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IS EAST ASIA INDUSTRIALIZING TOO QUICKLY? ENVIRONMENTAL REGULATION IN ITS SPECIAL ECONOMIC ZONES

Benjamin J. Richardson*

ABSTRACT

East Asia is undergoing its own Industrial Revolution. Special economic zones (SEZs) are playing a key role in its economic transformation. However, industrialization has brought great environmental concern. Over recent decades, China, the Philippines, South Korea, and other newly industrializing economies in East Asia have designated special areas for foreign investment and export production to which have been conceded favourable investment and trade conditions, and often exemption from certain kinds of regulation. "Race to the bottom" and related theories of the effects of inter-jurisdictional competition for investment predict that environmental regulation would be compromised in SEZs. Contrary to such hypotheses, there is some evidence that environmental regulation in East Asia's industrializing zones is stricter than in other parts of their economies, and that foreign investors are sometimes more strictly regulated than local businesses. The experience of East Asia's SEZs — particularly in China — suggests we need to re-think how we conceptualise the relationships between environmental law and foreign investment in the context of rapidly industrializing developing countries. This experience also reveals persistent weaknesses in the legal systems of East Asia and the fragility of the rule of (environmental) law. To address this, further reform to the environmental regulation of SEZs should be grounded in more wide-ranging and basic improvements to administrative regimes, policy instruments and access to justice.

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I. THE SETTING AND PROBLEM

Is East Asia industrializing too quickly? Its bullish economic growth has engendered massive environmental change, making the region one of the planet's most environmentally stressed.¹ A maelstrom of economic modernization, epitomized by rapid urbanization and industrialization, has created extensive environmental problems that require stronger legal and policy responses. The apotheosis of this economic transformation is the special economic zones (SEZs). In China, South Korea, Thailand and other "Newly Industrializing Countries" (NICs), special areas have been designated to lure foreign investment and export production through favourable investment and trade conditions, and often exemption from certain kinds of regulation. As sites of hyper-industrialization, the SEZs are vulnerable to acute environmental pressure. East Asia's fragile legal institutions and its difficulties of implementing a rule of law mentality pose great challenges to the development of effective environmental regulations capable of keeping pace with the frenetic economic changes.

The region's Industrial Revolution has made its members known as Asian "tigers", "dragons" or "miracles".² Though they share a similar economic trajectory, there are pertinent differences in their economic structures, legal cultures and political ideologies. Such differences, in turn, lend to variations in their environmental laws and policies.³ South Korea and Taiwan have enjoyed the most consistent growth and relatively higher standards of living, followed by Malaysia and Thailand.⁴ In a third tier are countries that have poorer, largely agricultural-based economies at a nascent stage of industrialization, such as Vietnam and Indonesia.⁵ China is a *sui generis* case, for its sheer size masks considerable regional variations in its economic moderni-

1. See, by way of introduction, ASIA'S ENVIRONMENTAL CRISIS (Michael C. Howard ed., 1993).

2. See generally ALICE H. AMSDEN, THE RISE OF THE "THE REST": CHALLENGES TO THE WEST FROM LATE-INDUSTRIALIZING ECONOMIES (2001); World Bank, THE EAST ASIAN MIRACLE: ECONOMIC GROWTH AND PUBLIC POLICY (1993).

3. AJIT S. BHALLA, UNEVEN DEVELOPMENT IN THE THIRD WORLD: A STUDY OF CHINA AND INDIA 7 (1992).

4. See ALICE H. AMSDEN, ASIA'S NEXT GIANT: SOUTH KOREA AND LATE INDUSTRIALIZATION 3 (1989); PETER C.Y. CHOW, TAIWAN IN THE GLOBAL ECONOMY: FROM AN AGRARIAN ECONOMY TO AN EXPORTER OF HIGH-TECH PRODUCTS xv (2002). See generally HYUNG-KOO LEE, THE KOREAN ECONOMY: PERSPECTIVES FOR THE TWENTY-FIRST CENTURY (1996).

5. For evidence of the acute environmental problems in Vietnam, see David Drakakis-Smith & Chris Dixon, *Sustainable Urbanization in Vietnam*, 28 GEOFORUM 21, 21 (1997).

zation.⁶ But all of these countries are market economies or moving in that direction, and all seek to modernize their economies through industrialization, foreign investment and technology, and through participation in the global economic and legal order.

While East Asia's spectacular economic growth has created millions of jobs and lifted living standards for many, its environmental costs have been steep. Poverty alleviation, reduced incidents of illiteracy and infant mortality, and other social and economic benefits must be viewed in the context of a broader deterioration in environmental conditions.⁷ A ubiquitous political philosophy in East Asia has been to "grow first, clean up later".⁸ The synergistic effects of high urbanization, rapid population growth and intensification of land use have created some horrendous environmental problems. Lester Brown of the World Resources Institute has drawn comparisons between East Asia's hyper-industrialization to the earlier industrialization period of Western Europe and North America.⁹ The latter regions contained far fewer people and relatively more resources than East Asia today. Never in human history have so many people climbed the food chain so quickly.¹⁰ East Asia's stupendous economic expansion has been exceeded by even faster growth in pollution.¹¹

What do such conditions imply about the condition of environmental regulation in the region? At first glance, most East Asian states have amassed sizeable collections of environmental laws and policies, often borrowing from Western precedents. They have also ratified many international environmental treaties. But appearances can be misleading. China, for example, has a plethora of environmental laws, policies and an extensive administrative apparatus, but its seeming successes in environmental policy *formation* have not been matched by policy *implementation*. Persistent weaknesses in its underlying legal in-

6. See SHAOGUANG WANG & ANGANG HU, *THE POLITICAL ECONOMY OF UNEVEN DEVELOPMENT* (1999).

7. See Guatam Kaji, *Challenges to the East Asian Environment*, 7 PAC. REV. 210 (1994); RICHARD L. EDMONDS, *PATTERNS OF CHINA'S LOST HARMONY: A SURVEY OF THE COUNTRY'S ENVIRONMENTAL DEGRADATION AND PROTECTION* (1994).

8. See *ASIA'S ENVIRONMENTAL CRISIS* (Michael C. Howard ed., 1993).

9. Lester Brown, *Can we Raise Grain Yields Fast Enough?*, 10 WORLD WATCH 8, 9 (1997).

10. *Id.* Of course, economic growth cannot be simplistically equated with high pollution, for historically Eastern Europe had low growth and high pollution while, conversely, Japan enjoyed high growth and lowered pollution. But economic growth and ecological stress regrettably often coincide; see generally DONELLA H. MEADOWS ET AL., *BEYOND THE LIMITS: CONFRONTING GLOBAL COLLAPSE: ENVISIONING A SUSTAINABLE FUTURE* (1992).

11. Carter Brandon, *Reversing Pollution Trends in Asia*, 31 FIN. & DEV. 21, 21 (1994).

stitutions have hampered environmental reforms. These problems can be traced to various cultural and political conditions that undermine the rule of public law. We need to ask whether these general dilemmas of environmental regulation are applicable to the SEZs, which have often been lavished with institutional support and financial resources unavailable in other economic sectors. What variables have shaped environmental regulation in the SEZs? "Race to the bottom" theories of inter-jurisdictional competition for investment would predict that the economic policies of East Asia would undermine environmental regulation in the SEZs. Therefore, through an analysis of the SEZs experience, what theoretical conclusions about environmental governance in the context of rapid industrializing economies can be drawn? And what viable institutional and legal reforms could help reduce the environmental impact of the SEZs?

These are the primary concerns of this Article. The broad argument advanced here is that while SEZs can be hot-spots for environmental mismanagement, these industrializing precincts have also pioneered some improvements to public regulation and policy implementation. Their environmental regulation is sometimes stricter than in other areas that have been shielded from the full brunt of industrial transformation. In many cases, the presence of substantial foreign investment has contributed to improvements in environmental management. Indeed, solutions to East Asian environmental regulatory weaknesses may well reside in the areas most open to the market. SEZs can offer an arena for experimentation of environmental law and for the testing of new regulatory techniques. Also, certain environmental advantages may ensue from engagement with the international market, which can offer environmental technologies, management techniques, and financial resources not readily available domestically. However, until generic weaknesses in the legal institutions of some East Asian nations are addressed, the scope for environmental law reform in some jurisdictions appears to be limited.

In the next Part, this article traces the economic transformation of East Asia and its environmental legacy. It details the role of the SEZs in this process. Part III of the Article examines the state of environmental law in the region and analyzes the drivers and obstacles to environmental law reform in East Asia. It explains the obstacles to establishing the rule of law that must be overcome if the region's environmental reforms are to institutionally survive. From this general perspective, Part IV considers environmental regulation in the SEZs, focusing on pollution control. It highlights differences between the environmental regulation of foreign investors and domestic enterprises. Part V

canvasses the role that ecological modernization reforms play in strengthening environmental regulations in the SEZs. Through its comparative and interdisciplinary approach, this Article will illuminate the state of environmental regulation in East Asia's NICs, and thereby help advance theoretical debates regarding how environmental law functions in the face of severe economic change. While developments in all industrializing nations of East Asia are considered, China is the focus of the Article because it has had the most substantial experience with the SEZ model.

II. EAST ASIA'S INDUSTRIAL TRANSFORMATION AND ITS ENVIRONMENTAL CONSEQUENCES

A. THE DEVELOPMENTAL ROLE OF EAST ASIAN STATES

East Asia—stretching from Korea to Indonesia—contains many newly industrializing countries.¹² They include, principally, China, Taiwan and South Korea, as well as Indonesia, Malaysia, the Philippines, Thailand and Vietnam. They have similar economic ambitions, but differ considerably in their history, geography, demography, ethnicity, political ideology and level of economic progression. Despite their diversity, the state has played a pivotal role in the economic transformation of all the countries. Economic policies have emphasized industrialization and quick economic growth.¹³ East Asian governments have accepted primary stewardship of growth and given it higher priority than their Western counterparts. It has been estimated that while it took the West some 400 hundred years to achieve a tenfold increase in per capita income, South Korea and Taiwan bolted to the same gain in merely 50 years.¹⁴

While virtually all East Asian governments have adopted industrial policies to accelerate and direct economic development, the “tiger” economies of Northeast Asia (e.g., South Korea and Taiwan) have followed the state-driven industrial policy more rigorously and with greater success.¹⁵ Their growth rates were

12. “East Asia” as a region has no authoritatively-accepted boundaries. Its core certainly includes China, Taiwan, North Korea, and South Korea and Japan. It is also commonly understood to include the ASEAN group (Association of South East Asian Nations) and thus the sub regions of Indochina (e.g., Vietnam) and Southeast Asia (e.g., Thailand, Malaysia, Singapore and the Philippines). See further PHILIPPE RÉGNIER, *REGIONALISM IN EAST ASIA* (2003).

13. Fred Robins, *Industry Policy in Asia*, 1 *ASIAN BUS. & MGMT.* 291 (2002).

14. Malcolm Dowling, *Industrialization in Asia: A Tale of Two Regions*, 8 *J. ASIAN ECON.* 295, 295 (1997).

15. *Id.*

about 7.5 percent annually through the heady 1970s and 1980s.¹⁶ The resource-poorer countries of South Korea and Taiwan adopted an economic strategy to overcome their impoverished natural resources endowment by investing first in labour-intensive industries (e.g., textiles) and, later, using earnings to expand into capital-intensive high-technology industries.¹⁷ By contrast, the resource-rich countries of mainly Southeast Asia (e.g., Malaysia and Indonesia) focused their economic policies on exploitation of their forests, minerals and other abundant natural resources.¹⁸

Foreign direct investment (FDI) and international trade have been seminal elements in both types of economic strategies. FDI to developing countries grew from an average of \$46B per year in the 1988-93 period to over \$240B annually by 2000.¹⁹ South Korea's annual growth of trade increased from an average of 1.4 percent during the years of 1950-60, to 37 percent in the period of 1970-80.²⁰ In Taiwan, trade over the same period jumped from 6.5 to 28.6 percent.²¹ East Asia is now a magnet for huge quantities of FDI, attracting more foreign investment than any other developing country region. A wide variety of projects have been targeted for FDI, especially chemicals, metallurgy, car manufacturing, electronics and textile manufacturing.²² By 2002, China had become the world's largest recipient of FDI, with a US\$53 billion annual inflow.²³ Most of this investment went to China's SEZs and open economic cities.²⁴ Between 1980 and 2000, Shenzhen's SEZ sucked in US\$20 billion of FDI,²⁵ and recorded the fastest growth of any part of China.²⁶ Although much of this investment into China, and some other parts of East Asia,

16. Shinichi Ichimura & James W. Morley, *Introduction: The Varieties of Asia-Pacific Experience*, in *DRIVEN BY GROWTH: POLITICAL CHANGE IN THE ASIA-PACIFIC REGION* 3, 5 (James W. Morley ed., 1993).

17. Dowling, *supra* note 14, at 297.

18. *Id.* at 298; Ichimura & Morley, *supra* note 16, at 7.

19. UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT [hereinafter UNCTAD], *World Investment Report 2001* (2001), available at <http://www.unctad.org/en/docs/wir01full.en.pdf>.

20. *Id.* 27.

21. *Id.*

22. See, e.g., *Funds Pour into Economic Zone*, CHINA DAILY, June 29, 2004, at 10, available at <http://www1.cei.gov.cn/ce/doc/cen3/200406294021.htm>.

23. ORGANIZATION FOR COOPERATION AND ECONOMIC DEVELOPMENT [hereinafter OECD], *RECENT TRENDS IN FOREIGN DIRECT INVESTMENT* 3, 33 (2000).

24. M. Ogutcu & M.ehmet Ögütçü & Markus Taube, *Getting China's Regions Moving*, 231 OECD OBSERVER 13, 13 (2002).

25. *The Rise and Rise of an SEZ*, HONG KONG MAIL, Jan. 23, 2002.

26. *But It's Unlikely to Check Shenzhen's Growth*, AUSTRALASIAN BUS. INTELLIGENCE, Jan. 14, 2003, at 1008014; see also WEIPING WU, *PIONEERING ECONOMIC REFORM IN CHINA'S SPECIAL ECONOMIC ZONES—THE PROMOTION OF FOREIGN INVESTMENT AND TECHNOLOGY TRANSFER IN SHENZHEN* (1999).

is from North American and European companies, increasingly it is also from other East Asian companies, especially Japanese firms.²⁷

Underpinning the economic transformation of East Asia is state-steered development.²⁸ East Asia's economic "miracle" has not been a serendipitous consequence of a conflation of various market forces, but a result of specific economic policies and active intervention by governments. Unlike the earlier 19th century laissez-faire traditions of the West, state involvement in East Asia began not in the liberal mould of detached market regulation, but as a deep involvement in capital allocation and the restructuring of markets.²⁹ After their independence, most postcolonial administrations in the region nationalized foreign companies, set up numerous state enterprises, and launched ambitious national development plans. Governments in Malaysia, Singapore, South Korea, Taiwan and Thailand all saw state intervention in the market as crucial to support economic growth.³⁰ Their industrialization took the shape of command capitalism, wherein economic development was centrally planned, markets were highly regulated, and physical infrastructure such as transport and communication facilities was subsidised by the state.³¹ In Taiwan, the state legislated to help transform agricultural lands into high intensity industrial zones.³² The Thai government's economic blueprint was to shift from import-substitution to export-oriented investment.³³ South Korea's former President Park Chung-Hee built an authoritarian political regime from which he imposed policies to stimulate the rapid modernization of the economy through periodic five-year economic plans in

27. OECD, *supra* note 23, at 33. One quarter of Malaysia's FDI has come from Singapore in recent years and Hong Kong provides about 60 percent of China's FDI. *Id.* at 34.

28. KJELD ERIK BRØDGAARD & SUSAN YOUNG, *Introduction: State Capacity in East Asia*, in STATE CAPACITY IN EAST ASIA: JAPAN, TAIWAN, CHINA, AND VIETNAM 1, 1 (2001).

29. See DRAGONS IN DISTRESS: ASIA'S MIRACLE ECONOMIES IN CRISIS (Walden Bello & Stephanie Resenfeld eds., 1991).

30. See Richard Grabowski, *Developmental States and Developmental Entrepreneurial Groups: Asian Experiences*, 13 J. ASIAN BUS. 25 (1997); FREDERIC DEYO, THE POLITICAL ECONOMY OF THE NEW ASIAN INDUSTRIALISM (1987); MANUFACTURING MIRACLES: PATTERNS OF DEVELOPMENT IN LATIN AMERICA AND EAST ASIA (Gary Gereffi & Don Wyman eds., 1990).

31. *Introduction: The Rise and Crisis of the Dragon Economies*, in DRAGONS IN DISTRESS: ASIA'S MIRACLE ECONOMIES IN CRISIS, *supra* note 29, at 1, 7.

32. Martha F. Bishai, *The Development of Industrial Land in Taiwan: A Legal Framework for State Control*, 26 J. DEVELOPING AREAS 53 (1991).

