast Asia.⁵¹

More than one-third of Chinese land is prone to desertification, which is occurring on 262 million hectares of pastoral and oasis land in the Xinjiang, Inner Mongolia, Tibet,

Gansu and Qinghai provinces, the largest scale occurrence in world, according to the World Bank. The desert is now just 110 kilometers from Beijing, and any visitor to the capital in April is likely to experience a dust storm. Until 1949 dust storms were infrequent in China, occurring once every thirty years, but since 1990 they have occurred annually and in increasing severity.⁵²

A 1994 land use decision, requiring land used for construction to be offset by cropland elsewhere, exacerbated the desertification problem, as China's booming coastal areas now pay the western provinces to farm land to make up for the cropland the coastal areas lose to urban expansion. The northwestern provinces saw the policy as an economic opportunity, but the already marginal land in these areas began to suffer from erosion due to overplowing and overgrazing. Falling water tables in the region further compound desertification problems in the region. According to Chinese official estimates, 900 square kilometers of land turn to desert every year.⁵³

In 2000 the Chinese government announced it would allocate \$725 million to plant trees and add new grassland, but provincial leaders claim that Beijing has not followed through on this pledge. For example, Inner Mongolia, now 60% desert, has not received the funding and provincial leaders have been seeking support from the local business community instead.⁵⁴

2. Global Warming

China is now the second largest producer of global greenhouse gases (GHG) after the United States, though per capita Chinese emissions are just one-eighth of U.S levels. Nevertheless, China's rising energy needs and automobile use will rapidly increase its GHG emissions in coming decades. According to the International Energy Agency,

increases in Chinese GHG emissions from 2000-2030 will match the increase by all the industrialized countries put together.⁵⁵ China signed the Kyoto Treaty in 1998 and ratified it in August 2002, but, as a developing country, it is not subject to the emissions curbs imposed on developed signatories. Nevertheless, global warming would have considerable adverse consequences for China, including lower crop yields and coastal flooding in the south.

China is also the largest consumer and producer of goods that harm the ozone layer. China has signed Montreal Protocol, establishing schedules for phasing out ozone-depleting substances. Despite some initial difficulties, by 1999 China was in compliance with the protocol's freeze on chlorofluorocarbons (CFCs) and in 2002 also froze its production and consumption of halons.⁵⁶

3. Energy

Although China currently accounts for 10% of oil demand worldwide, China's energy consumption has been rising rapidly, resulting in an increasing dependence on oil and gas imports. In 2003 China overtook Japan to become the second largest consumer of oil, after the United States. China's oil imports are expected to surge to almost 10 million barrels per day by 2030—the same as the U.S. now imports—from the current two million barrels per day, according to the International Energy Agency (IEA). The IEA's *World Energy Outlook* projects that China's oil demand is set to expand by 3% annually from 2000 to 2030, largely due to increased automobile use. Natural gas consumption is projected to increase 5.5% annually in the next three decades, and imports will be needed to meet 30% of demand by 2030.

These projections appear to underestimate the rapid growth in China's demand for energy, if recent figures are any indication of future trends. According to China's Ministry of Commerce, demand for oil will exceed 310 million tons this year, a 6% increase over 2004, requiring imports of 130 million tons. These figures reflect the booming economy's increasing demand for oil products, such as gasoline (up 4% to 54 million tons), diesel (up 6.5% to 110 million tons) and fuel oil (up 5% to 54 million tons). Chinese crude oil production has been increased by 3% this year, achieving 180 million tons in output.⁵⁷

In recent years there have major fuel shortages in major cities and industrial areas for the first time since the early 1990s. In 2004 24 of China's 31 provinces experienced power cuts and rationing had to be introduced in severely affected areas, such as industrial centers located near Guangzhou and Shanghai. In July 2004 6,000 factories in Beijing were ordered to conserve energy by taking one-week breaks or operating at non-peak hours, such as evenings or weekends. The capital's glitzy shopping malls were obliged to reduce air conditioning by one-third until power shortages eased in the fall. To avoid shortages in 2005, the Chinese government has increased domestic output of coal and natural gas and raised retail gasoline prices four times by mid-year. At \$1.73 a gallon (as of August 2005), gas remains well below world levels and future price increases are likely.⁵⁸

Part of China's soaring demand for energy stems from waste—Chinese industries waste 70% more energy than U.S. equivalents. Preferential energy prices for some industrial enterprises only exacerbate the problem. While the Chinese government is taking a measured approach to price reform, in 2003 the new leadership recognized that

energy conservation is a strategic priority. By some estimates, enhanced energy efficiency and conservation could help lower China's oil imports by 12% by 2030.

As of January 1, 2003, China had oil reserves of 18.3 billion barrels, or 1.5% of the world's total reserves, according to the *Oil and Gas Journal*. Chinese reserves are located in Xinjiang, the Bohai Sea near Tianjin, and the mouth of the Pearl River Delta. These oil reserves are costly to exploit due to geological factors. Oil from most of the more accessible areas has already been produced.

China's output of crude oil reached 169 million tons in 2003, up from just 120,000 tons in 1949. According to China's State Information Center, a leading think tank, China's crude oil output will peak at 200 million tons annually in 2015, but even that will be far from enough to cover the country's energy needs. Although China used to be one of the world's largest net exporters of oil outside of OPEC in the 1980s, and relied on the foreign exchange generated to finance trade growth, since 1996 China has become a net oil importer. Imports have risen dramatically, from 1% of consumption in 1985, to 45% in 2002. Imported oil will be needed to fulfill 82% of demand in 2030, compared to 34% in 2001.

In the first eight months of 2004, Chinese imports of crude oil rose by 39% to 79.96 million tons, according to Chinese Customs figures. In 2003, China imported 91 million tons of oil, a 31% increase over 2002. Since half of Chinese oil imports now come from the Middle East, the Chinese government announced in June 2001 the creation of a strategic oil reserve, which ultimately will hold up to a 90-day supply, a fourth of total annual imports. The first of four projected reserve areas, now under construction in Jiangsu province, is expected to be completed by the end of 2005 and will

hold 5.2 million tons of oil. Three other reserve bases will be built in Zhejiang, Liaoning and Shandong provinces.⁵⁹

Natural gas occupies a relatively modest place in China's energy mix, accounting for just 3% of energy consumption or 40 billion cubic meters. China's gas output amounted to 34 billion cubic meters in 2003. The *Oil and Gas Journal* estimates that Chinese gas reserves, located in Xinjiang, Hainan, and Sichuan, are approximately 53.3 trillion cubic feet or 1% of the world's reserves. Like China's oil reserves, its gas resources in the northwest have geological features that make them costly to develop. From 2006-2010, China's annual consumption of gas is expected to reach 100 billion cubic meters, doubling to 200 billion cubic meters by 2020. Half of needed supplies are likely to come from overseas projects.⁶⁰ China is trying to expand natural gas use to reduce sulfur dioxide emissions from coal burning. The Chinese government aims to boost gas-fired generating capacity to 10% of overall capacity by 2020, from the current 2.8%.

At present China continues to depend on coal for 70% of its energy needs, a modest decline from the mid-1990s (when coal accounted for 75% of the energy mix), but a slight increase from the 66-69% usage from 1999 to 2001. China has the third largest reserves of coal in the world—114 billion tons—though much of it is of relatively poor quality. Given its continued dependence on coal, China has been seeking foreign expertise to improve production techniques and enhance transportation, a major obstacle to the expansion of the industry. Although coal production increased by 15% during the first six months of 2004 over the same period last year, many Chinese coalmines are

reaching their production limits and China also imports coal from Russia and other countries.

China also is expanding hydroelectric power, by investing in massive dam projects, such as the Three Gorges Dam, which is projected to generate 18GW. Although China's total hydroelectric reserves stand at 700 million KW, the world's largest, the country's utilization rate stands at just 22.6%. Within fifteen years, China's installed hydroelectric generators are expected to produce 246 million KW and account for 25.9% of electricity.⁶¹ The cost of building transmission lines from the dams, located in remote areas, decrease the profitability of hydropower. Such projects also involve major social costs, due to the need to relocate and compensate populations, and may cause significant environmental damage.

Although China's State Development and Reform Commission contends that China places a priority on hydropower, Premier Wen Jiabao has called greater attention to environmental tradeoffs. Unlike his predecessor who championed the Three Gorges Dam, Wen Jiabao's concern about the ecological impact of a massive dam development the Nu River in Yunnan province, slated to surpass the Three Gorges Dam and produce 21.32 million KW, caused the Nu hydropower project to be placed on hold, though pressures are mounting to move forward with it.⁶²

Introduced in 1991, nuclear power now accounts for less than 2% of electricity capacity, generating just 7 million KW.⁶³ China has three nuclear power plants, at Daya Bay near Hong Kong, at Qinshan south of Shanghai, and at Lingao in Shandong province. The Chinese government plans to build another 20 nuclear plants to generate 40 GW of power by 2030. IAE estimates are more conservative, forecasting 31 GW in

2030 or 5% of China's electricity. Plants operating today, with a total of nine generators, generate just 2 GW.

Recognizing that domestic sources of oil and gas are increasingly unable to meet China's energy needs, Chinese energy companies have been aggressively seeking supplies both in the Asia-Pacific region, in neighboring Russia and Central Asia, as well as in Africa and Latin America. These efforts, accompanied by China's growing demand for energy resources, have transformed China into a major player in global energy markets.

Energy consumption has been rising throughout the Asia-Pacific region, at the same time that regional production has declined. China's booming economy and corresponding rise in demand for energy resources places it in competition with other leading consumers of energy in the region, especially Japan and India. While Japan is currently the largest consumer of energy, economic stagnation has slowed consumption growth, but India and China together are expected to account for at least 50% of projected energy demand in the next decade.

Moreover, record oil prices have generated fears in Asia about the potentially negative impact on economic growth and enhanced concern about the possibility of interrupted supplies due to instability in the Middle East. The Chinese government is attempting to downplay such concerns through more active energy diplomacy. At the November 20-21, 2004 APEC meeting in Chile, Chinese President Hu Jintao proposed an energy initiative to try to stabilize energy markets in the wake of his country's growing demand and the war in Iraq. Hu's plan was designed to improve cooperation in energy resources and promote sustainable development.

China's ability to meet its growing domestic demand for energy, and to balance its energy needs with sustainable development, are considerable challenges.

Nevertheless, energy security is crucial for China's future role as a regional power in Asia. As Robert Manning notes, China could have fifteen aircraft carriers, but this means little if it lacks sufficient oil to fuel its economy.⁶⁴

China's Environmental Risk Management: A New Approach to Sustainable Development?

Options available to China's neighbors in managing environmental risk depend, to a large degree, on the extent to which Chinese domestic policies respond to environmental problems. Since the 16th CCP Congress in October 2002, the new Chinese leadership has embraced the rhetoric of sustainable development, as a part of its overall goal of creating a harmonious society.⁶⁵ For example, on June 28, 2005, Hu Jintao told a Politburo meeting on China's energy strategy that China should promote sustainable production and consumption, and establish a resource conservation system. Nevertheless, in the same speech he also advocated continuing to raise people's living standards to achieve a moderately well off (*xiaokang*) society, goals that may be contradictory given the large size of the Chinese population.⁶⁶ Prime Minister Wen Jiabao has made similar statements on sustainable development. At a March 2005 forum on the environment, population, and health, he called on cadres at every level to approach these issues with greater urgency.⁶⁷ The increased attention to sustainability involves implicit criticism of view that rapid GDP growth should be main indicator of development, as was the case since Deng Xiaoping's day, and a view particularly associated with former Prime Minister Zhu Rongji.