33. Pasuk Phongpaichit, *Technocrats, Businessmen and Generals: Democracy and Economic Policy-making in Thailand*, in THE DYNAMICS OF ECONOMIC POLICY REFORM IN SOUTH-EAST ASIA AND SOUTH-WEST PACIFIC 10 (Andrew J. MacIntyre & Kanishka Jayasuriya eds., 1992).

partnership with the *chaebol*³⁴ industrial conglomerates such as Hyundai and Samsung.³⁵ Under such economic conditions, law became an instrument of state power rather than a means of constraining the state.³⁶

Since the early 1980s, in line with global trends, East Asian economies have been increasingly deregulated.³⁷ There has been a concerted effort to dilute central economic planning and state economic monopolies through a market-driven model based on neo-liberal assumptions such as rational individual choice, minimal state control, market competition and efficiency, and free trade.³⁸ Traditionally state-controlled sectors such as telecommunications, electricity, railways, and airlines have been opened to foreign investment.³⁹ The socialist countries of the region — China and Vietnam — have also embraced these reforms. Since the late 1980s the Vietnamese economy has surged in the wake of the *doi moi* reforms to open the economy to international capital and to reduce central government interference.⁴⁰ There has also been a trend in much of East Asia away from heavy industry to investment in the high technology and service sectors, heralding what some commentators describe as Asia's "New Economy".⁴¹ The role of policy-makers in the region has thus moved, but not entirely, from interventionist, nation-building activities, to being a facilitator of market forces in which the private sector plays the hegemonic role.⁴²

These economic policy changes towards government downsizing and market liberalization have been influenced by the growing regional presence of international economic institutions, notably the World Bank, the International Monetary Fund (IMF)

34. The term *Chaebol* refers to corporate groups, often large in scale, which are run by families.

35. See JAE-YONG CHUNG & RICHARD J. KIRBY, *THE POLITICAL ECONOMY OF DEVELOPMENT AND ENVIRONMENT IN KOREA* (2002).

36. KANISHKA JAYASURIYA, *LAW, CAPITALISM AND POWER IN ASIA: THE ROLE OF LAW AND LEGAL INSTITUTIONS* (1999).

37. See M. Shamsul Haque, *New Directions in Bureaucratic Change in Southeast Asia: Selected Experiences*, 26 J. POL. & MIL. SOC. 96 (1998); Mitchell Bernard, *States, Social Forces, and Regions in Historical Time: Toward a Critical Political Economy of Eastern Asia*, 17 THIRD WORLD Q. 649 (1996).

38. See DESMOND S. KING, *THE NEW RIGHT: POLITICS, MARKETS AND CITIZENSHIP* (1987).

39. See B.N. GHOSH, *PRIVATISATION: THE ASEAN CONNECTION* (2000).

40. Drakakis-Smith & Dixon, *supra* note 5, at 21.

41. Beth Ahlering, *The Political (New) Economy of Sustainable Development in Asia*, 32 GREENER MGMT. INT'L 103 (2000).

42. See, e.g., Muhammad Rais Abdul Karim, *Public-Private Sector Cooperation for Development in Malaysia*, 8 ASIAN REV. PUBLIC ADMIN. 13 (1996); Robins, *supra* note 13.

and the World Trade Organization (WTO).⁴³ The World Bank, IMF and affiliated organizations have traditionally used their financial leverage to impose free-market, capitalist policies including liberalization of international trade and investment, privatization of government assets and services, and the elimination of market-impairing regulation.⁴⁴ Governments in Malaysia, the Philippines, Thailand and other nations have adopted policies and restructured their economies in response to the pressures of the global market and the prescriptions of international financial agencies.⁴⁵ The Asian economic crisis of 1997-98 led to international financiers such as the IMF assuming more influence in domestic economic policy-making and, therefore, more influence over environmental policy. A new skepticism emerged about the nature of business-government relations and East Asian governance institutions, highlighting problems of crony capitalism and speculative investment.⁴⁶ Consequently, the IMF became more assertive in championing market liberalization policies. For example, the response to Indonesia's financial crisis after 1998 was an agreement with the IMF for a financial bailout that included a controversial provision to reduce legal restrictions on foreign ownership of land and forests.⁴⁷ One aspect of economic policy that survived virtually unscathed from this period were the SEZs.

B. EMERGENCE OF THE SPECIAL ECONOMIC ZONES

The SEZ concept

A central component of the economic governance of East Asia is the special economic zone (SEZ).⁴⁸ Taiwan and South Korea es-

43. See Mark Beeson, *Indonesia, the East Asian Crisis and the Commodification of the Nation-State*, 3 NEW POL. ECON. 357, 361 (1998).

44. See, e.g., TERESA HAYTER, *AID: RHETORIC AND REALITY* (1985); SUSAN GEORGE, *A FATE WORSE THAN DEBT* (1990).

45. See Haque, *supra* note 37, at 103.

46. See Walden Bello, *The End of a "Miracle": Speculation, Foreign Capital Dependence and the Collapse of the Southeast Asian Economies*, 19 MULTINATIONAL MONITOR 9 (1998); CHARLES HARVIE, *Economic Reforms and Recent Macroeconomic Performance*, in CONTEMP. DEVELOPMENTS AND ISSUES IN CHINA'S ECONOMIC TRANSITION 3, 13-15 (2000).

47. Suparb Pasong & Louis Lebel, *Political Transformation and the Environment in Southeast Asia*, 42 ENV'T 8, 12 (2000).

48. Among the extensive literature on the history and economics of East Asia's SEZs, see United Nations Industrial Development Organization [hereinafter UNIDO], *EXPORT PROCESSING ZONES IN TRANSITION, THE CASE OF THE REPUBLIC OF KOREA* (1988); *FOREIGN INVESTMENT IN CHINA UNDER THE OPEN DOOR POLICY* (John Thoburn ed., 1990); John A. Mathews, *High Technology Industrialization in East Asia*, 3 J. INDUSTRY STUD. 1 (1996); Dennis A. Rondinelli, *Export Processing Zones and Economic Development in Asia: A Review and Reassessment of a Means of Promoting Growth and Jobs*, 46 AM. J. ECON. & SOC. 89 (1987). For a descriptive discussion of the zones more generally, see David Wall, *Export-Processing Zones*, 10 J. WORLD TRADE L. 478 (1976); Leslie Sklair, *Free*

tablished Asia's first SEZs, oriented towards export processing, in the mid-1960s.⁴⁹ Their precedents were soon emulated by India and the Philippines.⁵⁰ Special economic zones are geographically or juridically bounded areas designated by governments for foreign investment and export-oriented industrialization, to which are conceded favourable investment and trade conditions, and reduced red-tape. They have been established as windows for foreign investment and technology, to thereby act as catalysts for the modernization and growth of domestic economies.⁵¹ By locating them in underdeveloped areas, SEZs have also been used by governments to alleviate poverty.⁵² The zones are a caricature of the rapid globalization of markets, and they have been established in numerous countries.⁵³ While a study undertaken by the International Labour Organization in 1987 identified about 175 SEZs in 53 countries,⁵⁴ this list had grown to some 850 such zones worldwide by the end of the 1990s.⁵⁵ According to a 1996 survey by the International Development Research Council there were also over 12,000 smaller industrial estates in 90 countries.⁵⁶ Special economic zones and its variants have ancient roots. The concept of free economic towns arose in Europe during the Middle Ages, and the British Empire established many duty free ports (e.g., Singapore, Gibraltar, Hong Kong) in a continuation of this tradition.⁵⁷

Zones, Development and the New International Division of Labour, 22 J. DEV. STUD. 753 (1986).

49. MICHAEL W. OSBORNE, *CHINA'S SPECIAL ECONOMIC ZONES* 75 (1986).

50. Kwan-Yiu Wong & David K.Y. Chu, *Export Processing Zones and Special Economic Zones as Generators of Economic Development: The Asian Experience*, 66B GEOGRAFISKA ANNALER 1, 2 (1984).

51. See Philip Swinden, *Asia's Science and Industrial Parks*, July/Aug. CORP. LOCATION EUR. 37 (1997); Kai-Veikko Vuoristo, *The Special Economic Zones and Regions in Southeast Asia*, 106 TERRA 96 (1994); Tsuchiya Takeo, *Free Trade Zones in Southeast Asia*, 29 MONTHLY REV. 29 (1978).

52. Dowling, *supra* note 14, at 309.

53. See generally Helena Johansson & Lars Nilsson, *Export Processing Zones as Catalysts*, 12 WORLD DEV. 387 (1997); DORSATI MADANI, *A REVIEW OF THE ROLE AND IMPACT OF EXPORT PROCESSING ZONES* (1999).

54. Andrew Schrank, *Export Processing Zones: Free Market Islands or Bridges to Structural Transformation?*, 19 DEV. POLICY REV. 223, 223 (2001) (citing ILO and OECD statistics).

55. See WORLD ECONOMIC PROCESSING ZONES ASSOCIATION, WEPZA INTERNATIONAL DIRECTORY OF EXPORT PROCESSING ZONES AND FREE TRADE ZONES (1997), available at <http://www.wepza.org> (last visited Apr. 20, 2005); Marhoz & Szymanski, *infra* note 184. See generally WEI GE, *THE DYNAMICS OF EXPORT PROCESSING ZONES* (1999).

56. UNITED NATIONS ENVIRONMENT PROGRAMME [hereinafter UNEP], *INDUSTRIAL ESTATES: FACTS AND FIGURES*, available at <http://www.unepie.org/pc/ind-estates/ind-estates/facts.htm> (last visited Feb. 19, 2005).

57. See NANCY F. KOEHN, *THE POWER OF COMMERCE: ECONOMY AND GOVERNANCE IN THE FIRST BRITISH EMPIRE* (1994).

There is a diversity of SEZs, which reflect different philosophies, objectives, and means of achieving them. This is evident by their nomenclature, which includes such various descriptions as free trade zones, export processing zones and technology development zones. A 1992 report of the World Bank defined an SEZ as “an industrial estate, usually a fenced in area of 10–300 hectares, that specializes in manufacturing for export”.⁵⁸ Today’s zones have evolved from this limited concept, and range from the small, enclave export-processing centres, such as at airports and seaports, to entire cities serving as integrated development nodes.⁵⁹ Indeed, Hong Kong and Singapore are, in effect, entire SEZs. There is also variation in the governance of SEZs; some are privately owned while public SEZs are managed by local, regional or national authorities.⁶⁰ The uniqueness of a SEZ depends on the particular model adopted, and its mix of subsidized physical infrastructure, favourable investment and trade conditions such as lower taxes and duty-free import of manufacturing equipment, and exemptions from regulation such as controls on project development. Special economic production zones are intended to encourage companies to locate there to take advantage of the promised lower costs of production.⁶¹ In turn, the SEZs can benefit host countries through employment growth, poverty reduction, introduction of advanced technologies and foreign exchange earnings.⁶² In practice, of course, the economic achievements of SEZs have varied immensely, although East Asia’s SEZs have been among the most economically successful in the world.⁶³

Special economic zones in China

In the 1980s, the Chinese Communist Party (CCP) took an active interest in SEZs, and decided to establish SEZs as discrete “laboratories for innovative domestic economic reforms”,⁶⁴ undertaken on an experimental basis in order to minimize potential wider social unrest and political conflict.⁶⁵ China’s SEZs became

58. DORSATI MADANI, EXPORT PROCESSING ZONES 1 (1998), available at <http://www.worldbank.org/prem/PREMnotes/premnote11.pdf> (last visited Feb. 19, 2005).

59. *Id.*

60. PUBLIC VS. PRIVATE FREE ZONES (Richard L. Bolin ed., 1993).

61. See PETER J. LLOYD, *The Problem of Optimal Environmental Policy Choice*, in INTERNATIONAL TRADE OPENING AND THE FORMATION OF THE GLOBAL ECONOMY 411, 469 (1999).

62. John Mutti, *Economic Processing Zones: Removing Trade and Tax Obstacles to Growth*, 28 J. FLAGSTAFF INST. 23, 24-25 (2004).

63. MADANI, *supra* note 58.

64. GEORGE T. CRANE, THE POLITICAL ECONOMY OF CHINA’S SPECIAL ECONOMIC ZONES 3 (1990); see also CHINA’S SPECIAL ECONOMIC ZONES: POLICIES, PROBLEMS AND PROSPECTS 87-88 (Y.C. Jao & C.K. Leung eds., 1986).

65. *Id.* at 20.

the most comprehensive in East Asia, functioning as integrated development centres for both foreign and Chinese enterprises. Foreign investment was enticed with preferential measures and incentives, consisting of special tax status for foreign investors, lower tariffs, better infrastructure, long-term land leases, and expedited government approval procedures.⁶⁶ The SEZs also benefited from special legal and institutional arrangements, including an upgraded administrative ranking and more decision-making power than usually available to municipal-level governments.⁶⁷

Though, at first glance, the SEZs might appear to be an arena for unabashed market deregulation, they are as much a product of government regulation and policy as any other sector of the economy. But the state's management of the economy has taken on a different guise. This transformation of the role of the state has been most pronounced in China. After several decades of largely ineffectual, central bureaucratic control, a bold new economic policy was outlined at the Third Plenum of the 11th CCP in December 1978.⁶⁸ Then Chairman, Deng Xiao Ping, introduced China to a new market ethic, proclaiming, "to get rich is glorious".⁶⁹ The SEZ reforms were married to other economic reforms, including rational commodity pricing, marketable land use rights in urban centres, new capital allocation and taxation measures, enterprise management reform to improve productivity, and the decentralization of some economic decision-making to local governments.⁷⁰ The period of economic reforms thus marked a shift in governmental focus from both Confucian and Maoist ideologies, where a new market ethic of profit was viewed as the primary goal and material rewards were introduced to improve individual motivation and enterprise performance.

Presently, China has the most extensive array of SEZs in East Asia — indeed, in the whole world. In the early 1980s, the CCP designated four SEZs, at Shenzhen, Shantou Zhuhai, and Xiamen.⁷¹ In 1984, Hainan Island was opened as the fifth SEZ. These flagship zones would eventually become the catalysts of

66. See, e.g., Bin X. San, *Pudong: Another Special Economic Zone in China? An Analysis of the Special Regulations and Policy for Shanghai's Pudong New Area*, 14 J. INT'L L. & BUS. 130, 132 (1993).

67. George O. White, *Enter the Dragon: Foreign Direct Investment Laws and Policies in the PRC*, 29 N.C.J. INT'L L. & COM. REG. 35, 54 (2003).

68. OSBORNE, *supra* note 49, at 82.

69. Paul G. Harris, *Getting Rich Is Glorious: Environmental Values in the People's Republic of China*, 13 ENVTL. VALUES 145 (2004).

70. See HARVIE, *supra* note 46, at 3.

71. See Jao & Leung, *supra* note 64. Zhuhai is in Guangdong Province and Xiamen is in Fujian Province.

modernization of the Chinese economy.⁷² Since the mid-1980s, Chinese authorities extended SEZ privileges to many other areas of the country.⁷³ In 1984, this process began when “open door” economic privileges were offered to fourteen coastal cities.⁷⁴ In 1985, the concept of open cities was expanded to “open regions”, and a number of open coastal areas were proclaimed, mainly along the Yangtze River delta and the Pearl River delta.⁷⁵ Also, within these SEZ cities and areas, various special sub-zones were designed. For example, “Economic and Technical Development Zones” were set up to cater to technology-intensive industries, such as the Pudong New Zone in Shanghai.⁷⁶ During the 1990s, the State Council opened to the market some border cities, as well all the capital cities of inland provinces and autonomous regions.⁷⁷ Today, the range of development zones in China is quite staggering.⁷⁸ By 2003, it was estimated that there were an astonishing 3,837 development zones in all.⁷⁹ Interestingly, less than one third of these zones were approved by the State Council or provincial governments; local authorities, impatient to get a slice of the burgeoning foreign investment business, set up the remaining zones.⁸⁰

The preferential tax treatment and some other benefits offered to investors in SEZs are gradually being whittled away to allow more uniform market conditions throughout China.⁸¹ China’s entry into the WTO in December 2001⁸² has provoked a major review of the taxation system and a new unified corporate

72. YUE-MAN YEUNG & XU-WEI HU, *China’s Coastal Cities as Development and Modernization Agents: An Overview*, in CHINA’ COASTAL CITIES: CATALYSTS FOR MODERNIZATION 1, 11 (1992).

73. For an overview of the various investment zones, see *China’s Investment Zones*, 25 STEEL TIMES INT’L 42 (2001).

74. CRANE, *supra* note 64, at 76, 97.

75. *Id.*

76. San, *supra* note 66.

77. Zhaodong Jiang, *China’s Tax Preferences to Foreign Investment: Policy, Culture and Modern Concepts*, 18 J. INT’L L. & BUS. 549, 567-85 (1998); see also DALI L. YANG, *BEYOND BEIJING: LIBERALIZATION AND THE REGIONS IN CHINA* (1997).

78. They are: (i) the flagship SEZs (Shenzhen, Shantou, Zhuhai, Xiamen and Hainan Island); (ii) technological development zones; (iii) free-trade zones for international trade and export processing; (iv) high-technology, industrial development zones; (v) border and economic cooperation zones; (vi) export-processing zones in special enclosed areas; and (vii) Taiwan investment zones. See Julie Walton, *Zoning*, in 30 CHINA BUS. REV. 24 (2003).

79. D. Yan, *Development Zones Surge*, CHINA DAILY, Mar. 31, 2004, at 9.

80. *Id.* Only 1,215 of China’s SEZ’s were formally approved.

81. *Goodbye to SEZ Tax Preferences*, 20 E. ASIAN EXECUTIVE REP. 4 (1998).