Regular protests throughout China over environmental and other local problems have heightened concern in the top leadership over income disparities and refocused attention on rural problems. A recent poll by the State Environmental Protection Administration found that 94.9 percent of respondents viewed environmental degradation as an important issue that should be addressed immediately.⁶⁸

As with Chinese economic reforms, which began with provincial level pilot projects, the new awareness of sustainable development is now being implemented on an experimental basis. Since 2003 officials have been examining changing the incentive structure for environmental protection by creating what is known as “Green GDP.” According to the new approach, environmental protection would be treated as one of the criteria for promotion of local officials and mechanisms for including pollution-induced economic loss would be created. Green GDP experiments are in process in 10 provinces and cities (Beijing, Tianjin, Chongqing, plus Hubei, Liaoning, Zhejiang, Anhui, Guangdong, Hainan, and Sichuan provinces).⁶⁹

If accurate, estimates of GDP growth that factor in environmental loss and energy waste could revise figures substantially, particularly due to high levels of energy inefficiency. The experiments have already highlighted the challenge of factoring in regional economic disparities in sustainable development policies, as poorer inland provinces claim they lack the funds for environmental protection their richer coastal neighbors may have, while the latter accuse the inland resource producing regions of degrading the environment.

Nevertheless, even a leadership that is truly committed to sustainable development will face an uphill battle due to provincial opposition to enforcement of

environmental regulations and the weakness of State Environmental Protection Administration (which depends on provincial governments for funding in the provinces). While concerned with the prospect of domestic instability over resource degradation, at the same time the Chinese leadership continues to restrict the development of civil society, especially the role of NGOs, which have proven crucial elsewhere in the world in promoting environmental awareness.

Environmental Risk Management in Northeast Asia

How do China's neighbors cope with its mounting transboundary environmental challenges? Lack of transparency in China initially posed considerable barriers to cooperation on acid rain. China did not recognize that it generated a trans-boundary acid rain problem until 1992 and did not even fund the study of acid rain until the 1996-2000 Five-Year plan. China was also initially reluctant to admit that the yellow dust problem originated in Inner Mongolia and preferred to pin the blame on neighbors in Central Asia. Financial incentives have played a key role in promoting multilateral cooperation on trans-boundary air pollution issues, though progress has also occurred at the sub-regional level, through the efforts of scientists and local officials. Although Japan and South Korea have provided cleaner technology, China's weak regulatory capacity poses major obstacles for a substantial shift in environmental practice. Regarding access to energy resources in Asia, a mixture of cooperation and competition has been achieved. As China's energy demand increases, the competitive aspect to risk management is likely to be accentuated.

1. Cooperation

China has signed intergovernmental agreements on environmental cooperation with both South Korea (1993) and Japan (1994). Thanks to a 1993 Korean Foreign Ministry initiative, with the support of the UNDP and the ADB, senior officials in Northeast Asia began meeting to discuss energy and air pollution, ecosystem management, and capacity building. This forum led to the development of sub-regional cooperation on environmental issues, such as the Northeast Asia Sub-Regional Programme for Environmental Cooperation (NEASPEC) and, promoted enhanced communication among regional environmental ministries via the Northeast Asian Conference on Environmental Cooperation (NEACEC) as well as enhanced research.⁷⁰ Another Korean initiative, the Expert Meeting on Long Range Transboundary Pollutants, sponsored by the Korean National Environmental Research Institute, established a program of joint research for South Korea, Japan, and China to measure acid rain.⁷¹ Similarly the Japanese Environment Agency also set up a regional acid rain network and the Ministry of Education supported cooperative research relating to acid rain in China.⁷²

South Korea, Japan, and China also have initiated projects to monitor yellow dust in the region. They have cooperated to set up monitoring stations in China to provide advance notice of dust storms and to develop tree planting programs to help reverse the desertification process.⁷³

2. Financial Incentives

Japan also has been instrumental in providing technical assistance to China to address acid rain and GHG emissions problems. Once the Chinese government admitted

that acid rain from China was reaching Japan, the Japanese government began including desulfurization technology in its Official Development Assistance (ODA) for China and the Ministry of Economy, Trade, and Industry (METI) came up with a Green Aid Plan focusing on clean coal technology and energy efficiency.⁷⁴

By signing agreements on global warming, China is eligible to receive assistance in reducing its GHG emissions, through the Multilateral Fund (Montreal Protocol) and the Clean Development Mechanism (Kyoto Protocol). Japan has played an active role in providing clean technology under these mechanisms. In the past five years Japan's Energy and Industrial Technology Development Organization has conducted feasibility studies for 50 projects to reduce carbon dioxide emissions in China.⁷⁵

3. Competition

Despite Sino-Japanese cooperation on acid rain and Japanese financial support for the use of green technology in China, Japan and China are squaring off as competitors in global energy markets. Japan, which imports 99% of the more than 5 million barrels per day of oil that it consumes, faces the prospect that within the next decade China's oil imports may reach current Japanese levels. A Japanese defense report leaked in November 2004 said war between the two powerful neighbors could be sparked by an energy crisis, which Beijing sharply criticized as evidence of Tokyo's "Cold War mentality." For its part, China also accuses Japan of attempting to disrupt Chinese energy projects around the world, including in Russia, Iran, Sudan and Australia.

China's growing need for energy resources already has led to increased competition between the countries over priority access to Siberian oil. At this writing (August 2005), Japan appears to have outbid China and convinced the Putin government

that a pipeline terminating near Perevoznaya Bay on the Sea of Japan, would be more economically beneficial for Russia than the Daqing terminus Beijing had been lobbying for over the past several years. After neglecting Sakhalin energy, originally focused on the Japanese market, China is now investigating purchasing gas from the Sakhalin 1 gasfields, where Japan has a major stake, and has a joint venture with Rosneft to explore the Venininsky bloc in Sakhalin 3.

Besides Russian energy resources, Japan also has protested China's plan to develop the Chunxiao gas field in the Xihu trough, a 22,000 square kilometer area some 500 kilometers southeast of Shanghai, which is projected to produce 250 million cubic feet of gas per day in 2005. The field is located near the Senkaku/Diaoyutai islands, contested by China, Japan, and Taiwan. The Japanese government contends that the project extends beyond the "median line" between the two countries, while China asserts that the maritime border actually should extend even further east. Japan sent a seismic survey vessel to the field in July 2004 to see if the reserves claimed by China extended into Japanese territorial waters. In protest against what Beijing termed Japan's "dangerous provocation," Chinese destroyers sailed directly into the survey vessel's path, only changing course at the last minute to avoid collision. Originally Royal Dutch/Shell and the Unocal Corporation acquired a 20% stake each and planned to invest \$85 million in the Chunxiao gas project, but after years of discussions with Sinopec and CNOOC, in September 2004 the two foreign companies decided against further participation, claiming that the venture failed to meet commercial requirements.

To sum up, questions regarding the environmental sustainability of China's economic growth remain. Although the new Chinese leadership appears to be recognizing the problem at the rhetorical level, the urgency of their response is at issue. Moreover, provincial opposition to the implementation of legislation, the weak NGO sector, and inadequate transparency continue to pose barriers to environmental risk management, just as they do in the public health sector, to be discussed below. Thus far cooperative approaches to environmental risk management have dominated within East Asia, though competition for energy resources is more likely to accompany growing concerns about access to energy resources.

Public Health Risk

China has made some impressive progress in public health since 1949,⁷⁶ although the public health situation varies considerably by location within China. The AIDS issue brought public health in China to international agenda. Expressing concern about the potential for unchecked spread of the disease, a recent UN report called AIDS in China a "titanic peril." Indeed worst-case scenarios about mortality from AIDS in China predict that the disease could bring 1.5%-5% reductions in per capita economic growth by 2015, which would have profound regional implications.⁷⁷

The spring 2003 crisis over SARS, the first new readily transmissible disease of the 21st century, highlighted the serious public health risks that China poses for its neighbors due to its relative underfunding of public health, inadequate health management system, and lack of transparency. This case study will focus particularly on the impact of SARS and China's relations with Southeast Asia. For Southeast Asian states SARS posed a twofold risk, to their economic security (by causing significant

economic costs due to trade and travel restrictions) and to the human security (impact on health of individuals) of their populations.

The SARS Crisis and Regional Risk Perceptions of China

Prior to the onset of the SARS epidemic, in the fall of 2003, China was widely hailed in the regional media as a responsible partner in Southeast Asia for its actions in recent years.⁷⁸ During the 1997-8 financial crisis China did not devalue its currency, forsaking immediate economic advantage in favor of regional economic recovery. Consequently China could portray itself as a constructive economic player. China began a formal economic partnership with ASEAN (along with Japan and South Korea) when ASEAN+3 came into being in December 1997. Recognizing the concerns in the region about China's growing economic clout, in 2000 China proposed the establishment of a China-ASEAN free economic zone, which is now slowly emerging.⁷⁹

On June 2, 2003, China, five ASEAN members plus five other Asian states agreed to establish an Asian bond fund worth more than \$1 billion to promote regional bond markets and provide capital in case of emergencies. Moreover, at the ASEAN ministerial conference in June 2003 China also proposed a Security Policy Conference to draft a security pact promoting peace and security. The new body would comprise senior military and civilian leaders from ARF countries. China then became the first major power to sign ASEAN's 1976 Treaty of Amity and Cooperation at the Bali summit in October 2003. Nevertheless, only three months later, the crisis over the emergence of Severe Acute Respiratory Syndrome (SARS) threatened the political capital China had been building in the region, as China was portrayed as the single greatest threat to the region's public health and economic livelihood.

SARS, a new type of pneumonia virus, first emerged in Foshan in China's Guangdong province on November 16, 2002. SARS is believed to have originated in civet cats, a wild animal sold in markets in southern China. Humans then became exposed to the virus through contact with the cats in the unsanitary conditions of the markets. On January 31, 2003, the first hyperinfective case was identified and linked to the spread of the disease to 200 others, including many hospital staff. One of these health care workers, a doctor from Zhongshan University in Guangzhou, who had been infected with SARS and was symptomatic, traveled to Hong Kong in February to attend a relative's wedding. He stayed at the Metropole Hotel in Hong Kong, where he passed the virus to 16 others on his floor, who then traveled to Singapore, Vietnam, Canada, Ireland, and the United States, infecting others at home. The Guangzhou doctor also created a chain of infection in Hong Kong, where he passed the virus to hospital staff.⁸⁰

The SARS crisis had a significant impact on the regional economy in Southeast Asia, resulting in major losses for the travel industry, tourism, and the retail sector. Hotel occupancy fell to approximately 20% during the second quarter of 2003, a significant decline considering that 6-7% of GDP in these countries depends on tourism. Initial estimates of the cost of the outbreak projected a 0.6% drop in real GDP growth for Asia and loss of income ranging from \$15-30 billion.⁸¹

The disease afflicted 8,400 people in 29 countries, killing 10% of its victims and 50% of those over 60. By comparison with AIDS or malaria, SARS claimed relatively few victims, but psychologically the virus had a very significant negative impact. Because SARS was a new virus, it was initially unclear what the mechanism of transmission was, creating mass fear in many Asian countries. The identification of