82. *Accession of the People’s Republic of China: Decision of 10 November 2001*, WTO Doc. No. WT/L/432 (Nov. 23, 2001), available at <http://docsonline.wto.org/DDFDocuments/t/WT/L/432.doc> (last visited Feb. 19, 2005).

tax law is planned for introduction by the end of 2006.⁸³ Authorities are looking to replace the tax distinction between foreign and domestic enterprises by a policy favouring particular industries, regardless of their ownership or location.⁸⁴ Nonetheless, reflecting the often-decentralized nature of economic policy-making in China, some SEZ authorities are continuing to introduce their own new tax breaks to attract more investment,⁸⁵ and new zones continue to be opened without central government imprimatur.⁸⁶ The SEZs will likely continue to be viable and enjoy comparative advantages over other areas because of their geographic location, better infrastructure and services, and better planned urban development.⁸⁷

Special economic zones in other East Asian nations

Special economic zones and concomitant market stimulants have been introduced by other industrializing East Asian nations. Virtually all countries have pursued market deregulation policies in relation to trade, investment, capital flow, and exchange rate.⁸⁸ Special economic zones were pioneered in the region by Taiwan and South Korea. Taiwan's first export-processing zone was set up in 1965 in Chien-Jiang, Kaohsiung City, followed by the opening of more zones in Nantze and Taichung in 1969.⁸⁹ All of these export-processing zones are managed by Taiwan's Export Processing Zones Administration. These zones were very successful in their early years, with an average annual growth in exports of about 61 percent from 1967 to 1979.⁹⁰ However, by the early 1980s, new investment had largely dried up — reflecting their increasing redundancy as infrastructure and duty-free arrangements improved elsewhere in Taiwan.⁹¹ The Taiwanese gov-

83. *China Plans to Increase Foreign Corporate Income Tax*, 15 INT'L TAX REV. 1 (2004).

84. James Kynge, *China Ready to Scrap Tax Breaks for Foreign Companies*, FIN. TIMES, Nov. 13, 2001, at 15 (stating that the WTO tenet of "national treatment" requires creation of a level playing field for domestic and foreign companies).

85. *Tax Breaks for Foreign Investors at Jiangsu Xishan Economic Development Zone*, BERNAMA (Malay.), May 21, 2004, at 1

86. See, e.g., Phil T. Bangsberg, *China Province Eyes Closer Taiwan Ties*, J. COM., June 10, 2004, at 1.

87. MICHAEL WEBBER ET. AL., *Reconfiguring the Microgeography of China: Special Economic Zones*, in CHINA'S TRANSITIONS TO A GLOBAL ECONOMY 143, 161 (2002).

88. For a compendium of foreign investment legislation in some East Asian countries, see ASEAN's list at <http://www.aseansec.org/6530.htm>.

89. UNIDO, INDUSTRIAL DEVELOPMENT REPORT 2002/2003 122 (2002).

90. Jing Dong Yuan & Lorraine Eden, *Export Processing Zones in Asia: A Comparative Survey*, 32 ASIAN SURVEY 1026, 1032 (1992).

91. UNIDO, *supra* note 89, at 122.

ernment, however, has recently renewed its interest in SEZs, and has established several high-technology science parks to fulfill its goal of being a world leader in selected capstone industries.⁹²

Like Taiwan, South Korea organized special industrial parks and export processing zones in the 1960s and 1970s to promote the advancement of under-developed regions and thereby achieve a more decentralized pattern of development in areas away from Seoul, which had the lion's share of investment.⁹³ The first industrial parks for export production were set up in Ulsan in 1962 and Kuro in 1965.⁹⁴ In the early 1970s, two major export-promotion zones were designated in Masan and Iri.⁹⁵ A variety of regulations were enacted to create an enduring policy basis for these industrial parks and zones.⁹⁶ Its SEZs were initially expected to spearhead the development of capital-intensive heavy industries such as iron, steel and petrochemicals.⁹⁷ In the 1980s, the SEZs shifted focus to high-technology industries as the government's economic policy favoured investment in computers, semiconductors, telecommunications and biotechnologies.⁹⁸ Over time, South Korea's SEZs have waned in importance: by 1985, manufactured good exports from its SEZs amounted to only 2.9 percent of the country's total manufacturing exports.⁹⁹ But they have not become irrelevant, as evidenced by South Korea's recent Act on Designation and Operation of Free Economic Zones 2002,¹⁰⁰ which evinces a commitment to continue to use SEZs as a vehicle for the country's on-going economic modernization.

A late industrializing economy, Vietnam has begun to authorize some SEZs in coastal and border areas to stimulate investment and economic growth, along with other policy reforms

92. See *Analysis: Taiwan's Ambitious 6-Year Plan*, NEWSMAX WIRES, May 10, 2002, available at <http://www.newsmax.com/archives/articles/2002/5/10/60304.shtml> (last visited Feb. 19, 2005).

93. Kwang Sik Kim & Nick Gallent, *Industrial Park Development and Planning in South Korea*, 31 REGIONAL STUD. 424 (1997); see also Young Back Choi, *Industrial Policy as the Engine of Economic Growth in South Korea: Myth and Reality*, in THE COLLAPSE OF DEVELOPMENT PLANNING (Peter Boettke ed., 1994).

94. Kim & Gallent, *supra* note 93, at 424.

95. Schrank, *supra* note 54, at 226.

96. See, e.g., Free Export Processing Zone Law 1970, Export Industrial Estates Development Promotion Law, Industrial Estates Management Law, Income Sources Promotion Law 1983, and Capital Region Rearrangement Planning Law 1994.

97. Kim & Gallent, *supra* note 93, at 424.

98. *Id.*

99. Johansson & Nilsson, *supra* note 53, at 2121-22.

100. Act on Designation and Operation of Free Economic Zones, available at <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN011500.pdf> (last visited Feb. 19, 2005).

to lure foreign investment.¹⁰¹ In choosing sites for SEZs, the Vietnamese authorities have laid down a number of conditions, including a requirement that appropriate environmental protection measures would be secured for each zone.¹⁰² Vietnam initially designated three SEZs in the late 1990's: Hai Phong city, the Chu Lai area of Quang Nam Province, and the Can Gio area of Ho Chi Minh city.¹⁰³ Some of these zones are subdivided into specific economic functions, such as Chu Lai SEZ's free trade, industrial park and export processing subzones.¹⁰⁴ In 2004, authorities designated another SEZ on Vietnam's northern border, known as the Mong Cai border-gate economic zone. Vietnam's SEZs typically offer investors land-holding rights for terms of up to 70 years, land rent holidays, reduced income, trade and consumption taxes, expedited development project approvals, and the provision of an enhanced physical infrastructure.¹⁰⁵ Each SEZ is supervised by an Economic Zone Management Authority, which fall under the auspices of the Ministry of Planning and Investment.¹⁰⁶

Thailand is also using the SEZ model, and has designated several SEZs along its borders with Laos and Cambodia.¹⁰⁷ Thailand's Investment Promotion Act 1977 provides various tax and non-tax incentives for both local and foreign investors in areas promoted by the government. In 1993 the Thai Board of Investment (BOI) designated three new "Investment Promotion Zones",¹⁰⁸ which effectively cover the entire country, providing various levels of tax concessions and an exemption of import

101. See *Vietnam: Investment in IZs and EPZs*, VIETNAM ECON. NEWS, Sept. 14, 1998, at 1; UNCTAD, TAX INCENTIVES AND FOREIGN DIRECT INVESTMENT A GLOBAL SURVEY 113-15, U.N. Doc. CTAD/ITE/IPC/Misc.3, U.N. Sales No. E.01.II.D.5 (2000).

102. Le Xuan Trinh, *Chu Lai Open Economic Zone: Objective and Policy for Development* (2000), available at <http://www.undp.org.vn/ndm-partnership/reports/chulaiojective.htm> (last visited Feb. 19, 2005).

103. *Id.*

104. *Quang Nam Opens "Liberal" Business Zone*, VIETNAMESE NEWS SERVICE, July 1, 2003, available at <http://www.vneconomy.com.vn/eng/index.php?param=article&catid=17&id=030701100121> (last visited Apr. 17, 2005).

105. See Circular No. 11/2004/TT-BTC dated Feb. 25, 2004 of the Ministry of Finance, available at <http://congetti-vn.com/news/vietnamlegalsystem/taxandfinancial> (providing guidelines for the financial regime applied to Chu Lai open economic zone); *Quang Minh: Investment Potential and Prospect*, at http://www.vnn.vn/province/quangninh/proj_imple.html (last visited Feb. 19, 2005).

106. See The website of Vietnam Ministry of Planning and Investment, at <http://www.mpi.gov.vn/default.aspx?Lang=2> (last visited Apr. 17, 2005).

107. See *Thailand Plans to Open Special Economic Zones Along Border*, http://english.people.com.cn/english/200102/26/eng20010226_63397.html.

108. THAI BOARD OF INVESTMENT, *Board of Investment Privileges by Location*, available at http://www.boi.go.th/english/about/boi_privileges_by_location.asp (last visited Feb. 19, 2005).

duty on machinery pursuant to the Investment Promotion Act.¹⁰⁹ In addition to the BOI's policies, the Industrial Estate Authority of Thailand (IEAT) provides further incentives with respect to projects located in its special industrial estates. In 1972, the IEAT was established under the auspices of the Thai Ministry of Industry and administers the Industrial Estates Authority of Thailand Act 1979.¹¹⁰ A total of 30 industrial estates have provided the foundations for the transformation of the Thai economy.¹¹¹ A variety of financial incentives and market privileges are offered to companies accepted for investment in the industrial estates.¹¹² The IEA has planning and land use management functions in the estates, and assists with infrastructure provision including water and energy supply.

Malaysia established its first SEZ in 1971 pursuant to the Free Trade Zone Act 1970 passed to entice export-oriented FDI.¹¹³ By 1982, its several SEZs accounted for 52 percent of its total manufactured goods exports.¹¹⁴ Presently, Malaysia's SEZs are regulated through the Free Zones Act 1990, which provides companies operating in the zones with reduced import and export procedural controls and customs concessions.¹¹⁵ The legislation designates the zones as either free commercial zones or free industrial zones. Companies located in free industrial zones may import capital goods, raw materials and components for the purpose of manufacturing products for export, without payment of import duties, sales tax or excise duties.¹¹⁶ Commercial, retail activities are restricted to zones specifically designated as free commercial zones. Additional financial incentives for foreign investment are provided by the Promotion of Investments Act 1986.¹¹⁷ Reflecting a maturation in the role of its SEZs, the Malaysian government has recently concentrated on the establish-

109. Investment Promotion Act 1977, http://66.102.7.104/search?q=cache:xoPxNdUEy5P4J:www.ieat.go.th/menu06/images/InfoMenu6.2.3_eng.doc+%22Investment+Promotion+Act+1977%22&hl=en&client=firefox-a.

110. See <http://www.ieat.go.th/main.php3>; Industrial Estates Authority of Thailand Act B.E. 2522, 1979.

111. UNEP, *Laem Chabang Industrial Estate, Thailand*, available at <http://www.unepie.org/pc/ind-estates/casestudies/LaemChabang.htm>. The latest number of estates is detailed in *Roles, Responsibilities and Historical Background*, at <http://www.ieat.go.th/main.php3> (last visited Feb. 19, 2005).

112. See http://www.boi.go.th/english/tid/data/IEATincentives_privileges.htm; See further UNCTAD, *supra* note 101, at 108-09.

113. Peter G. Warr, *Malaysia's Industrial Enclaves: Benefits and Costs*, 25 DEVELOPING ECON. 30, 31-32 (1987).

114. Johansson & Nilsson, *supra* note 53, at 2123.

115. Act No. 438 of 1990, http://www.lawsofmalaysia.com/shop/store/view_n.asp?ISBN=9832477395 (last visited Feb. 19, 2005).

116. *Id.*

117. Act No. 327 of 1986, http://www.lawsofmalaysia.com/shop/store/view_n.asp?ISBN=9832476186 (last visited Feb. 19, 2005).

ment of science and high technology parks to woo foreign investors.¹¹⁸

Many other countries in the region have incorporated SEZs into their economic policy matrix, ranging from the Philippines, Laos to North Korea. The Philippine Special Economic Zone Act 1995¹¹⁹ provides for the creation of economic zones, offering tax holidays and other fiscal incentives, and superior transport and related service infrastructure, with the mission of accelerating employment generation and new investment.¹²⁰ The Philippines has established some 75 ecozones to date.¹²¹ It set up the Philippines Economic Zone Authority in 1995 to coordinate the inflow of new FDI into the zones, with separate authorities for the Subic Bay and Clark free trade zones established on the sites on the former United States military bases.¹²² In 2001, Laos introduced legislation to provide for the establishment of SEZs to attract foreign investment and know-how.¹²³ Indonesia also has policies for the establishment of special industrial estates and free trade zones.¹²⁴ Even the reclusive and anti-capitalist North Korea state has coveted the SEZ model.¹²⁵ It has established four SEZs since 1991, although they have yet to attract international investors.¹²⁶ The Russian government is also planning to create some

118. Greg B. Felker, *Southeast Asian Industrialism and the Changing Global Production System*, in *ASIAN REGIONAL GOVERNANCE: CRISIS AND CHANGE* 82, 90 (Kanishka Jayasuriya ed., 2004).

119. Special Economic Zone Act 1995, <http://www.chanrobles.com/specialeconomiczoneact.htm> (last visited Feb. 19, 2005).

120. On their economic effects, see *Investments in Philippine Special Economic Zones Up 20%*, ASIAPULSE NEWS, July 16, 2001, at 229.

121. Van V. Mejia, *The Modern Foreign Investment Laws of the Philippines*, 17 *TEMPLE INT'L & COMP. L.J.* 467, 488 (2003); see Philippine Economic Zone Authority, *List of Special Economic Zones by Region*, <http://www.peza.gov.ph/ecolistregion.htm> (last visited Feb. 19, 2005).

122. Felker, *supra* note 118, at 91.

123. Achara Pongvutitham, *Laos Encourages Foreign Investors*, *NATION*, June 18, 2001, available at <http://groups.yahoo.com/group/archive-laonews/message/2623> (last visited Apr. 20, 2005); see also the website of the Laos Department of Domestic and Foreign Investment, at <http://invest.laopdr.org/business%20guide.htm> (last visited Apr. 20, 2005).

124. UNCTAD, *supra* note 101, at 86.

125. Joongi Kim, *The Challenges of Attracting Foreign Investment into North Korea: The Legal Regimes of Sinuiju and Gaeseong*, 27 *FORDHAM INT'L L. J.* 1306 (2004); Eric Y.J. Lee, *The Special Economic Zones and North Korean Economic Reformation with a Viewpoint of International Law*, 27 *FORDHAM INT'L L. J.* 1343 (2004) (describing North Korea's four SEZs in Rajin-Seonbong, Sinuiju, Gaeseong and Geumgang).

126. *N. Korea's Special Economic Zone Remains in Doldrums*, *ASIAN POL. NEWS*, July 2, 2001, available at http://www.findarticles.com/p/articles/mi_m0WDOQ/is_2001_July_2/ai_76443875 (last visited Apr. 18, 2005).

SEZs to revitalize the economically depressed areas of its Far East region.¹²⁷

Overall, the economic achievements of East Asia's SEZs have been mixed. The Chinese SEZs have been among the most economically successful, led by Shenzhen SEZ.¹²⁸ Between 1980 and 2000, China's GDP surged on average by 9.7 percent per year, and its per capita income quadrupled.¹²⁹ But, more astonishing, has been the economic growth found within China's SEZs.¹³⁰ One study assessed that areas benefiting from SEZ status enjoyed annual economic growth rate of 5.5 percent above the national average.¹³¹ Millions of jobs have been created in the ballooning industrial and service sectors, and rising wealth has contributed to improved living standards and rising life expectancy for many SEZ denizens.¹³² The SEZs established in Taiwan and South Korea were very important to their countries' economic transformations in the 1960s and 1970s, but have played a less prominent role since then. Taiwan's three main SEZs that initially were key drivers of national economic modernization in the 1960s and 1970s had, by 1981, declined to where they "accounted for no less than 7 per cent of the overall export volume of the entire inland."¹³³ A similar fate befell Korea's main SEZ at Masan.¹³⁴ Thus, concludes Professor Xie Wei, "their importance gradually faded with time as the economy as a whole started to acquire the capabilities and resources that were formerly concentrated in the SEZs".¹³⁵ Even Shenzhen has suffered lately owing to its rising costs of land and labour relative to other parts of China, which is causing some local businesses to relocate elsewhere in China.¹³⁶ Nonetheless, SEZs remain a key feature of many East Asian economies, and new zones continue to be

127. See Valentin A. Povarchuk, *Russian Draft Law on Special Economic Zones—A Step Forward, But Not Far Enough*, 13 PAC. RIM L. & POL'Y J. 351 (2004).

128. Xie Wei, *Acquisition of Technology Capability through Special Economic Zones: The Case of Shenzhen SEZ*, 7 INDUSTRY & INNOVATION 199, 200 (2000).

129. HARVIE, *supra* note 46, at 14.

130. Wei Ge, *Special Economic Zones and the Opening of the Chinese Economy: Some Lessons for Economic Liberalization*, 27 WORLD DEV. 1267, 1272 (1999).

131. Derek C. Jones et al., *Growth and Regional Inequality in China during the Reform Era*, 14 CHINA ECON. REV. 186, 188 (2003).

132. Choo-sin Tseng & Simon K. M. Mak, *Strategy and Motivation for PRC Outward Direct Investments with Particular Reference to Enterprises from the Pearl River Delta*, in ECONOMIC AND SOCIAL DEVELOPMENT IN SOUTH CHINA 140, 152-53 (Stewart MacPherson & Joseph Y.S. Cheng eds., 1996).

133. Wei, *supra* note 128, at 201.

134. Peter G. Warr, *Korea's Masan Free Trade Zone: Benefits and Costs*, 22 DEVELOPING ECON. 169, 170 (1984).

135. Wei, *supra* note 128, at 201.

136. *Id.* at 212.

established in many parts of the region, particularly in the Philippines, Malaysia and Vietnam.

C. THE ENVIRONMENTAL LEGACY OF INDUSTRIALIZATION

East Asia's orgy of economic growth and industrialization has wrought extensive social and environmental changes.¹³⁷ It is a misnomer to see environmental issues as somehow "outside" the economy. They impose direct public health and productivity costs. Occasionally, these costs are obvious, such as during a major environmental crisis like the 1997 forest fires of Southeast Asia, which affected some 300 million people.¹³⁸ But the most serious environmental problems are usually more pervasive, incremental and long-term, such as the proliferation of consumer waste and the dispersion of industrial toxic chemicals, which cumulatively degrade ecological systems and limit their capacity to sustain human development.¹³⁹

Studies sponsored by the World Bank, United Nations and other organisations offer some insights into the extent and severity of environmental problems in East Asia.¹⁴⁰ For instance, the incidence of insecticide and lead poisoning has risen noticeably in the region.¹⁴¹ The capacity of rivers and lakes to assimilate pollutants is diminishing because of increased water extraction.¹⁴² A World Bank study found that in Thailand there had been a ten-fold rise in pollution intensity from 1975 to 1988.¹⁴³ Air pollution plagues many cities, in particular suspended particulates, sulphur dioxide (SO₂) and nitrogen dioxide emissions.¹⁴⁴ Heavy metal pollution, such as lead, mercury and zinc, has been found in Malaysian rivers as a result of mining and industrial discharges.¹⁴⁵ Huge mountains of solid waste from

137. See David O'Connor, *Managing the Environment with Rapid Industrialisation: Lessons from the East Asian Experiences*, 36, FUEL & ENERGY ABSTRACTS 463 (1995).

138. Rafia Afroz, Mohd N. Hassan & Noor A. Ibrahim, *Review of Air Pollution and Health Impacts in Malaysia*, 92 ENVTL. RES. 71, 76 (2003).

139. Ying Wang, *Environmental Degradation and Environmental Threats in China*, 90 ENVTL. MONITORING & ASSESSMENT 161 (2004).

140. UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC [hereinafter ESCAP], STATE OF THE ENVIRONMENT IN ASIA AND THE PACIFIC 172 (2000).

141. CARTER BRANDON & RAMESH RAMANKUTTY, TOWARD AN ENVIRONMENTAL STRATEGY FOR ASIA 65 (1993).

142. *Id.* at 69

143. *Id.* at 66-67.; see also Nart Tuntawiroon, *The Environmental Impact of Industrialisation in Thailand*, 15(4) THE ECOLOGIST 161 (1985).

144. ESCAP, *supra* note 140, at 124-25.

145. *Id.* at 85.

China's cities are not being properly disposed of or recycled.¹⁴⁶ By no means have environmental problems been confined to or concentrated in the industrial and urban sectors. Environmental degradation has also arisen from "industrial" farming: Asia's Green Revolution was propelled by chemicals, mechanization and mono-crop agriculture which has both diminished the genetic diversity of food crops and thereby indirectly compromised broader biological diversity.¹⁴⁷

The environmental transformation of East Asia's cities is also associated with urbanization and the emergence of mass consumption.¹⁴⁸ Its most populous cities have reached staggering proportions — e.g., Shanghai's 17 million and Jakarta's 13.7 million.¹⁴⁹ Urban growth has ranged from some 2.5 to 3.5 percent annually.¹⁵⁰ East Asia's mega-cities are massive consumers of resources and emitters of waste. For example, five of the ten most polluted cities in the world are in China,¹⁵¹ and Asia as a whole is home to 13 out of the 15 most polluted cities in the world.¹⁵² The World Bank estimates that air and water pollution has cost China about 8 percent of its GDP, or US\$32 billion annually in premature deaths, restricted mobility, chronic bronchitis and other health effects.¹⁵³

Of all the mutations in East Asia's mega-cities, the growing number of automobiles is having the most profound impact. As in Western societies, growing urban affluence is contributing to the growing popularity of private motor vehicles over Asia's traditional means of transport — the humble bicycle.¹⁵⁴ In South Korea, the number of automobiles rose from a paltry 40,000 in

146. *China's Environment: A Great Wall of Waste*, *ECONOMIST*, Aug. 21, 2004, at 55.

147. See GORDON R. CONWAY & JULES N. PRETTY, *UNWELCOME HARVEST: AGRICULTURE AND POLLUTION* (1991).

148. Bryan Bachner, *Ecology and Economic Reform: Towards an Effective Environmental Law in Southern China*, in *ECONOMIC AND SOCIAL DEVELOPMENT IN SOUTH CHINA*, *supra* note 135, at 266, 267.

149. See *Managing Asia's Cities*, 26 *ENVTL. POL'Y & L.* 23, 23 (1996).

150. ESCAP, *supra* note 140, at 150.

151. Elisabeth Rosenthal, *China Officially Lifts Filter on Staggering Pollution Data*, *N.Y. TIMES*, June 14, 1998, at 18.

152. *Call to Reverse "Dismal" Policies*, *CHEMISTRY & INDUSTRY*, Oct. 6, 1997, at 750 (quoting an Asian Development Bank study).

153. TODD M. JOHNSON ET AL., *CLEAR WATER, BLUE SKIES: CHINA'S ENVIRONMENT IN THE NEW CENTURY* 23 (1997); see also W. Scott Railton, *The Rhetoric and Reality of Water Quality Protection in China*, 7 *PAC. RIM L. & POL'Y J.* 859, 860 (1998); Chaoyang Peng et al., *Urban Air Quality and Health in China*, 39 *URBAN STUD.* 2283, 2283 (2002).

154. Jane Pek, *China Tailpipe Tally: The World's Biggest Nation "Modernizes" with More Cars*, 12 *CURRENTS* 16 (2002).

1965 to 10 million by 1997.¹⁵⁵ Each year, some 300,000 motor vehicles are added to China's still relatively modest car population, amounting to an increase of some 12 to 14 percent annually since the 1970s.¹⁵⁶

During their early phase of industrialization, the bread and butter of the Asian dragon economies such as Taiwan were industries producing batteries, petrochemicals, leather goods, pesticides and electroplating.¹⁵⁷ Later, these economies moved to relatively cleaner, high technology ventures and relocated some of their most polluting and labour intensive industries to poorer countries.¹⁵⁸ Differences in economic structures are thus paralleled by differences in environmental conditions. At one end, the wealthier economies of Singapore and Taiwan have achieved levels of ambient air and water quality similar to Organization for Economic Cooperation and Development (OECD) standards, and South Korea and Malaysia are not far behind.¹⁵⁹ South Korean cities enjoy decreased concentrations of SO₂ and total suspended particulate matter.¹⁶⁰ Environmental conditions in Thailand and the Philippines are less satisfactory.¹⁶¹ But all countries are increasing their emissions of greenhouse gases (GHG).¹⁶² In the mid-1990s, Asia overtook North America and Europe as the world's largest source of carbon dioxide (CO₂)

155. Meehye Lee & Zafar Adeel, *Managing Air Pollution Problems in Korea, in EAST ASIAN EXPERIENCE IN ENVIRONMENTAL GOVERNANCE* 133, 139 (Zafar Adeel ed., 2003).

156. Ben Boer, *The Rise of Environmental Law in the Asian Region*, 32 U. RICH. L. REV. 1503, 1541 (1999).

157. Beth E. Kinne, *Regulatory Diversification and the Monitoring State: The Direction of Environmental Regulation in Taiwan*, 13 PAC. RIM L. & POL'Y J. 91, 99 (2004); See also Deborah C. Chan, *The Environmental Dilemma in Taiwan*, 12 J. NORTHEAST ASIAN STUD. 35 (1993); Walden Bello & Stephanie Rosenfeld, *High-Speed Industrialisation and Environmental Devastation in Taiwan*, 20 ECOLOGIST 125, 127 (1990).

158. Teresa Edwards, *The Relocation of Production and Effects on the Global Community*, 13 COLO. J. INT'L ENVTL. L. & POL'Y 183, 186 (2002). Although many Asian SEZs increasingly favour high technology ventures rather than heavy industry, the high technology facilities producing computers and electronics can also often be accompanied by serious pollution. Ahlering, *supra* note 41, at 110 (citing for example production of silicon chips). [WJ: Again, this is a new cite and our library doesn't have the journal. We'll have to ask the author for the source since inter-library loan won't enable us to get it in time.]

159. Rafia Afroz et al., *Review of Air Pollution and Health Impacts in Malaysia*, 92 ENVTL. RES. 71, 73 (2003).

160. Lee & Adeel, *supra* note 158, at 134, 141.

161. See Chris Dixon, *Origins, Sustainability and Lessons from Thailand's Economic Growth*, 17 CONTEMP. SOUTHEAST ASIA 38 (1995).

162. See PAUL G. HARRIS, *Climate Change Priorities for East Asia: Socio-economic Impacts and International Justice*, in *GLOBAL WARMING AND EAST ASIA: THE DOMESTIC AND INTERNATIONAL POLITICS OF CLIMATE CHANGE* 19 (2003).

emissions,¹⁶³ producing about 35 percent of the world's CO₂ in 1996, compared to 28.3 percent from Europe and 28.1 percent in North America.

Within East Asia's SEZs, environmental conditions have attracted harsh criticism from media commentators. To illustrate, Suzanne McElligott has lambasted: "in the Special Economic Zones located in southern China, ecology takes a back seat to profit in a country struggling to develop an industry with few financial resources".¹⁶⁴ Similarly, Tester depicts China's SEZs as

an ecological disaster the likes of which the planet has never seen; the result of firing this modern industrial revolution with soft coal, of filling in thousands of hectares of rice paddies to make way for roads, homes and factories, of moving whole mountains in the process, of creating air, water and soil pollution problems that, by all reports, are the worst on the planet.¹⁶⁵

An article in *The Ecologist* blasts, "China [is] creating hundreds of so-called 'free-trade zones' in which lax environmental enforcement is the norm. In the process, whole regions are being ecologically decimated".¹⁶⁶ Elsewhere, Vietnam's SEZs have been described as in a state of "environmental crisis", owing principally to extensive water and air pollution from their industrial enterprises.¹⁶⁷ Similarly, serious water pollution problems have also been documented in China's Xiamen SEZ.¹⁶⁸

However, other research suggests that environmental conditions in the SEZs are no worse than in other areas, and indeed may be superior owing to the greater availability of pollution control technologies from foreign investors, as well as the more systematic land use planning in the zones.¹⁶⁹ For instance, Sivalingam found favourable environmental conditions in Malaysia's export processing zones because they were soundly planned and

163. ESCAP, *supra* note 140, at 134.

164. Suzanne McElligott, *China Lags in Environment*, CHEMICAL WK., Feb. 21, 1996, at 24.

165. Frank Tester, *Existential Landscape: China and the Modern Superstore*, 16 NEW CITY MAG. 41, 42 (1995).

166. Simon Retallack, *Why are We Failing the Planet*, SANCTUARY ASIA ONLINE, available at <http://www.sanctuaryasia.com/features/detailfeaturescategory.php?id=239&catid=44> (last visited Feb. 20, 2005).

167. *Environmental Crisis Overtakes Vietnam's Economic Zones*, ASIA TIMES, Feb. 24, 2000, available at <http://www.atimes.com/se-asia/BB24Ae01.html> (last visited Feb. 20, 2005).

168. Reinhold Castensson, *Further Growth of Xiamen Economic Free Zone Hampered by Freshwater Pollution*, <http://nias.ku.dk/nytt/2003-2/Growth.html> (last visited Feb. 20, 2005).

169. WORLD BANK, EXPORT PROCESSING ZONES (1992). However, the intensive scale of development in the SEZs has tended to entail higher energy and resource demands than usual. UNIDO, EXPORT PROCESSING ZONES: PRINCIPLES AND PRACTICE (1999).

built in conformance to zoning and building regulations.¹⁷⁰ Multinational businesses operating in these zones were portrayed as better environmental managers than small, local businesses operating outside the SEZs.¹⁷¹ Likewise, the Asian Development Bank's environmental survey reported that "careful spatial planning and management of industrial activity" in SEZs in the Philippines had helped minimize potential environmental effects.¹⁷²

Of additional concern are the inhumane working conditions in some SEZ factories. Asia's economic reforms have increased income inequality, widening the differences between the haves and have-nots. Industries located in these zones tend to be labour intensive. Foreign companies have been attracted by the prospect of cheap but disciplined workers. Workers uncommonly toil away in conditions resembling concentration camps to produce garments, shoes and electronic goods for Western consumers under the cheapest possible working conditions.¹⁷³ Young, unemployed women from rural areas are commonly recruited to sweatshops to work for minimal wages and excruciatingly long hours.¹⁷⁴ Health and safety standards are often ignored.¹⁷⁵ Numerous fires and deaths have been recorded in Chinese factories as a consequence of lax enforcement of occupational safety regulations.¹⁷⁶ Among these statistics, for example, 87 workers were killed in a fire in a Hong Kong company's toy factory in the Shenzhen zone in November 1993.¹⁷⁷ With the exception of South Korea, trade unions are generally weak in industrializing East Asian nations, and most employees can do little to challenge their working conditions.¹⁷⁸ However, these problems in the treatment of workers are not at all unique to Asia's capitalist SEZs, and likely occur in other parts of East Asia's economies. Moreover, labour conditions in the SEZs might even be better than in the non-SEZ sectors given that the high public profile of

170. G. SIVALINGAM, *THE ECONOMIC AND SOCIAL IMPACT OF EXPORT PROCESSING ZONES: THE CASE OF MALAYSIA* 35 (1994).

171. *Id.*

172. ASIAN DEVELOPMENT BANK, *ASIAN ENVIRONMENT OUTLOOK 2001*, 31 (2001).

173. Laurence Van de Walle, *SEZs—Specially Exploitative Zones*, <http://www.corporatewatch.org.uk/magazine/issue11/cw11f2.html>.

174. Hilary K. Josephs, *Labor Law in a Socialist Market Economy: The Case of China*, 33 COLUM. J. TRANSNAT'L L. 559, 568 (1995); Wong & Chu, *supra* note 52, at 11.

175. Edwards, *supra* note 158, at 197.

176. Jean-Paul Marhoz & Marcela Szymanski, *Behind the Wire: Anti-union Repression in the Export Processing Zone*, available at <http://www.itcilo.it/actrav/actrav-english/telearn/global/ilo/frame/epzicftu.htm> (last visited Feb. 20, 2005).

177. *Id.*

178. See generally Laura Watson, *Labor Relations and the Law in South Korea*, 7 PAC. RIM L. & POL'Y J. 229 (1998).

foreign investment in developing countries has perhaps caused authorities and international businesses to be more sensitive than domestic enterprises to working conditions.¹⁷⁹

III. ENVIRONMENTAL LAW IN EAST ASIA — THE PATH TO LEGAL MODERNIZATION

A. LEGAL INSTITUTIONS FOR ENVIRONMENTAL GOVERNANCE

Foundations for the rule of law in East Asia

A plethora of environmental laws, administrative institutions and policies governing East Asia's SEZs and other economic sectors mask a variety of structural weaknesses in the capacity of their legal systems to promote sustainable development. While nearly all Asian states have produced a substantial volume of environmental legislation, they have differed "in their ability to build more effective public sector environmental agencies that ha[ve] the legal authority and the tools to effectively monitor and enforce emission and ambient standards."¹⁸⁰ Professor Jaro Mayda observes that new environmental legislation is not so valuable unless "accompanied by a substantial increase in each nation's capability for policy development, institutional structures, administrative competence, and ability to train management, monitoring and enforcement personnel."¹⁸¹ Unfortunately, these elements are not always present. According to the Asian Development Bank's *Asian Environment Outlook* report, "the root cause of the poor state of the environment in the region was a failure of policy and of institutions."¹⁸² Weak policies and institutions usually reflect deeper structural problems of governance.

Environmental law regimes are unlikely to succeed unless anchored to wider reforms to promote good governance and rule of law.¹⁸³ Law acquires its meaning and performs its social functions through processes of implementation and enforcement, without which it has little life in any given society. Heavy reliance on centralized, bureaucratic decision-making that excludes civil

179. See Matthias Busse, *Do Transnational Corporations Care about Labor Standards?*, 36 J. DEVELOPING AREAS 39 (2003) (arguing that higher labour standards are positively correlated with FDI inflows).

180. Michael T. Rock, *Pathways to Industrial Environmental Improvement in the East Asian Newly Industrializing Economies*, 11 BUS. STRATEGY & ENV'T 90, 96 (2002).

181. Jaro Mayda, *Environmental Legislation in Developing Countries: Some Parameters and Constraints*, 12 ECOLOGY L. Q. 997, 998 (1985).

182. ASIAN DEVELOPMENT BANK, *supra* note 172, at xv.

183. See Ben Boer, *Institutionalising Ecologically Sustainable Development: The Roles of National, State, and Local Governments in Translating Grand Strategy into Action*, 31 WILLAMETTE L. REV. 307 (1995).

society, incompetent and corrupt administrative officials and judges, and limitations on access to justice, all undermine, to various degrees, the ability of East Asian governments to implement environmental policies and laws to address the effects of rapid industrialization. While some countries have made substantial progress in addressing these encumbrances, there has been a tendency for some states to naively import foreign precedents incompatible with local institutional and social conditions.¹⁸⁴

The laws and institutions extant in East Asia have eclectic roots, encompassing colonial, indigenous and international sources. The majority of legal systems (e.g., China and South Korea) derive from European civil law regimes.¹⁸⁵ While some countries escaped direct colonial rule, most—such as the Philippines, Malaysia and Vietnam—did not.