“superspreaders,” capable of infecting hundreds of others, the speed of the spread of the disease worldwide as a result of air travel, the relatively high fatality rate, and skepticism among Asian publics about the ability of their governments to control the disease, as well as the particular problems caused by China’s initial slow response and effort to cover up the outbreak (discussed below), all contributed to overreactions to the crisis, which, in turn, exacerbated its overall economic impact.⁸²

Schools were closed for weeks throughout Asia, quarantines were imposed on foreign travelers in several countries, and individual citizens decided en masse to stay home and avoid public places, leaving restaurants, shopping malls, and movie theaters empty. Moreover, coming just five years after the Asian financial crisis, SARS presented further evidence that globalization had the potential to create devastation as well as economic opportunity and raised fears that the virus could have equally severe economic consequences.⁸³

Thankfully SARS proved short-lived—the World Health Organization declared the outbreak over by July 5, 2003—but the rapid spread of the disease was a wake-up call for Asia about the public health risks that China’s rapid yet uneven development poses for the region. As a WHO representative sent to China to investigate SARS epidemic noted: “The problem of SARS is not going to be solved globally if it’s not solved in China.”⁸⁴ China’s role in addressing SARS and other epidemics is crucial for two reasons. China’s socio-economic conditions (significant rural poverty, overpopulation, insufficient funding for public health) favor the spread of disease. Second, transparency does not come naturally to China’s political leaders, who continue to try to control the flow of information, particularly regarding crises such as epidemics, which may threaten

social stability. Moreover, since the Chinese leadership can only find legitimacy in performance,⁸⁵ they are loath to admit policy errors. Coming right after a period of leadership succession, provincial and city level authorities faced particular disincentives to provide bad news to their new bosses. In the case of SARS, the initial response of Chinese leaders throughout the system was to cover up the epidemic for five months and refuse to cooperate fully with the WHO. This enabled the virus to spread beyond China's borders as well as to infect 5,300 of its citizens, of whom 349 died.

Under pressure overseas and finding it difficult to control the flow of information within China thanks to email and text messaging, the Chinese leadership then faced the unexpected: a whistle-blower amongst military ranks. Dr. Jiang Yanyong, a retired surgeon at a Beijing military hospital, where SARS patients were secretly kept, accused the Minister of Health Zhang Wenkang of lying when he claimed that SARS was under control in China. After *Time Magazine* picked up the story, a political crisis broke out in China, resulting in the firing of the Minister of Health, the Mayor of Beijing, and more than 100 other officials complicit in the SARS cover-up. By mid-April, 2003, the Chinese leadership had launched an anti-SARS campaign, involving the quarantine of some 18,000 Beijing residents, the mobilization of cleaning brigades in affected areas, and the rapid construction of special SARS hospitals. The State Council established a SARS task force on April 23 and 2 billion yuan (\$242 million) were allocated for prevention and control.

A penitent Wen Jiabao attended the ASEAN summit on SARS in late April in Bangkok and told a press conference: "we have already learned our lesson." To make up for its months of inaction, China then hosted a meeting on SARS on June 3 to promote

information-sharing and offered \$1.2 million to set up special fund to prevent SARS in Asia.⁸⁶ Some scholars concluded that the turnaround on SARS demonstrated that Chinese leaders were more sensitized to consequences of integration,⁸⁷ but other indications raise questions about any fundamental shift in China on health as a security issue or on the need for transparency in public health.⁸⁸

China's Approach to Public Health Risk Management

Chinese economic reforms have resulted in the erosion of the PRC's social safety net: by 1998 only 8% of the rural population (representing 70% of the total population) and 53% of the urban population had health insurance.⁸⁹ Before SARS, the Chinese government had sought to reconstitute the pre-reform era rural healthcare network, but this policy is only at the initial phase of implementation.⁹⁰ Urban residents continue to have disproportionate access to health care (50% of hospital beds and health care professionals) compared to rural inhabitants.

Since the central government now pays for just 20% of total health spending, provincial governments must allocate their own funds and those vary considerably, depending on local economic conditions.⁹¹ China continues to spend relatively little on public health in general. According to the WHO's statistics, Thailand, for example, spent \$69 per capita in 2001, compared to \$49 in China. Available resources tend to be focused in campaigns, such as the successful polio immunization effort in the 1990s, which enjoyed Jiang Zemin's support.⁹² A crisis mentality does not ensure public health, however.

While attention to public health in China has been generally insufficient, the SARS case posed a particular challenge. Since it was a new disease, it was not listed in 1989 law on infectious diseases, requiring that provinces publicize epidemics. Consequently provinces were not legally obligated to report the incidence of SARS. Guangdong had its own reasons to avoid such action, since the disease appeared at a particularly unfortunate time, during the Chinese New Year holiday and just before a new provincial leadership team was preparing to take office. Inadequate information also contributed to the paralysis at the provincial level, as local health officials were initially unaware that SARS was highly contagious. Training in infectious disease control is generally poor in China.⁹³

Moreover, the Ministry of Health in Beijing has to authorize provincial governments to disclose epidemics. By the time it became clear that an epidemic was unfolding in March 2003, the National People's Congress was meeting to select the new Chinese government, and Health Ministry officials were reluctant to interrupt the proceedings with such bad news. Although the network of military hospitals—from which the whistle-blower would emerge—also saw signs of an epidemic, since they were a part of the military bureaucracy, they were not required to communicate their observations to the civilian side of the government.⁹⁴

Did SARS lead to learning more generally about the importance of public health? Observers are split: some see signs of greater attention to public health issues,⁹⁵ while human rights analysts remain critical of the Chinese government's treatment of health-related NGOs and, particularly, of AIDS activists.⁹⁶ At issue is whether or not the change in official rhetoric is being translated into fundamental shifts in attitudes towards

transparency on health issues. This is an important question since China has at least one million infected with AIDS, and the possibility of an avian flu epidemic looms in future.