Whatever the consequences of colonialism and later abuses of state power, some measure of rule of law would seem to be a necessary precondition to effective environmental law. The notion of rule of law is a contested concept with various definitions and visions. Professor Joseph Raz believed that at a minimum law must be able to guide behaviour.¹⁸⁶ Professor Randall Peerenboom has suggested “law [must be] able to impose meaningful restraints on the state. . .”¹⁸⁷ Concepts of the rule of law have been criticised as narrowly reflecting a Western, liberal democratic tradition that is not necessarily germane to the circumstances of East Asia or other developing country regions.¹⁸⁸ Critical legal scholars, critical race theorists, and feminists have shown that the seeming neutrality of the rule of law can reinforce existing power relations at the expense of vulnerable groups in society.¹⁸⁹ Critical legal scholars have also demonstrated the indeterminacy of law, associated with the rise of the regulatory state and the enhanced reliance on discretionary administrative

184. Pierre Legrand, *The Impossibility of Legal Transplants*, 4 MAASTRICHT J. EUROPEAN COMP. L. 111, 119 (1997).

185. See generally POH-LING TAN, *ASIAN LEGAL SYSTEMS* (1997); ALBERT H.Y. CHEN, *AN INTRODUCTION TO THE LEGAL SYSTEM OF THE PEOPLE'S REPUBLIC OF CHINA* (1994).

186. JOSEPH RAZ, *The Rule of Law and Its Virtue*, in *THE AUTHORITY OF LAW* 210 (1979); see also Robert Summers, *A Formal Theory of Rule of Law*, 6 *RATIO JURIS* 127 (1993).

187. RANDALL PEERENBOOM, *Varieties of Rule of Law*, in *ASIAN DISCOURSES OF RULE OF LAW* 1, 2 (2004).

188. See DAVID DYZENHAUS, *Recrafting the Rule of Law*, in *RE-CRAFTING THE RULE OF LAW: THE LIMITS OF LEGAL ORDER* 1 (2000).

189. See generally ROBERTO M. UNGER, *LAW IN MODERN SOCIETY: TOWARDS A CRITICISM OF SOCIAL THEORY* (1976); RICHARD DELGADO & JEAN STEFANCIC, *CRITICAL RACE THEORY: THE CUTTING EDGE* (1999); CATHERINE MACKINNON, *TOWARDS A FEMINIST THEORY OF THE STATE* (1989).

powers to implement broad legislative policies.¹⁹⁰ The failure of the “law and development” movement of the 1960s and 1970s — a program for legal technical assistance and reform, as part of Western development aid programs — shattered the naïve belief that if laws are reformed and legal institutions strengthened, nothing can restrain the “rule of law’s” triumph.¹⁹¹ The law and development movement has re-emerged in a new guise in recent decades, through the “New Public Management” and “Good Governance” prescriptions recited by the international development assistance community.¹⁹² Rule of law reforms can wrongly presuppose that certain societies do not have a “rule of law” and are characterized by anarchy and disorder and must therefore be restructured. But a society whose members are guided by, and comply with, traditional norms of behaviour rather than a state-supported edifice of codes and rules is clearly not one devoid of law. Successful law reform in transitional countries at a minimum requires establishing appropriate incentives and organizations after taking account of the local culture and the past constraints that shaped the existing legal system.¹⁹³

The pressures for legal reform in East Asia are growing as its members open their economies to global market forces and address the environmental problems of industrialization. Traditional rules, norms, and standards alone may not be conducive to addressing the policy challenges. Legal institutions languished somewhat during the earlier period of the developmental state. Administrative discretion was at the core of the developmental state model, where pursuant to broad delegations of authority from the legislature, ruling elites were able to maintain policy flexibility and achieve their economic goals with minimal legal formalities.¹⁹⁴ The development of modern economies has ushered in the need to replace closed political and bureaucratic dealings with “rational” legal instruments. This entails improved legislative drafting, coordination and dissemination, restraints on the discretionary powers of bureaucrats, more independent and competent judiciary, and effective enforcement mechanisms. To be sustainable, however, legal reforms have to find sustenance in the markets and civil societies that they purport to govern. Pro-

190. See Gerald Frug, *The Ideology of Bureaucracy in American Law*, 97 HARV. L. REV. 1276, 1279 (1984).

191. See David M. Trubek & Marc Galanter, *Scholars in Self-Estrangement: Some Reflections on the Crisis in Law and Development*, 1062 WIS. L. REV. (1974).

192. See GOOD GOVERNANCE IN THE ERA OF GLOBAL NEOLIBERALISM (Jolle Demmers et al. eds., 2004).

193. Paul H. Brietzke, *The Politics of Legal Reform*, 3 WASH. U. GLOBAL STUD. L. REV. 1, 25 (2004).

194. Tom Ginsburg, *Dismantling the “Developmental State”? Administrative Procedure Reform in Japan and Korea*, 49 AM. J. COMP. L. 585, 586 (2001).

fessor Yan Wang warns that “law becomes effective by social forces and pressures interested in and working for its implementation. Without a properly institutional setting, the law will remain a fig-leaf, pretending action without changing social reality.”¹⁹⁵

It is possible to conceive of rule of law reforms without necessarily sacrificing local culture and institutions. Professor Randall Peerenboom argues that by differentiating between a “thin” and “thick” conception of the rule of law, the core, universally valid elements of an effective legal system can be isolated without necessarily importing certain discourses about political morality.¹⁹⁶ A thin conception of rule of law that embodies the minimal characteristics necessary for the functioning of a viable legal system includes the existence of courts to interpret laws, laws made public, laws generally applicable, laws that are clear, consistent and stable, and laws that are enforced and accepted by most people.¹⁹⁷ Any legal system that is effective must have these elements. These minimal requirements of rule of law are surely compatible with a variety of institutions, rules and practices in any given society. A thick conception of rule of law adds further elements of political morality, such as particular economic arrangements (free-market capitalism, administrative planning), forms of governance (liberal democratic, socialist) or conceptions of human rights (collectivist, libertarian). Through this distinction, each country’s culture, traditions and economic aspirations can be accommodated while respecting the need for certain core elements of any legal system. Thus, law reform guided by “Asian values” or other discourses can be conceived without importing inappropriate political and legal philosophies.¹⁹⁸

In conclusion, while East Asia’s legal systems will undoubtedly continue to exert their own distinctive characteristics and goals, they almost certainly must meet some universal standards if they are to play the role intended by environmental policy in the context of an internationally open economy. One does not have to accept the assumptions of liberal legalism to agree that a legal system must provide a modicum of transparency, predictability and fairness. Ultimately, if law is to guide behaviour, its

195. YAN WANG, CHINESE LEGAL REFORM: THE CASE OF FOREIGN INVESTMENT LAW 28 (2002).

196. Peerenboom, *supra* note 187, at 3-6.

197. *Id.*

198. KANISHKA JAYASURIYA, *Introduction: A Framework for the Analysis of Legal Institutions in East Asia*, in LAW, CAPITALISM AND POWER IN ASIA 1 (1999); Clyde D. Stoltenberg, *Globalization, “Asian Values” and Economic Reform: The Impact of Tradition and Change on Ethical Values in Chinese Business*, 33 CORNELL INT’L L.J. 711 (2000).

rules must be reasonably clear and stable, prospective and implemented.¹⁹⁹ Laws should limit arbitrary acts of government and provide meaningful constraints on the governing elite. This implies normative limits on administrators and others who interpret and apply the law. Without these fundamental characteristics, East Asia's environmental law will likely be ineffective and not institutionally sustainable.

Implementing Legal Reform in East Asia

Obstacles to legal modernization are particularly acute in China, which is undergoing profound social and economic upheaval as it moves away from a socialist economic doctrine.²⁰⁰ The importance of social networks (*guanxi*), a history of privileging substantive over procedural justice, and a preference for avoiding formal law in favour of informal dispute resolution, have posed barriers to the implementation of a law-based order more suited to an open market economy. Historically and culturally, the Chinese have tended to guide social behavior through moral standards and local custom rather than formal legislation.²⁰¹ In the post-war era, the addition of socialist legal theory has presented law as a management tool to preserve the state's interest. Whereas Western legal systems stress the virtues of generality, equality and impartiality, Chinese cultural traditions, whether Confucian or Maoist, "have rejected rule ethics and universal principles in favour of a context-specific, pragmatic, situational ethics."²⁰² Consequently, their legal system often cedes wide discretionary power to administrators to implement the law and to make it workable in specific situations. This does not mean that the law is simply shunted aside, but that legal rules are adapted to meet specific needs and situations.

Since the early 1980s, rule of law has re-entered public discourse in China, with an emphasis on legislation and institution building.²⁰³ The PRC leaders have accepted the need for legal reform as a means to enable China's economic transformation.

199. See *supra* note 186, at 210.

200. See RANDALL PEERENBOOM, *CHINA'S LONG MARCH TOWARDS RULE OF LAW* (2002).

201. Holly Sims, *One-fifth of the Sky: China's Environmental Stewardship*, 27 *WORLD DEV.* 1227, 1235 (1999). However, since ancient times there has been a tradition of Chinese rulers governing through extensive bureaucratic apparatus. Zhiping Liang, *Explicating "Law": A Comparative Perspective of Chinese and Western Legal Culture*, 3 *J. CHINESE L.* 55 (1989).

202. Randall Peerenboom, *Ruling the Country in Accordance with Law: Reflections on the Rule and Role of Law in Contemporary China*, 11 *CULTURAL DYNAMICS* 315, 324 (1999).

203. Randall Peerenboom, *Competing Conceptions of Rule of Law in China*, in *ASIAN DISCOURSES OF RULE OF LAW*, *supra* note 187, at 113, 115-17.

The rise of a complex urban-industrial society and the current market reforms has spawned new demands for legal reform. An economy increasingly open to foreign investors and international trade has required a more open, transparent and stable legal system. Authorities' initial attempts to restrict reform to the commercial law context did not prevent the momentum of legal reform from spilling into other policy fields including environmental regulation.²⁰⁴ As a result there has been an enormous outpouring of legislation in the economic and environmental fields, especially in relation to the management of the SEZs.²⁰⁵

An enduring problem is that PRC leaders have tended to take a mechanistic view of law, assuming they can "utilize the language and forms of law initially crafted in a liberal democratic context" absent from China.²⁰⁶ Their failure to establish a legal system that is both sensitive to indigenous institutions yet sufficiently autonomous to engineer social change has posed a range of problems for environmental governance (and other areas of public policy). These problems include: inconsistencies between lower and higher level legislation; conflicts of interest in public administration; bureaucratic inefficiencies and policy distortions from the proliferation of extralegal powers and vague discretionary authority; and the limiting of outlets for citizen participation in decision-making and enforcement. Unwritten variables in the implementation of Chinese environmental law — such as the impact of *guanxi* connections — can make it hard for foreign companies in the SEZs to understand what regulators actually expect of them.²⁰⁷

Ultimately, the key to the realization of rule of law in China is power. How is power to be controlled and allocated in a single-party socialist state and in a culture with a habitual "reliance on the instructions of authority figures over the texts of laws"?²⁰⁸ Meixian Li sees "the biggest challenge China faces in developing an independent and effective legal system as the ambiguous relationship between China's constitutional supremacy and the Com-

204. Peerenboom, *supra* note 187, at 39-40.

205. See Donald C. Clarke, *What's Law Got to Do With It? Legal Institutions and Economic Reform in China*, 10 UCLA PAC. BASIN L.J. 1 (1991).

206. William P. Alford, *A Second Great Wall? China's Post-Cultural Revolution Project of Legal Construction*, 11 CULTURAL DYNAMICS 193, 202 (1999).

207. Felicity Thomas & Clare Donnelly, *Chinese Labyrinth*, 6 INFRASTRUCTURE FIN. 41, 42 (1997).

208. Richard J. Ferris, Jr., *Reaching Out to the Rule of Law: China's Continuing Efforts to Develop an Effective Environmental Law Regime*, 11 WM. & MARY BILL RTS. J. 569, 585 (2003).

munist Party's authority."²⁰⁹ It is now acknowledged that the Party and the State must act within the limits of the law. Reforms are being introduced to address corruption and incompetence in the government and to improve citizens' access to justice. But efforts to separate the functions of Party and State have not adequately addressed the CCP's indirect intervention in the economy through its control of state-owned enterprises and through continued Party appointment of key personnel in all government organs.²¹⁰ Law-making, of course, is not simply a rubber-stamp of Party leadership edicts. The CCP is often split over policy issues, and the legislative system can "serve as a significant adjunct arena for leadership political debate."²¹¹ The machinery of government also has its own interests and agenda, and policy-making can involve extensive bargaining among bureaucratic entities and CCP officials.²¹² Consequently, the Chinese legal system can represent a system of "fragmented authoritarianism" in which "authority below the very peak of the Chinese political system is fragmented and disjointed."²¹³ In this regime, law can serve to indicate a general policy direction and provide symbolic significance to political initiatives. Ultimately, a strengthening of the rule of law in China seems inevitable given that the CCP's legitimacy increasingly rests on economic growth rather than political ideology, and that growth is doubtful without legal reform.

While cultural traditions and political ideologies have made it difficult to establish a law-based order in China, such factors have also existed in South Korea, Singapore and Taiwan for instance, all of which have managed to establish fairly robust legal regimes. And once institutions of reform are established, they can develop a momentum of their own, "if for no other reason than path-dependent institutional self-interest."²¹⁴ During the 1990s, Taiwan and Korea embraced a Western-style liberal-dem-

209. Meixian Li, *China's Compliance with WTO Requirements will Improve the Efficiency and Effective Implementation of Environmental Laws in China*, 18 TEMPLE INT'L & COMP. L.J. 155, 168 (2004).

210. Randall Peerenboom, *A Government of Laws: Democracy, Rule of Law and Administrative Law Reform in the PRC*, 12 J. CONTEMP. CHINA 45, 46-47 (2003).

211. Murray S. Tanner, *THE POLITICS OF LAWMAKING IN POST-MAO CHINA: INSTITUTIONS, PROCESSES AND DEMOCRATIC PROSPECTS* 19 (1999).

212. David M. Lampton, *A Plum for a Peach: Bargaining, Interest, and Bureaucratic Politics in China*, in *BUREAUCRACY, POLITICS AND DECISION MAKING IN POST-MAO CHINA* 33, 34 (Kenneth G. Lieberthal & David M. Lampton eds., 1992).

213. Kenneth G. Lieberthal, *Introduction: The "Fragmented Authoritarianism" Model and Its Limitations*, in *BUREAUCRACY, POLITICS AND DECISION MAKING IN POST-MAO CHINA*, *id.* at 1, 8-9.

214. Peerenboom, *supra* note 210, at 62 (discussing how Taiwan's Council of Grand Justices assumed a much greater role in curbing administrative discretion, thereby contributing to further legal reforms).

ocratic version of rule of law, including constitutional and parliamentary reforms and the promotion of more effective administrative and judicial structures.²¹⁵ The process began in Taiwan after the lifting of martial law in 1987.²¹⁶ In South Korea, the Constitutional Court has emerged as a key force for the ascendancy of rule of law.²¹⁷ However, South Korean business regulation is still hampered by the *chaebol*-based economy.²¹⁸ South Korea was particularly hurt by the region's financial crisis of 1997-98 owing to insufficient state supervision of market actors who had enjoyed greater autonomy in the wake of the market liberalization reforms.²¹⁹ By contrast, Singapore was virtually alone in emerging relatively unscathed from the East Asian financial turmoil because it had a reliable, robust legal system that provided better checks and balances against such market abuses.²²⁰

South Korea and Taiwan's democratisation reforms have fueled various environmental activist movements, which in turn have contributed to the strengthening of environmental laws.²²¹ As a result of environmental degradation from South Korea's "poisoned prosperity," some people began reassessing their leaders' "faster and faster" motto.²²² South Korean environmental groups, taking advantage of a more liberalized mass media and freedoms to organize political activities, managed to thwart or delay several major development behemoths, such as the Youngwol Dam and the Wichon Industrial complex.²²³ Environmentalists have also campaigned against the nuclear power in-

215. Sean Cooney, *The Effects of Rule of Law Principles in Taiwan*, in *ASIAN DISCOURSES OF RULE OF LAW*, *supra* note 199, at 417; Ginsburg, *supra* note 194.

216. See Hung-mao Tien & Yun-han Chu, *Building Democracy in Taiwan*, 148 *CHINA Q.* 1141 (1996).

217. Chan Jin Kim, *Korean Attitudes Towards Law*, 10 *PAC. RIM L. & POL'Y J.* 1, 38-40 (2000).

218. Hisahiro Kondoh, *Policy Networks in South Korea and Taiwan during the Democratic Era*, 15 *PAC. REV.* 225, 230 (2002); Martin Hart-Landsberg & Paul Burkett, *Economic Crisis and Restructuring in South Korea: Beyond the Free Market-Statist Debate*, 33 *CRITICAL ASIAN STUD.* 403, 404 (2001) (arguing for worker/community-led socialization of the *chaebol*).

219. Yeon-ho Lee, *The Failure of the Weak State in Economic Liberalization: Liberalization, Democratization and the Financial Crisis in South Korea*, 13 *PAC. REV.* 115, 117 (2000).

220. Andrew Harding, *The Economic Crisis and Law Reform in South East Asia*, 8 *ASIA PAC. BUS. REV.* 49, 50-51 (2001).

221. See especially *ASIA'S ENVIRONMENTAL MOVEMENTS: COMPARATIVE PERSPECTIVE* (Yok-shiu Lee & Alvin So eds., 1999).

222. See generally NORMAN EDER, *POISONED PROSPERITY: DEVELOPMENT, MODERNIZATION AND THE ENVIRONMENT IN SOUTH KOREA* (1996); Sunhyuk Kim, *Democratization and Environmentalism: South Korea and Taiwan in Comparative Perspective*, 35 *J. ASIAN & AFRICAN STUD.* 287 (2000).

223. Joon Hyoung Lim & Shui-Yan Tang, *Democratization and Environmental Policy-Making in Korea*, 15 *GOVERNANCE* 561, 568-73 (2002).

dustry.²²⁴ By the early 1990s the Korean government accepted the need for concessions, and began promulgating tougher pollution control laws.²²⁵ Taiwan has also experienced popular protests against pollution, particularly nuclear energy technologies.²²⁶ Numerous environmental protectionist reforms that have occurred since the mid-1990s in Taiwan can be correlated with the growing pluralization of Taiwanese political culture.²²⁷ The political clout of the environmental and consumer movements peaked in 2000 when newly elected president, Chen Shui-bian, announced the goal of creating a “green silicon island.”²²⁸

By contrast, Malaysia and Indonesia are soft-authoritarian regimes where opposition parties and the media have been muzzled through security laws and other mechanisms that reinforce a non-liberal conception of democracy.²²⁹ Notwithstanding this fact, Malaysia enjoys a relatively well-developed legal system, which remains a product of British colonialism. Political independence led to attempts to inculcate the legal system with local values, and former Prime Minister Mahathir sought to distance Malaysia from the liberal model by infusing so-called Asian values into the legal system.²³⁰ Law is used in Malaysia to strengthen the state, to ensure stability and to facilitate economic growth. In Indonesia, although authoritarianism and military interference in government have been enduring problems, and have engendered destructive crony capitalism,²³¹ law reform efforts have continued over many decades, most recently through the *Reformasi* movement.²³² Environmental governance in these two Southeast nations remains weak as there are few formal legal

224. See Sungro Lee & Michael R. Fitzgerald, *Openness in Public Administration and the Politics of Environmentalism: In the Case of Nuclear Facility Siting in South Korea*, 63 INT'L REV. ADMIN. SCI. 67 (1997).

225. Hong Sik Cho, *An Overview of Korean Environmental Law*, 29 ENVTL. L. 501, 505 (1999).

226. See, e.g., Keith Bradsher, *Nuclear Dump Disrupts a Peaceful Taiwan Island*, N.Y. TIMES, June 30, 2002, at 3; Lim & Tang, *supra* note 223.

227. Jürgen Domes, *State Capacity in an Asian democracy: The Example of Taiwan*, in STATE CAPACITY IN EAST ASIA: JAPAN, TAIWAN, CHINA, AND VIETNAM, *supra* note 28, at 114, 118-25.

228. See *President Chen Unveils Strategies For Economic Development*, CENT. NEWS AGENCY, Feb. 24, 2003, at 1.

229. Graham Field, *ECONOMIC GROWTH AND POLITICAL CHANGE IN ASIA* 105-08 (1995).

230. H.P. Lee, *Competing Conceptions of Rule of Law in Malaysia*, in ASIAN DISCOURSES OF RULE OF LAW, *supra* note 199, at 225.

231. See Jared Levinson, “Living Dangerously”: *Indonesia and the Reality of the Global Economic System*, 7 J. INT'L L. & PRAC. 425 (1998).

232. David K. Linnan, *Indonesian Law Reform, or Once More unto the Breach: A Brief Institutional History*, 1 AUSTL. J. ASIAN L. 1 (1999).

mechanisms by which government-developer alliances can be challenged by citizens.

Thailand has also been confronting fundamental constitutional issues such as the relationship of democracy to rule of law, balance of power issues between the different arms of the state, and protection of human rights. But it has been less successful in addressing basic rule of law problems, and economic and environmental reform is undermined by elementary legal problems including access to justice, inefficient courts and administrative corruption. Vitat Muntarbhorn summarises that the Thai legal system is plagued by the five Cs: corruption, collusion, cronyism, clientism and crime.²³³ Thai governments have been unstable owing to shifting parliamentary coalitions and excessive "money politics," as well as interference from the military.²³⁴ In this milieu, environmental issues have been promoted in Thailand mainly through a corporatist movement geared towards corporate social responsibility and the promotion of new markets for environmental goods and technologies, rather than through broader social movements as in Taiwan and Korea.²³⁵ Clearly then, a lack of democracy imposes some limits to the extent to which rule of law will be realised. Public participation in policy-making, greater transparency of decision-making, and access to justice can improve the quality of governance and enhance its legitimacy.²³⁶ Democracy can provide a procedural mechanism for regulating societal conflicts, allow for more open debate, thus leading to a more informed decision-making process, and provide a more accurate feedback mechanism to policy-makers. The corporatism and clientelism that have marked state-society relations in East Asia during the post-war period are increasingly being challenged by democratic and civil societal movements.²³⁷ Democratisation has engendered new institutional arrangements: competitive electoral systems, local autonomy, liberalization of the mass media, and freedom of civic association. These institu-

233. Vitat Muntarbhorn, *Rule of Law and Aspects of Human Rights in Thailand: From Conceptualization to Implementation?*, in *ASIAN DISCOURSES OF RULE OF LAW*, supra note 187, at 346, 360.

234. See Chai-Anan Samudavanija & Sukhumbhand Paribatra, *Thailand: Liberalization Without Democracy*, in *DRIVEN BY GROWTH: POLITICAL CHANGE IN THE ASIA-PACIFIC REGION*, supra note 16, at 119; Douglas L. Tookey, *Southeast Asian Environmentalism at its Crossroads: Learning Lessons from Thailand's Eclectic Approach to Environmental Law and Policy*, 11 *GEO. INT'L L. REV.* 307, 330-32 (1999).

235. See Tookey, supra note 234.

236. See generally *DELIBERATIVE DEMOCRACY* (James Bohman & William Rehg eds., 1997); Scott Kuhn, *Expanding Public Participation is Essential to Environmental Justice and the Democratic Decisionmaking Process*, 25 *ECOLOGY L.Q.* 647 (1999); Jenny Steele, *Participation and Deliberation in Environmental Law: Exploring a Problem-solving Approach*, 21 *OXFORD J. LEGAL STUD.* 415 (2001).

237. BRØDSGAARD & YOUNG, supra note 28, at 6.

tions have empowered civil society, helped to facilitate the articulation of a more diffuse set of social interests in environmental policy-making, and created the room for greater criticism of unidimensional policies of uncompromising industrialization. Democratic change is interwoven with changes in a society's living standards. Kuznets' theory predicts a correlation between a society's rising concern for the environment and its standard of living.²³⁸ This is because pollution damage receives a higher priority after rising wealth has financed basic investments in health and education, and because wealthier societies have more resources to devote to environmental protection.²³⁹ Democracy is arguably a necessary parallel development, because it allows for the articulation of public concerns and social pressures for policy reform. New societal pressure as a result of democratisation is gradually compelling some governments in East Asia to respond to environmental problems, and thereby establishing a rule of environmental law.²⁴⁰

Even in countries where democracy is not yet politically viable, such as the one-party states of China and Vietnam, a meaningful rule of law can be achieved. It may seem futile to imagine rule of law when the ruling party has been above the law, but Professor Randall Peerenboom points out that CCP leaders have increasingly appreciated the advantages of rule of law for economic development, national stability and Party legitimacy.²⁴¹ For example, popular discontent over judicial corruption, bias, and incompetence is deterring investors, undermining the effectiveness of the legal system, and ultimately hurting the political legitimacy of the Party.²⁴² Even without competitive elections, administrative law reforms have empowered society by giving citizens the right to challenge state actors through litigation, mediation and other channels. Government environmental agencies periodically issue public bulletins regarding their affairs, and give citizens the right to file accusations against anyone alleged to

238. Simon Kuznets, *Economic Growth and Income Inequality*, 45 AM. ECON. REV. 1 (1955).

239. *Id.* However, democratisation alone appears to be insufficient to produce major shifts in environmental policy, as the situation of the Philippines shows — a country with lower income per capita than Korea and Taiwan. Rock, *supra* note 180, at 95. Conversely, high living standards can produce strong environmental laws even in the absence of vibrant civil society, as Singapore's soft-authoritarian democracy illustrates. See Lye Lin Heng, *Singapore's New Environmental Law: The Environmental Pollution Control Act, 1999*, SING. J. LEGAL STUD. 1 (2000).

240. See ASIA'S ENVIRONMENTAL MOVEMENTS: COMPARATIVE PERSPECTIVE (Yok-shiu Lee & Alvin So eds., 1999).

241. Peerenboom, *supra* note 210, at 60-61.

242. *Id.*

have breached environmental laws.²⁴³ More reforms are needed of course, as China's court system generally remains poorly equipped to dispense environmental justice. Its judges are mainly unqualified to evaluate the complex technical information on which pollution cases typically hinge, and they are reluctant to sanction enterprises favoured by local authorities, given their dependence on their local municipality for largesse.²⁴⁴

In summary, reforms to transform East Asian legal systems from institutions based on bureaucratic discretion to those subscribing to universal legislative norms remain vulnerable to indigenuous cultural preferences for non-legal methods of dispute resolution, lack of familiarity with regulations that are based on external norms, and political systems that place the governing elites or party above legal norms. These problems are particularly pronounced in China and Vietnam, but are becoming less evident in South Korea and Taiwan, which have established more democratic systems of governance. Law reformers need to understand the interaction between imported legal norms and local institutional precepts and organizational processes. To some extent, East Asian legal systems are giving rise to a bifurcated legal system, whereby legal reforms are almost solely relegated to special economic zones and areas with foreign investment activity, so that the spread of potentially destabilizing reforms is curbed.

B. TRENDS IN ENVIRONMENTAL LAW AND POLICY IN EAST ASIA

Environmental Legislative Developments

Throughout East Asia, environmental law and policy has ostensibly begun to reach maturity, manifested by extensive legislative initiatives, the founding of environmental management agencies, judicial activism and the environmental jurisprudence created thereon.²⁴⁵ Governments are modernizing their environmental management regimes to give effect to principles of sustainable development.²⁴⁶ East Asian environmental policy-makers faced

243. Wang Xi & Robert F. Blomquist, *The Developing Environmental Law and Policy of the People's Republic of China: An Introduction and Appraisal*, 5 GEO. INT'L ENVTL. L. & POL'Y REV. 25 (1992). For other works on democracy in China, see GROUPS AND POLITICS IN THE PEOPLE'S REPUBLIC OF CHINA (David S.G. Goodman ed., 1984); POPULAR PROTEST AND POLITICAL CULTURE IN MODERN CHINA (Jeffrey N. Wasserstrom & Elizabeth J. Perry eds., 1992).

244. Peerenboom, *supra* note 210, at 58.

245. Boer, *supra* note 156, at 1503.

246. Surya O. Subedi, *Incorporation of the Principle of Sustainable Development into the Development Policies of the Asian Countries*, 32 ENVTL. POL'Y & L. 85 (2002).

with the daunting task of devising and implementing effective regulatory regimes for their industrializing economies, “have at least one advantage over their historical counterparts in the West — they have several decades of environmental regulatory history to learn from.”²⁴⁷ So far, the most advanced reforms have been pioneered in Singapore and Taiwan, while Thailand, Indonesia and Vietnam have among the least developed environmental law regimes. Between these poles are China, Malaysia, and South Korea.

Virtually all of East Asia has looked to the developed world for ideas and precedents. Yet, many of the foreign environmental law innovations such as economic instruments and integrated pollution control systems, have hardly been touched. Because of their institutional and legal weaknesses, many states have envisioned an overly-simple solution of centralizing environmental administration, so as to bring coherence and coordination to policy-making.²⁴⁸ Legislation often takes the form of command-and-control regulation with wide discretionary powers to state administrators.²⁴⁹ The danger of this approach is that it can create inappropriate scales for effecting environmental management and an institutional vacuum at local levels of governance, particularly in the SEZs. This institutional centripetalism is reflected in governments’ preferences for national environmental strategies, national environmental agencies and other policy centralizing mechanisms.

The mainstay of environmental law in East Asia is the umbrella national environmental statute, with complementary statutes addressing specific environmental media such as water, air, soil and biodiversity. Examples include: China’s Environmental Protection Law of 1979,²⁵⁰ Malaysia’s Environmental Quality Act of 1974,²⁵¹ Thailand’s Enhancement and Conservation of National Environmental Quality Act of 1992,²⁵² Indonesia’s Law

247. Allen Blackman & Winston Harrington, *The Use of Economic Incentives in Developing Countries: Lessons from International Experience with Industrial Air Pollution*, 9 J. ENV’T & DEV. 5, 5 (2000).

248. Benjamin J. Richardson, *Environmental Law in Postcolonial Societies: Straddling the Local-Global Institutional Spectrum*, 11 COLO. J. INT’L ENVTL. L. & POL’Y 1, 21-26 (2000).

249. See generally CLIVE Y. THOMAS, *THE RISE OF THE AUTHORITARIAN STATE IN PERIPHERAL SOCIETIES* (1984); SU HOON LEE, *STATE-BUILDING IN THE CONTEMPORARY THIRD WORLD* (1988).

250. http://www.novexcn.com/environmental_protec_law.html (last visited Feb. 20, 2005).

251. Act No. 127 of 1974, http://www.lawsofmalaysia.com/shop/store/view_n.asp?ISBN=9832314208 (last visited Feb. 20, 2005).

252. <http://www.ostc.thaiembdc.org/environment/enhance.html> (last visited Feb. 20, 2005).

Concerning Environmental Management of 1997,²⁵³ Taiwan's Basic Environmental Act of 2002,²⁵⁴ and Vietnam's Law on Protection of the Environment of 1993.²⁵⁵ In addition, some states are adding environmental protection clauses to their national constitutions as an expression of their commitment. To illustrate, the Indonesian constitution was amended in the early 1970s to introduce a provision on care for the environment.²⁵⁶ The constitution of South Korea was amended in 1980 to provide its citizens with the right to live in a healthy and clean environment.²⁵⁷ China's constitution was modified in 1978 to incorporate an environmental protection clause.²⁵⁸ Nonetheless, constitutional provisions often lack the legal significance found in Western examples. For example, the Supreme Court of Korea has construed the environmental protection provision of its constitution as not self-executing.²⁵⁹

Taiwan's environmental laws arose during the early 1970s,²⁶⁰ and it now has an estimated 300 environmental laws and regulations.²⁶¹ Taiwan's regulatory approach has evolved in a pattern common to Western nations — beginning with the direct regulation of end-of-pipe pollution, and gradually moving towards more complex regulation strategies characterized by an increasing dependence on cooperative relationships among industry,

253. Law No. 23, 1997, available at <http://sunsite.nus.edu.sg/apcel/dbase/indonesia/primary/inaem.html>.

254. <http://law.epa.gov.tw/en/laws/811708521.html> (last visited Apr. 20, 2005).

255. <http://www.mekonglawcenter.org/download/0/vietnam.htm> (last visited Feb. 20, 2005).

256. INDON. CONST. art. 33, <http://menic.utexas.edu/asnic/countries/indonesia/ConstIndonesia.html> (last visited Feb. 20, 2005). Art. 33 states, in part, that: "[T]he land, the waters and the natural resources therein are basic assets for the people's prosperity and should, therefore, be controlled by the state and exploited to the greatest benefit of the people."

257. S. KOREA CONST. art. 35, http://www.oefre.unibe.ch/law/icl/ks00000_.html (last visited Feb. 20, 2005). It states: (i) All citizens have the right to a healthy and pleasant environment. The State and all citizens shall endeavour to protect the environment; (ii) The substance of the environmental right is determined by law; (iii) The State endeavours to ensure comfortable housing for all citizens through housing development policies and the like.

258. Zhonghua Renmin Gongheguo Xianfa [Constitution of the People's Republic of China] art. 9 (1982), <http://english.peopledaily.com.cn/constitution/constitution.html> (last visited Feb. 20, 2005).

259. See, e.g., Dae-bup-won [DBW] [Supreme Court] 94 ma 2218 (May 23, 1995) (S. Korea); DBW 95 da 23378 (Sept. 15, 1995) (S. Korea); DBW 96 da 56153 (July 22, 1997) (S. Korea).

260. The first versions of the Water Pollution Control Act (May 23, 1975, amended May 16, 1991) and the Air Pollution Control Act (May 23, 1975, amended Jan. 20, 1999) were passed in the 1970s. See respectively <http://law.epa.gov.tw/en/laws/water/water.html> (last visited Apr. 20, 2005); <http://law.epa.gov.tw/en/laws/atmosph/air.html> (last visited Apr. 20, 2005).