President Hu Jintao now claims to pursue people-oriented development, involving the expansion of medical insurance coverage, improving the public health system, and disease prevention.⁹⁷ There have been some signs that the Chinese leadership is paying more attention to AIDS. Some high profile AIDS conferences have been held in Beijing, including one hosted by former President Bill Clinton in November 2003. While China's public health situation claimed the limelight, the Chinese government announced it was providing free treatment for the poor: China received a \$98 million grant from Global Fund and plans to spend another \$850 million to improve prevention and control programs in provinces. Moreover \$272 million was allocated for upgrading blood testing in central and western China.⁹⁸

Nevertheless, it is unclear how effective these programs will be. For example, how is a "poor person" defined? Some early reports found that medicine was being distributed but without follow-up care. Further, it remains unclear whether people will be tempted to undergo testing given the way disease is stigmatized.⁹⁹ Large number of undocumented and untreated cases will pose considerable challenges for China in coming years—China admitted to 840,000 infected with HIV in 2003, while UN/AIDS claimed there was double that number of victims.

According to Human Rights Watch, the experience with SARS produced little sign of fundamental change in China's approach to AIDS, although the latter is a much more widespread problem. In Henan province, where the AIDS story first broke due to blood-for-profit scheme, no officials were fired. Instead they were promoted. Liu Quanxi

former head of the Henan Provincial Ministry of Health, who developed blood collection scheme, was named deputy director of the National People's Congress Committee on Health, Education, and Culture in February 2003. The former head of Henan Communist Party, Chen Kuiyan, was made head of the Chinese Academy of Social Sciences (CASS) in January 2003.¹⁰⁰

Moreover, the commitment to transparency in health issues appears to have been short-lived. In October 2003 Ma Shiwen, deputy director of the Office of Disease Control in the Henan Health Department was sentenced to eight years in prison for circulating an internal report on AIDS to activists. He was released, but then arrested again on the same charges, before being released again. The 2003 Human Rights Watch report on AIDS in China, *Locked Doors: The Human Rights of People Living with HIV in China*, contrasts the full (albeit belated) mobilization of public health machinery in the SARS crisis with the relative neglect of the AIDS threat, afflicting people considered expendable in China: drug users, sex workers, homosexuals, ethnic minorities, and the poor rural residents who sold their blood in Henan and seven other provinces.

Although some observers hail the SARS experience as a watershed in Chinese attitudes towards transparency on public health issues, several journalists were harassed because of their role in exposing the epidemic. In March 2004, Chen Yizhong, former deputy editor-in-chief of Guangdong's *Southern Metropolitan Daily* was detained on corruption charges. A public outcry led to his release six months later.¹⁰¹ Meanwhile, on the eve of the anniversary of the Tiananmen Square protests, Dr. Jiang Yanyong, the SARS whistleblower, was placed in military custody and forced to undergo political indoctrination. Although criminal charges against him were investigated, he was released

45 days later after his incarceration led to widespread criticism internationally.¹⁰²

Nevertheless, the 73 year-old military doctor remained under house arrest and was unable to travel to Manila in August 2004 to receive the Ramon Magsaysay medal, the Asian equivalent of the Nobel Peace Prize, for his role in uncovering the extent of the SARS crisis.¹⁰³

Although AIDS poses a significant public health risk within China and the SARS epidemic proved to be short-lived, from the perspective of neighboring countries, a bird flu epidemic originating in China is a very significant trans-boundary risk. Health experts are very concerned about the possibility of a pandemic developing, similar to 1918 flu, which killed more than 20 million people worldwide.¹⁰⁴ Bird flu (H5N1) already has jumped the species barrier from birds to pigs and now humans. Thus far it has been found in nine Asian countries, killing 54 people out of 100 infected. Reports of human deaths from bird flu in Thailand and Vietnam and the detection of the virus in pigs in China's Fujian province have caused considerable alarm.¹⁰⁵ According to the WHO, an avian flu pandemic could lead to as many as 2 million deaths in Asia alone, and another 7 million worldwide.¹⁰⁶

Public health professionals, such as David Ho, an expert on AIDS in China, warn that despite greater high level attention to the health sector during the SARS crisis, China's disease-surveillance system remains underfunded and health care workers continue to be inadequately trained to safeguard the public from epidemic diseases. Accord to Ho, China needs to improve its disease alert system, raise the priority of microbial threats in medical research, and devote greater resources to health care infrastructure.¹⁰⁷

There are already some signs of trouble ahead: in June 2005 the WHO expressed concern that some Chinese farmers, with support of local officials, were injecting poultry with amantadine, an anti-virus medicine for humans. This practice could make drug ineffective against humans, in the event it were needed in a bird flu outbreak. At first the Chinese Ministry of Agriculture denied the problem, then later acknowledged that better outreach had to be done in rural communities.¹⁰⁸

Public Health Risk Management Strategies in Southeast Asia

China's neighbors in Southeast Asia were unusually frank in calling attention to China's responsibility for the spread of SARS. Singapore, one of the hardest hit in the region, was particularly critical of China's lack of openness, a sharp departure from the city-state's usually conciliatory approach to China. Prime Minister Goh Chok Tong called SARS the worst crisis the city-state faced since independence and noted that all of Asia would have been better off, had China's leaders thought to warn them of the epidemic in November 2002.¹⁰⁹ As Goh told his ASEAN colleagues in Bangkok in April 2003: "SARS may not kill everyone in Singapore. But it can kill the Singapore economy."¹¹⁰ The first casualty of the SARS crisis in terms of economic cooperation in Southeast Asia was the commitment to open regionalism, as states imposed quarantines and took steps to improve border regulation. On the positive side, Prime Minister Goh and others speculated that investors might reassess their focus on China, now that SARS highlighted its unpredictable regional impact, and choose to invest in Southeast Asia instead.¹¹¹

Because the rapid spread of SARS posed considerable risk to the economies and human security of Southeast Asian states, their first impulse was to implement defensive strategies and containment measures. Since the lack of transparency in China's public health system set barriers to the cooperation that could be achieved initially, Southeast Asian states also worked with the WHO to move China to greater openness in its approach to the virus. By the end of April, after China's leaders finally admitted to the severity of the SARS problem within China, Southeast Asia and China began implementing a number of cooperative efforts to deal with SARS.