261. See *Cleaning Up China*, 29 BUS. ASIA 5, 6 (1997).

government, and third parties.²⁶² The Taiwanese parliament enacted the Fundamental Environmental Protection Act in 2002,²⁶³ which builds on other capstone environmental laws including the Water Pollution Control Law of 1991 and Air Pollution Control Act of 1992 (both revisions of earlier pollution control statutes dating from the 1970s),²⁶⁴ and the Environmental Impact Assessment Act of 1994.²⁶⁵ In principle, the latter law gives the National Environmental Protection Agency (established in 1987) authority to veto major projects, an authority the Agency has attempted to exercise against industrial complexes proposed for location in environmentally sensitive areas.²⁶⁶

South Korea has a reasonably well-developed system of environmental law. Though its legal system draws on the civil law traditions of Germany, most of its environmental statutes are modelled on Anglo-American precedents.²⁶⁷ The Basic Environmental Policy Act of 1990 is patterned after the United States' National Environmental Policy Act. South Korea's first generation pollution laws in the mid-1960s were ineffectual in stemming the massive pollution that accompanied the country's heavy industrialization over the ensuing decades.²⁶⁸ In the late 1970s, a new generation of environmental laws arrived, including the seminal Environmental Conservation Act of 1977, which introduced an environmental impact assessment (EIA) procedure.²⁶⁹ A number of specialist pollution control laws were introduced, notably the Air Environment Preservation Act,²⁷⁰ Water Environment Preservation Act,²⁷¹ and the Waste Management Act.²⁷² Substantial efforts were made to improve pollution control in Seoul in preparation for its hosting of the Olympics in 1988.²⁷³ During the 1990s the specialization of environmental laws continued, such as the new Environmental Impact Assessment Act.²⁷⁴ Today, South Korea possesses a basket of environmental laws com-

262. Kinne, *supra* note 157, at 100.

263. <http://www.epa.gov.tw/english> (last visited Feb. 20, 2005).

264. Shu-Hwei Fang & Hsiung-Wen Chen, *Air Quality and Pollution Control in Taiwan*, 30 *ATMOSPHERIC ENV'T* 735 (1996).

265. <http://law.epa.gov.tw/en/laws/811708521.html>.

266. *Id.*

267. Cho, *supra* note 225, at 506.

268. See OECD, *ENVIRONMENTAL PERFORMANCE REVIEWS: KOREA* (1997).

269. Lee & Adeel, *supra* note 155, at 144.

270. Law No. 4262 of Feb. 1, 1991.

271. Law No. 4260 of Feb. 1, 1991.

272. Law No. 4363 of Mar. 8, 1991.

273. Yearn Hon Choi, *Environmental Management in South Korea: Origin, Policy, Program Questions*, 30 *KOREA OBSERVER* 269 (1999).

274. Law No. 4567 of June 11, 1993.

parable to many Western nations,²⁷⁵ and it is beginning to tackle more complex challenges such as greenhouse gas emissions.²⁷⁶ Environmental law reform in China has not matched efforts in South Korea or Taiwan, but has nonetheless been quite extensive. Ostensibly, the PRC boasts a laudable array of environmental laws and institutions — comparable to that in many Western countries.²⁷⁷ The legal transformation has been quite remarkable.²⁷⁸ By contrast, Mao Tse-tung's reign was described as a "war against nature."²⁷⁹ Mao's grandiose aspirations led to ecologically destructive behemoths such as the Sanmenxia dam on the Yellow River,²⁸⁰ as well as environmentally detrimental development practices during the chaotic Great Leap Forward and the Cultural Revolution.²⁸¹ While the gigantic Three Gorges dam reveals that the "Think Big" mentality persists among the contemporary PRC leadership,²⁸² in other contexts, environmental policies are being acknowledged as central, rather than ancillary, concerns. A raft of new environmental laws have been promulgated or revised, notably the Environmental Impact Assessment Law of 2002 and the amendments to the Air Pollution Prevention and Control Law of 2000.²⁸³ For example, environmental standards have been incorporated into the national constitution,²⁸⁴ and there are at least 20 major national environmental laws, complemented by hundreds, if not thousands, of provincial and mu-

275. See the list of environmental laws at the Ministry of Environment's website, at <http://eng.me.gov.kr/user> (last visited Feb. 20, 2005).

276. Seung-Hoon Yoo & Chang-Young Yang, *Evaluating the Greenhouse Gas Emission Reduction Policy in Korea*, 33 KOREA OBSERVER 469 (2002).

277. Hongjun Zhang & Richard J. Ferris, Jr., *Shaping an Environmental Protection Regime for the New Century: Environmental Law and Policy in the People's Republic of China*, 6 ASIAN J. ENVTL. MGMT. 35 (1998).

278. See L. Ross, *The Next Wave of Environmental Legislation*, 21(4) CHINA BUS. REV. 4 (1994).

279. Judith Shapiro, *MAO'S WAR AGAINST NATURE: POLITICS AND ENVIRONMENT IN REVOLUTIONARY CHINA* (2001).

280. *Id.* at 23; VACLAV SMIL, *CHINA'S ENVIRONMENTAL CRISIS: AN INQUIRY INTO THE LIMITS OF NATIONAL DEVELOPMENT* 114 (1993).

281. See DALI L. YANG, *CALAMITY AND REFORM IN CHINA: STATE, RURAL SOCIETY AND INSTITUTIONAL CHANGE SINCE THE GREAT LEAP FORWARD* (1996).

282. Richard L. Edmonds, *Recent Developments and Prospects for the Sanxia (Three Gorges) Dam, in CHINA'S ECONOMIC GROWTH: THE IMPACT ON REGIONS, MIGRATION AND THE ENVIRONMENT* 161, 165 (Terry Cannon ed., 2000).

283. See Lori Frater, *A Review of the Air Pollution Prevention and Control Law in the People's Republic of China*, 7 ASIA PAC. J. ENVTL. L. 89 (2002); Yan Wang, Richard K. Morgan & Mat Cashmore, *Environmental Impact Assessment of Projects in the People's Republic of China: New Law, Old Problems*, 23 ENVTL. IMPACT ASSESSMENT REV. 543 (2003).

284. BEN BOER ET AL., *INTERNATIONAL ENVIRONMENTAL LAW IN THE ASIA PACIFIC* 219 (1998).

nicipal level environmental regulations.²⁸⁵ China's peak law, the Environmental Protection Law of 1989 (replacing the interim Environmental Protection Law of 1979), provides a general template for pollution control, environmental impact assessment and other core regulatory functions.²⁸⁶

A national environmental agency was first set up in 1975, and is presently known as the State Environmental Protection Administration (SEPA). It shares peak authority with environmental units in the State Council and the National People's Congress (NPC). Under the Chinese legal system, central government environmental laws are implemented by local agencies, principally the environmental protection bureaux (EPBs)²⁸⁷ that function as part of the national administrative system. Local agencies have some discretion to adapt national laws to local conditions, although their environmental standards cannot be less stringent than national ones. Administrative cooperation is frequently hampered by byzantine administrative arrangements involving multiple, overlapping agency responsibilities. A specific environmental issue may be regulated by several entities — for example, eight different ministries and commissions at the national level are involved in implementing China's obligations under the Montreal Protocol.²⁸⁸

Environmental laws in the nations of Southeast Asia vary in extent, type, and quality. Though the Philippines lack a national environmental law framework, it has achieved some ad hoc successes, such as the new Clean Air Act of 1999, Ecological Solid Waste Management Act of 2000, and the Clean Water Act of 2004.²⁸⁹ Thailand's primary environmental law is the Enhancement and Conservation of National Environmental Quality Act of 1992 (NEQ Act),²⁹⁰ which is overseen by the Pollution Control Department of the Ministry of Science, Technology, and Environment.²⁹¹ The NEQ Act provides for a National Environment Board to undertake strategic policy-making, with responsibilities

285. See e.g., Air Pollution Prevention and Control Law 1987 (revised in 1995 and 2000), Water Pollution Prevention and Control Law 1984 (revised in 1996). See further Ferris, *supra* note 221, at 580.

286. Barbara J. Sinkule & Leonard Ortolano, IMPLEMENTING ENVIRONMENTAL POLICY IN CHINA 5 (1995).

287. *Id.* at 6-8.

288. William P. Alford & Yuanyuan Shen, *The Limits of the Law in Addressing China's Environmental Dilemma*, in *ENERGIZING CHINA: RECONCILING ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH* 405, 414 (Michael R. McElroy et al. eds., 1998).

289. See Philippine Primary Legislation, available at <http://sunsite.nus.edu.sg/apcel/dbase/filipino/primary.html>.

290. B.E. 2535 §§ 12-21 (1992) (Thail.), available at http://www.pcd.go.th/info_serv/en_reg_envi_12.html.

291. *Id.* at § 21. See further Tookey, *supra* note 234.

for the preparation of environmental policies and plans, the issuance of environmental quality standards, and supervision of EIAs.²⁹² Similar legislative and administrative patterns exist in Indonesia and Malaysia under their peak environmental statutes.²⁹³ Vietnam is at a different stage of legal reform; it has a parsimonious collection of environmental laws and, prior to 1980, had virtually none.²⁹⁴

This extensive body of environmental law in East Asia is somewhat deceiving, for much of it is of poor quality. Legislation is often poorly drafted, framed in very general and exhortational terms, with undefined terminology, legislative gaps, and inconsistent provisions.²⁹⁵ Sometimes environmental legislation seems more akin to policy statements than law. For example, China's Environmental Protection Law 1989 vaguely proclaims that local governments are "responsible for the quality of the environment within their own administrative regions."²⁹⁶ Vague provisions can pose problems in the context of legislative sanctions. For example, the 1990 Measures on Administration of the Waigaoqiao Free Trade Zone of Shanghai dictate that "any projects which may cause environmental pollution shall be prohibited to be carried out in the Free Trade Zone."²⁹⁷ The absence of a definition of "environmental pollution", and the potentially all-encompassing scope of this provision, make this regulation rather problematic. Similar drafting problems affect Vietnam's Law on Environmental Protection, which the government has attempted to overcome by enacting a supplementary measure, entitled the Decree on Providing Guidance for the Implementation of the Law on Environmental Protection.²⁹⁸ Similarly, Thailand's environmental laws have been criticised for their brevity, indicating only generic principles that leave enormous discretionary power to administrative officials.²⁹⁹ These legislative characteristics can severely weaken the rule of environmental law.

292. *Id.* at §§ 13(1)-(14), 32-34.

293. *Supra* notes 251, 253.

294. Tannetje Bryant & Keith Akers, *International Environmental Symposium: Environmental Controls in Vietnam*, 29 ENVTL. L. 133, 136 (1999).

295. Peter Crone, *China's Legal Structure*, in *A GUIDE TO THE LEGAL SYSTEM OF THE PRC* 1, 1 (Chris Hunter et al. eds., (1997).

296. Zhonghua Renmin Gongheguo Huanjing Baohufa [Environmental Protection Law of the People's Republic of China], art. 16 (1989), available at <http://www.zhb.gov.cn/english/chanel-3/detail-3.php?chanel=3&column=1&id=3> (last visited Feb. 20, 2005).

297. *Id.* at art. 11.

298. Decree on Providing Guidance for the Implementation of the Law on Environmental Protection, Vietnam Government Decree No. 175-CP (1994), available at <http://law.nus.edu.sg/apcel/dbase/vietnam/regs/videnv.html#Top> (last visited Feb. 20, 2005).

299. Tookey, *supra* note 234, at 331.

Administrative and Policy Reforms

New or better environmental laws are not enough to protect East Asia's environment. Governments must also have an administrative system with the capacity and the motivation to implement and enforce such laws.³⁰⁰ Legal reform must extend to an effective administrative process, incorporating public participation, access to information, and judicial review. Unfortunately, there has been a tendency of governments to "relegate the consideration of legal and institutional arrangements to artificially isolated chambers, destined for sequential consideration once the necessary policy document has been developed."³⁰¹ Not uncommonly, environmental legislation has been a dead letter due to too few skilled personnel, insufficient administrative and technical support, and a paucity of financial resources.³⁰² There is also a tendency to ignore the potential contributions of the non-government organizations (NGOs), local community groups or business associations as a means of environmental governance.

Most East Asian states have national environmental management agencies, which operate in conjunction with line ministries dealing with water, minerals, and other natural resources.³⁰³ Often there are also regional or provincial level environmental administrations, and environmental units within municipal governments. Little progress has been achieved in promoting cross-sectoral administrative cooperation between environmental authorities and other arms of government such as economic and financial ministries. For example, Indonesia's State Ministry of Population and Environment (SMPE), has been embroiled in a number of disputes with other ministries over development proposals.³⁰⁴ Some central government ministries have resisted the demands of SMPE for their approval of a required EIA report before undertaking a major development project.³⁰⁵

Certainly, since the 1970s, virtually all countries in the region have established central environmental administrations, often at the ministerial level with a seat in cabinet. South Korea established its Environmental Administration in 1979, which was

300. William L. Andreen, *Environmental Law and International Assistance: The Challenge of Strengthening Environmental Law in the Developing World*, 25 COLUM. J. ENVTL. L. 17, 26 (2000).

301. *Id.* at 28.

302. *China's Environmental Problems — Needs — Spending — Enforcement*, 21 EAST ASIAN EXECUTIVE REP. 16 (1999).

303. Richardson, *supra* note 248, at 23.

304. *See also* Lim & Tang, *supra* note 223, at 568 (discussing conflicts between the Ministry of Environment and the Ministry of Construction and Transportation over the proposed Youngwol Dam project).

305. *See also id.*

upgraded to a Ministry of Environment in 1990.³⁰⁶ Taiwan set up a central Environmental Protection Administration in 1987, which was later raised to a full Ministry.³⁰⁷ At the regional level, the Ministry oversees the Taipei and Kaohsiung departments of environmental protection. The Philippines has a Department of Environment and Natural Resources.³⁰⁸ In Vietnam, the Law on Protection of the Environment is administered by the Ministry of Science, Technology, and the Environment. The Ministry's functions include: preparing all environmental protection legislation plans and policies; monitoring of national environmental conditions; appraising EIAs of project proposals; formulating environmental standards; and pollution licensing.³⁰⁹

Enforcement is the weakest link in East Asia's environmental law regimes. In 1994, Lester Ross wryly commented, "for many years, China's environmental authorities have been like a muzzled dog: plenty of bark but little bite."³¹⁰ The same could be said for many of China's neighbours. China's criminal law is not short of offences that harm public health and the environment.³¹¹ But efforts to achieve a semblance of rule of law have yet to fully overcome corruption and reliance on personal connections and backdoor negotiations.³¹² Occasionally, major administrative enforcement crackdowns are launched with considerable fanfare.³¹³ But sustained enforcement seems unlikely given the *guanxi* relationships that flourish between regulators and industry.³¹⁴ Professors Peter Hills and C.S. Man suggest that because of "a cultural predisposition to harmony and consensus-building, heavy-handed imposition of environmental regulations is typically avoided, unless an edict is delivered from the upper eche-

306. Cho, *supra* note 225, at 506; Yeon-Chang Koo, *Legal Aspects of Environmental Protection in Korea*, 7 KOREAN J. COMP. L. 1, 6 (1979) (noting that the government is going to establish a centralized Environment Agency to effectuate the Environment Preservation Act of 1977).

307. The website of Environmental Protection Administration, <http://cemnt.epa.gov.tw/eng> (last visited Feb. 20, 2005).

308. The website of Environmental Management Bureau under the Department of Environment and Natural Resources, <http://www.emb.gov.ph> (last visited Feb. 20, 2005).

309. Bryant & Akers, *supra* note 294, at 141.

310. Lester Ross, *The Next Wave of Environmental Legislation*, 21 CHINA BUS. REV. 30, 30 (1994).

311. Benjamin Van Rooij, *Implementing Chinese Environmental Law through Enforcement*, in IMPLEMENTATION OF LAW IN THE PEOPLE'S REPUBLIC OF CHINA 149, 155 (Jianfu Chen et al. eds., 2002).

312. SHAPIRO, *supra* note 279, at 206.

313. See, e.g., *China Punishes 12,000 Firms for Environmental Offences*, XINHUA NEWS AGENCY, Nov. 21, 2003; Sims, *supra* note 214, at 1235.

314. Peter Hills & C.S. Man, *Environmental Regulation and the Industrial Sector in China: The Role of Informal Relationships in Policy Implementation*, 7 BUS. STRATEGY & ENV'T 53 (1998).

lons of the Government.”³¹⁵ The same patterns can be seen in Thailand: Professor Douglas Tookey reports that “to avoid creating problems with each other, neighbours do not report environmental violations” and corrupt officials prefer to be “nice to family and friends” rather than generate animosity.³¹⁶

So far, the courts in East Asia have been used mostly as a last resort; policies and regulations serve as guidance, and disputes are settled largely through negotiation and bargaining outside the court system.³¹⁷ A few significant public interest environmental cases have been litigated in recent years in the region, notably in Malaysia and the Philippines.³¹⁸ In Taiwan, there have been some government-initiated lawsuits against polluters, but citizen suits are uncommon.³¹⁹ Others states such as Vietnam and Indonesia lack an effective and independent judiciary willing and able to entertain such cases.³²⁰ China’s Administrative Litigation Law of 1990 provides that any environment-related administrative body that fails to carry out its duties (e.g., by failing to impose a fine for pollution) can be challenged in the People’s Courts.³²¹ However, a People’s Court has no authority to review a general decision made by the State Council, its ministries, or any local government body which does not immediately bear on a specific enterprise or individual (e.g., a decision to build a nuclear power station).³²² While there is some evidence that formal dispute resolution mechanisms are being used more frequently in China to deal with environmental problems and complaints,³²³ mediation remains favoured by most parties for addressing local pollution problems.³²⁴

Besides legislation and administrative support, an effective system of environmental governance requires policies for sus-

315. *Id.* at 61.

316. Tookey, *supra* note 234, at 328.

317. Sinkule & Ortolano, *supra* note 286, at 27; see also RONALD C. BROWN, UNDERSTANDING CHINESE COURTS AND LEGAL PROCESS: LAW WITH CHINESE CHARACTERISTICS (1997).