1. Containment

Southeast Asian states strengthened border controls. Travel by overseas workers—a key source of revenue for the Philippines, Thailand, and Indonesia—was halted temporarily.¹¹² Travelers from severely affected areas such as China and Hong Kong were subject to mandatory quarantines in several countries. Singapore and Vietnam, the countries that were hardest hit by the SARS virus, imposed quarantines early on in the crisis. Singapore revived a law authorizing mandatory quarantines on persons with exposure to SARS and criminalizing non-compliance. Vietnam also imposed a quarantine on those suspected of exposure, including 2,000 students who returned from China in May 2003. Travelers also faced increased scrutiny at health checkpoints during border crossing and were required to undergo mandatory temperature screenings and fill out detailed health forms.

2. Intervention

Southeast Asian states worked with the WHO (often in cooperation with the U.S. Center for Disease Control) to identify the transmission process for SARS cases and develop effective treatment strategies. WHO scientists visited affected countries to provide advice, share knowledge, and promote information sharing. The WHO can only intervene on the request of member states, however. The early stonewalling by the Chinese government prevented the WHO from finding out the extent of SARS in China or providing necessary expertise when the virus first appeared in November 2002.

When the WHO issued its first global warning on SARS on March 15, 2003 the Chinese media was forbidden to report it. Initially the Chinese government only admitted to SARS cases in Guangdong and limited the WHO visit to that province. On March 25, Beijing acknowledged there were cases outside of Guangdong, but still downplayed the seriousness of the epidemic. After *The Wall Street Journal* called for a ban on travel to China and the WHO issued a travel advisory for mainland China and Hong Kong, the Chinese Minister of Health held a press conference on April 9 to reassure the world that SARS was under control.¹¹³ It was only after Dr. Jiang Yanyong accused the Chinese government of lying, resulting in a political shakeup, that the WHO was able to investigate the SARS problem more fully in China. Even so, some observers alleged that China's cooperation was selective: Shanghai's insistence that it had only a handful of SARS cases raised suspicions, for example. Moreover, at China's insistence, the WHO was only allowed to deal with Taiwan's SARS problem indirectly, a position that enflamed cross-straits relations.

3. Cooperation

Multilateral cooperation on SARS in Southeast Asia accelerated once China admitted to the scope of the problem. Among the most significant efforts were the ASEAN Health Ministers' Meeting in Bangkok on April 26, 2003 and the SARS symposium held in Beijing on June 3, 2003. At the Health Ministers' meetings, leaders of ASEAN together with the Chinese and Hong Kong governments, agreed to standardized health screening for all travelers in the region and information-sharing on the location of SARS cases.¹¹⁴

Conclusions: China and Risk Management in Asia

China's economic rise is undeniable, but non-military factors of security also shape its role in Asia. While the debate on the rise of China posits that a strong China poses a threat requiring containment, a weak China is not a threat and should be engaged, and a more responsible China is adhering to international norms, a focus on non-military factors of security comes to different conclusions. A China with poor regulatory capacity and inadequate transparency creates risk for neighboring states, necessitating a varied set of risk management strategies. Multilateral cooperation and containment are just two of such strategies, also including defensive measures, competition, and bilateral financial incentives. These are not mutually exclusive; indeed, China's neighbors typically employ several risk management strategies simultaneously.

In the long-term, two processes will influence the degree of risk that China poses in East Asia. According to Beck, reflexive security is a two-fold concept: it highlights, on the one hand, the lack of awareness of risk in the economic and technological

decisions that policymakers make. On the other hand, it includes the possibility of public awareness of risk. In the case of China's environmental and public health risk, the role of knowledge and information will be crucial. The SARS case called attention to the difficulty the Chinese leadership faced in limiting information to its own people when text messaging and the Internet are widely available throughout China. The Chinese government stepped in to intervene to limit access, in the SARS case, for example, but such efforts are typically *ex post facto*, leaving a segment of the Chinese population, at least, more informed than the leadership desired.

Scholars of China's environmental politics point to the development of environmental NGOs and the involvement of Chinese environmental researchers in global epistemic communities, but also point to the limits of such networking. As Beck notes, "Dangers which become publicly known, even though the relevant authorities claim to have everything under control, create new leeway for political action."¹¹⁵ Thus, risk awareness becomes linked to processes of democratization, as the development of the environmental movement in the former Soviet Union amply demonstrated.¹¹⁶ For the Chinese leadership, then, willingness to confront the risks associated with its economic development poses political challenges they have as yet been reluctant to take up. Beck argues, however, that risk awareness may be as unintended as the risks themselves, opening up "transnational social spaces" conflictually even as efforts are made to repress knowledge of the side effects of economic change.¹¹⁷

Just as risk may engender processes of domestic political change, internationally it may also provide additional incentives for the formation of "security communities" to better cope with risk management as a region.¹¹⁸ In Asia, the discussion of security

communities has tended to focus on the existence of common norms of behavior. In the long-term, cooperative risk management strategies could also form the basis for security communities in Northeast Asia, perhaps on particular issues, such as environmental or public health security. The emergence of such security communities, as with democratization, would assume a commitment to transparency and a priority on developing regulatory capacity on the part of members. At present such a commitment remains uneven in East Asia, because of its potential political consequences for authoritarian states. Consequently risk management is likely to remain a persistent feature of international relations in East Asia and it will be important to take into account non-military factors of security to gain a more accurate understanding of regional interactions, particularly in response to the rise of China.

¹ For example, see Wang Shaoguang, "The Problem of State Weakness," *Journal of Democracy*, Vol. 14, No. 1, January 2003, pp. 36-42; and Pei Minxin, "Will China Be Another Indonesia?" *Foreign Policy*, Autumn 1999, pp. 94-109.

² China's GDP at purchasing power parity prices is estimated at \$7.262 trillion or \$5,600 per capita. In actual prices, GDP stands at \$1,586 per capita. These figures do not capture the PRC's vast income disparities. According to China's National Bureau of Statistics, urban residents had an average annual income of \$1,139 in 2004, while rural residents income reached just \$355. "Income Gap Critical by 2010, Experts Warn," *Beijing CEINet Corporation*, August 26, 2005.

³ FY2005 Report to Congress on PRC Military Power, July 2005, www.defenselink.mil, p. 29.

⁴ Nicolas Kristof, "The Rise of China," *Foreign Affairs*, November/December 1993, pp. 59-74.

⁵ Chinese scholars and officials are also grappling with ways to depict the foreign policy implications of China's rapid economic development as the discussion within China of its "peaceful rise" attests.

⁶ Thomas Christensen argues that China is not yet a peer competitor of US, but can pose significant challenges for the U.S. without catching up militarily, for example on Taiwan. See Christensen, "Posing Problems without Catching Up," *International Security*, Vol. 25, No.4, 2001, pp. 5-40.

⁷ Robert S. Ross, "Beijing As a Conservative Power," *Foreign Affairs*, March-April 1997, pp.33-44.

⁸Gerald Segal, "Does China Matter?" *Foreign Affairs*, September/October 1999, www.foreignaffairs.org.

⁹George Gilboy, "The Myth Behind China's Miracle," *Foreign Affairs*, July/August 2004, www.foreignaffairs.org

¹⁰ For example, David Shambaugh, "China Engages Asia: Reshaping the Regional Order," *International Security*, Vol. 29, No. 3, Winter 2004/05, pp. 64-99; Robert Sutter, "Asia in the Balance: America and China's 'Peaceful Rise,'" *Current History*, September 2004, pp. 284-289; David M. Lampton, "The Stealth Normalization of U.S.-China Relations," *National Interest*, Fall 2003, pp. 37-48; Elizabeth Economy, "Changing Course on China," *Current History*, Vol. 102, No. 665, September 2003, pp. 243-249.

¹¹Evan Medeiros and M.Taylor Fravel, "China's New Diplomacy," *Foreign Affairs*, Nov/Dec 2003, www.foreignaffairs.org.

¹²George Gilboy and Eric Heginbotham, "China's Coming Transformation," *Foreign Affairs* July/August 2001, www.foreignaffairs.org; Elizabeth Economy, "Don't Break the Engagement" *Foreign Affairs*, May/June 2004, www.foreignaffairs.org.

¹³Alastair Iain Johnston "Is China a Status Quo Power?" *International Security*, Vol. 27 No. 4, Spring 2003, p. 49.

¹⁴ Lester Brown, "Redefining National Security," *WorldWatch Paper* No. 14, 1977.

¹⁵Idem. Also see Jessica Tuchman Matthews, "Redefining Security," *Foreign Affairs*, Vol. 68, 1989, pp. 169-71.

¹⁶ Richard Ullman, "Redefining Security," *International Security*, Vol. 8, 1984, pp. 129-53.

¹⁷ Robert Kaplan, "The Coming Anarchy," *Atlantic Monthly*, Vol. 273, No. 4, 1994, pp. 44-65.

¹⁸ Thomas Homer-Dixon, "Environmental Scarcities and Violent Conflict: Evidence from Cases," *International Security*, Vol. 19, No. 1, 1994, pp. 5-40.

¹⁹ There is a large literature debating whether or not environmental problems should be viewed as security issues. For a volume that includes some representative articles, see Daniel H. Deudney and Richard A. Matthew, eds. *Contested Grounds: Security and Conflict in the New Environmental Politics* (Albany: State University of New York Press, 1999).

²⁰ Barry Buzan, Ole Waever, and Jaap de Wilde, *Security: A New Framework for Analysis*, (Boulder: Lynne Rienner, 1998), p. 26.

²¹ Buzan et al., p. 31.

²² Buzan et al, pp. 7-8.

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²⁴ Victor D.Cha, "Globalization and the Study of International Security," *Journal of Peace Research*, Vol. 37, No. 3, 2000, pp.391-2.

²⁵ Jean-Marie Guéhenno, "The Impact of Globalisation on Strategy," *Survival*, Vol. 40, No. 4, Winter 1998-99, p. 8; James Rosenau, *Along the Domestic-Foreign Frontier: Exploring Governance in a Turbulent World*, Cambridge: Cambridge University Press, 1997).

²⁶ Ulrich Beck, *World Risk Society*, Cambridge: Polity, 2000, p. 4, 50. Also see Anthony Giddens, *Runaway World*, New York: Routledge, 2000, p.44. Giddens calls risks based on our decisions manufactured risks.

²⁷ Beck, pp. 73, 81

²⁸ Ulrich Beck, *What Is Globalization?* Cambridge: Polity Press, 2000; p. 39.

²⁹ James Davis, "Be Careful!" *International Studies Review*, p. 106. Davis notes that rational choice theorists develop models of probabilities for particular risk situations, while probabilities are unknown under conditions of uncertainty.

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