318. See Meenakshi Raman, *The Malaysian High Court Decision Concerning the Bakun Hydro-Electric Dam Project*, 2 ASIA PAC. J. ENVTL. L. 93 (1997); Denter B. Gatmaytan, *The Illusion of Intergenerational Equity: Oposa v. Factoran as Pyrrhic Victory*, 15 GEO. INT’L ENV’T L. REV. 457 (2003).

319. See D. Te-chung Tang, *The Environmental Laws and Policies of Taiwan*, 26 VAND. J. TRANSNAT’L L. 521, 534, 545 (1993).

320. CAROL WARREN & KYLIE ELSTON, ENVIRONMENTAL REGULATION IN INDONESIA 12 (1994).

321. Zhonghua Renmin Gongheguo Xingzheng Susongfa [Administrative Litigation Law of the People’s Republic of China], art. 11(5) (1990).

322. H. Mei, *Legal Gateways for Environmental Protection in China*, 4 REV. EUR. COMMUNITY & INT’L ENVTL. L. 22, 29 (1995).

323. See Yuhong Zhao, *Environmental Dispute Resolution in China*, 16 J. ENVTL. L. 157 (2004).

324. *Id.*

tainable development. Policies can provide strategic directions for regulators and help ensure discretionary legislative authority is put to appropriate ends. All industrializing East Asian nations have adopted national environmental policies and plans, though their regulatory impact has been highly variable. Many were prepared with assistance from international donors and advisors such as the World Bank and the World Conservation Union (IUCN).³²⁵ However, most of these policy statements seem to be of little regulatory significance. At best, they serve to indicate long-term political commitment and, at worst, are mere public relations exercises.

IV. ENVIRONMENTAL LAW AND THE SPECIAL ECONOMIC ZONES

A. INFLUX OF FOREIGN INVESTMENT AND ITS ENVIRONMENTAL CONSEQUENCES

At the heart of the economic transformation of East Asia's SEZs is foreign investment. One might expect the interaction of market deregulation, rapid industrialization and foreign investment in the SEZs to be an incendiary combination from an environmental perspective. Many transnational companies (TNCs) have set up production facilities and entered into joint ventures with local firms in East Asia. They have brought capital, as well as new technologies, business systems and values, and management behaviour to East Asia.³²⁶ Private finance now dominates the development ledger in East Asia, and it has helped to compensate for declines in bilateral and multilateral intergovernmental aid.³²⁷ As a result of economic globalization, "almost every government in the world, including communist regimes . . . attempts to entice foreign capital."³²⁸ In the 1990s, four of the five top recipients for FDI in the world were in East Asia — namely, China, Malaysia, Indonesia and Thailand.³²⁹ Private capital is moving not solely from the West to developing countries, but is also increasingly circulating between emerging economies. South

325. Bryant & Akers, *supra* note 294, at 136 (discussing the IUCN's assistance to the Vietnamese government to prepare a National Conservation Strategy in 1985).

326. Kylie Redfern & John Crawford, *An Empirical Investigation of the Influence of Modernisation on the Moral Judgements of Managers in the People's Republic of China*, 11 *CROSS CULTURAL MGMT.* 48 (2004).

327. Hilary F. French, *When Foreign Investors Pay for Development*, 10 *WORLD WATCH* 8, 9 (1997).

328. Robert O. Keohane & Van Doorn Ooms, *The Multinational Firm and International Regulation*, 29 *INT'L ORG.* 169, 170 (1975).

329. French, *supra* note 327, at 15.

Korea and Taiwanese firms are among the most active investors in China's SEZs.³³⁰

The presence of foreign investors poses special challenges to environmental regulators. This challenge is amplified when TNCs acquire and manage major domestic enterprises in strategic sectors of the economy. The privatization of public assets (often at discount prices) has enhanced foreign ownership, especially in highly indebted countries such as Thailand and the Philippines.³³¹ As a consequence of the infamous Bhopal tragedy in 1984 when a leak from a Union Carbide subsidiary's plant in India caused the deaths of thousands of workers and local inhabitants, TNCs became more scrutinized by regulators and public interest groups.³³² Environmental issues have become increasingly included in the TNC agenda, through technological solutions, subscription to relevant corporate environmental systems, and codes of conduct.³³³ The Business Council of Sustainable Development and the International Chamber of Commerce are working to promote more environmentally responsible TNC conduct.³³⁴ Some TNCs see advantages from taking the environment more seriously, including access to green consumer markets, material savings from greater energy efficiencies, as well as helping to pre-empt unwanted external environmental regulation.³³⁵ But many foreign investors no doubt do not see beyond financial imperatives and callously disregard their environmental impacts.³³⁶

The environmental effects of FDI activity can be divided into mainly scale effects (expansion of economic output), structural effects (reallocation of production and consumption), and technological effects (technological innovation and diffusion).³³⁷ In general, the former two effects tend to be negative, while the technological and structural effects are anticipated to be posi-

330. *Id.* at 11.

331. See Richard Higgott, *The Asian Economic Crisis: A Study in the Politics of Resentment*, 3 *NEW POLITICAL ECONOMY* 333 (1998).

332. See Jay L. Westbrook, *Theories of Parent Company Liability and the Prospects for an International Settlement*, 20 *TEX. INT'L L.J.* 321 (1985).

333. See HALINA S. BROWN, *CORPORATE ENVIRONMENTALISM IN A GLOBAL ECONOMY: SOCIETAL VALUES IN INTERNATIONAL TECHNOLOGY TRANSFER* (1993); Bradford Gentry, *Foreign Direct Investment and the Environment: Bone or Bane?*, in *FOREIGN DIRECT INVESTMENT AND THE ENVIRONMENT* 21 (OECD Proceedings, 1999) [hereinafter *FOREIGN DIRECT INVESTMENT*].

334. See CHARLIES O. HOLLIDAY, JR. ET AL., *WALKING THE TALK: THE BUSINESS CASE FOR SUSTAINABLE DEVELOPMENT* (2002).

335. *Id.*

336. This is poignantly illustrated in the film *THE CORPORATION* (2004).

337. Tom Jones, *TRADE AND INVESTMENT: SELECTED LINKS TO DOMESTIC ENVIRONMENTAL POLICY* 6 (2003); available at <http://www.tilburguniversity.nl/globus/activities/conference/papers/jones.pdf>.

tive.³³⁸ The entry of foreign capital has raised living standards for some host communities, but FDI is “often an accomplice to environmental degradation on a massive scale,”³³⁹ and is associated with “dangerous working conditions, child labour and the violent repression of dissent.”³⁴⁰ Increased FDI is viewed by some commentators as exacerbating the inadequacies of local environmental regulation by increasing the scale of production and consumption.³⁴¹ Even if increased FDI leads to local environmental improvements through the infusion of cleaner technologies, these benefits may be neutralized on an international scale if production of pollution-intensive products is simply shifted to other countries. Thus, the environmental impacts are displaced rather than resolved.³⁴² Furthermore, while international trade in environmental technologies and products may ultimately benefit the environment, trade liberalization can also make some environmentally-harmful goods more accessible to new markets. The WTO obligations may even compel countries to allow the import of previously banned environmentally dangerous products.

Other sanguine perspectives defend TNC investment and international trade for their supposed promotion of global prosperity. This prosperity involves improved living standards and economic growth in developing countries, and the facilitation of democracy and greater respect for human rights through the reduction of poverty and political unrest.³⁴³ Professors Shinichi Ichimura and James Morley argue that countries in East Asia that have experienced the strongest economic growth have been more successful in establishing parliamentary democratic systems (e.g., South Korea and Taiwan), while countries that have experienced lower economic growth have tended to suffer from a more autocratic type of governance (e.g., Indonesia and Thailand).³⁴⁴

Western enterprises are also applauded for having brought a range of corporate social responsibility norms to East Asia. A broad spectrum of ethical issues has recently begun to take hold, which include fighting corruption, poverty alleviation, workers’

338. *Id.*

339. French, *supra* note 327, at 12.

340. *Id.* at 10.

341. See Anil Markandya, *Overview and Lessons Learnt, in RECONCILING TRADE AND THE ENVIRONMENT: LESSONS FROM CASE STUDIES IN DEVELOPING COUNTRIES 1* (Veena Jha et al. eds., 1999).

342. Jones, *supra* note 337.

343. See John Norberg, in DEFENSE OF GLOBAL CAPITALISM (2003); Larry J. Obhof, *Why Globalization? A Look at Global Capitalism and its Effects*, 15 U. FLA. J.L. & PUB. POL’Y. 91 (2003) (arguing that economic globalisation has reduced income inequalities in developing countries).

344. Ichimura & Morley, *supra* note 16, at 31.

rights and safety, public health, and environmental protection.³⁴⁵ A flourishing corporate social responsibility (CSR) movement has already arisen among some companies predominantly in developed nations.³⁴⁶ The CSR practices have been articulated through the drafting of corporate environmental management systems, such as the International Standard Organization (ISO) 14000 series³⁴⁷ and the European Union's Eco-Management and Audit Scheme³⁴⁸ and Eco-Label Regulation.³⁴⁹ These mechanisms for promoting CSR can be influential for businesses wishing to trade in OECD markets where there is a growing green consumer movement.³⁵⁰ Corporate social responsibility practices can be reinforced through "green supply chain" requirements that multinational companies dictate to their Asian suppliers.³⁵¹ East Asian governments are reinforcing these market-based CSR pressures by linking them to their traditional environmental regulation. China's then National Environmental Protection Agency (NEPA) in 1996 founded an environmental auditing and certification centre to facilitate ISO 14000 certification among local enterprises.³⁵² The ISO certification of Chinese enterprises has arisen mostly in the context of joint ventures with Western companies operating in the SEZs.³⁵³ The ISO certification has also been awarded to some SEZ administrative authorities for their environmental management achievements.³⁵⁴

Compared to local enterprises, TNCs' environmental performance is often said to be superior. In China, the state-owned enterprises appear to shoulder responsibility for most of the

345. See TERENCE TSAI, *CORPORATE ENVIRONMENTALISM IN CHINA AND TAIWAN* (2002).

346. PERSPECTIVES ON CORPORATE SOCIAL RESPONSIBILITY (David Crowther & Lez Rayman-Bacchus eds., 2004).

347. See ISO 14001: CASE STUDIES AND PRACTICAL EXPERIENCE (Ruth Hillary ed., 2000).

348. European Economic Community Regulation No. 761/2001 (Mar. 19, 2001) (allowing voluntary participation by organisations in a Community eco-management and audit scheme); 2001 O.J. (L 114).

349. European Community Regulation No. 1980/2000 (July 17, 2000) (on a revised Community eco-label award scheme); 2000 O.J. (L 237/1).

350. Rock, *supra* note 180, at 93.

351. WORLD BANK, *GREENING INDUSTRY: NEW ROLES FOR COMMUNITIES, MARKETS, AND GOVERNMENTS* 60-63 (2000); DAVID P. ANGEL & MICHAEL T. ROCK, *ASIA'S CLEAN REVOLUTION: INDUSTRY, GROWTH AND THE ENVIRONMENT* (2000).

352. Mary L. Calkins, *Make Friends First, Certify Later: China and ISO 14000*, 9 GEO. INT'L ENVTL. L. REV. 609, 628 (1997).

353. *Id.* at 615, 636.

354. See Lisheng Zhan, *Funds Pour into Economic Zone*, CHINA DAILY, June 29, 2004, at 10 (discussing the case of the Guangzhou Economic and Technological Development Zone).

country's industrial pollution.³⁵⁵ In Taiwan, the small business sector has been identified as a source of pervasive, hard to regulate, pollution.³⁵⁶ In Singapore, foreign enterprises appear to be generally much more aware and active than local businesses in promoting corporate environmentally responsible practices.³⁵⁷ A study of green supply chains in East Asia found that they were mainly sponsored by leading international companies rather than local enterprises.³⁵⁸ Foreign investment can thus help overcome unsustainable development, which is seen as a result of underlying inadequacies in environmental controls on economic activities.³⁵⁹ It is also theorized that once a country begins to industrialize, economic liberalization and foreign investment help to eventually render its economic structure less pollution-intensive than those countries whose economies remain closed.³⁶⁰

B. ENVIRONMENTAL REGULATORY COMPETITION FOR INVESTMENT

Crucial to understanding the environmental impact of TNCs is the effect of inter-jurisdictional competition for economic investment. Some theories predict that competition between countries for economic investment leads to a "race to the bottom," "regulatory chill," or a "pollution haven." Investment competition is assumed to affect regulatory behavior (both standards and enforcement) in such areas as environmental and labour policy.³⁶¹ The gist of the argument is that stringent environmental standards in industrial countries push businesses to relocate operations to developing countries, where standards are relatively weaker, which results in monetary savings. Concomitantly, gov-

355. Sims, *supra* note 201, at 1238.

356. See Christian Aspalter, *The Taiwanese Economic Miracle: From Sugarcane to High-Technology*, in UNDERSTANDING MODERN TAIWAN 1, 13 (Christian Aspalter ed., 2001).

357. Martin Perry & Sanjeev Singh, *Corporate Greening of Foreign Transnationals in Singapore*, 22 SING. J. TROPICAL GEOGRAPHY 52, 58-59 (2001).

358. Purnba Rao, *Greening the Supply Chain: A New Initiative in South East Asia*, 22(6) INT'L J. OPERATIONS & PRODUCTION MGMT. 632 (2002).

359. See Jennifer Clapp, *Foreign Direct Investment in Hazardous Industries in Developing Countries: Rethinking the Debate*, 7 ENVTL. POL'Y 92 (1998); SUSMITA DASGUPTA ET AL., WHAT IMPROVES ENVIRONMENTAL PERFORMANCE?: EVIDENCE FROM MEXICAN INDUSTRY (1998).

360. OECD, THE ENVIRONMENTAL BENEFITS OF FOREIGN AND DIRECT INVESTMENT: A LITERATURE REVIEW (2002), available at <http://www.oecd.org/dataoecd/8/40/9091451.pdf>; OECD, OPEN MARKETS MATTER: THE BENEFITS OF TRADE AND INVESTMENT LIBERALISATION (1999), available at <http://www.oecd.org/dataoecd/18/51/1948792.pdf>.

361. For an overview of these debates, see HAKAN NORDSTRÖM & SCOTT VAUGHAN, TRADE AND ENVIRONMENT (1999).

ernments in developing countries intentionally undervalue environmental damage, so as to attract more FDI — a process that generates a “race to the bottom” as countries compete to lower environmental regulation to attract FDI. Even if there is no race, competitive concerns may still affect environmental decision-making in host countries by causing a “regulatory chill.”³⁶² This position arises where states refrain from stricter environmental controls for fear of alienating potential foreign investors.³⁶³ Consequently, environmental regulations can get “stuck in the mud.”³⁶⁴

This race to the bottom is said by some commentators to be particularly pronounced in the SEZs. Among the more passionate rhetoric includes John Madeley, from *People and Planet*, who charges, “under globalisation, the makers of manufactured goods locate their factories in countries where wages are low; they compete fiercely with each other in what has been called ‘a race to the bottom.’ In so called ‘free trade zones,’ millions of people work for long hours and low pay to make some of the world’s most expensive consumer products - such as clothing, toys, shoes, and electronic equipment. Environmental standards in free trade zones are often low and even non-existent.”³⁶⁵ Similarly, writing for *The Ecologist*, Goldsmith claims, “wherever free-trade zones have been established, there has been environmental devastation on a literally horrific scale.”³⁶⁶

The environmental aspects of FDI have been examined in some detail and various empirical studies have explored whether there is any corroboration of the theoretical hypotheses.³⁶⁷ Current research reveals a broad diversity in approaches used to either support or refute the race to the bottom or pollution haven hypotheses. Some studies look at aggregate patterns of FDI flows, which indicate a rise in the flows of FDI in dirty industries to developing countries,³⁶⁸ and others look at rates of exports for

362. Daniel C. Esty & Damien Geradin, *Environmental Protection and International Competitiveness*, 32 J. WORLD TRADE 5 (1998); H. Jeffrey Leonard, *Confronting Industrial Pollution in Rapidly Industrializing Countries: Myths, Pitfalls, and Opportunities*, 12 ECOLOGY L.Q. 779 (1985).

363. See NORDSTRÖM & VAUGHAN, *supra* note 361.

364. *Id.*

365. John Madeley, *Trading off the Poor*, PEOPLEANDPLANET.NET, Aug. 4, 2004, available at: <http://www.peopleandplanet.net/doc.php?id=1525§ion=16>.

366. Edward Goldsmith, *Can the Environment Survive the Global Economy?* 27 ECOLOGIST 242, 247 (1997).

367. See, e.g., Daniel C. Esty, *Private Sector Foreign Investment and the Environment*, 4 REV. EUR. COMMUNITY & INT’L ENVTL. L. 99 (1995); ERIC NEUMAYER, GREENING TRADE AND INVESTMENT (2001).

368. NORDSTRÖM & VAUGHAN, *supra* note 361, at 40.

pollution intensive products.³⁶⁹ Comparing environmental laws is problematic due to the high number of variables involved. While there are a variety of empirical studies and individual examples, there is no conclusive data as to whether FDI is overall beneficial or harmful to the environment.

The majority of studies suggest that the evidence of a race to the bottom or pollution haven simply does not exist,³⁷⁰ especially in Western industrialized economies,³⁷¹ where there exists greater political obstacles to the lowering of environmental standards. But in the context of SEZs in developing countries, many commentators cite Mexico's *maquiladora* border region as proof of industrial flight and pollution haven.³⁷² Low pollution abatement costs due to lax environmental regulation appear to have been a determinant for drawing FDI to the region.³⁷³ Evidence of business relocation was seen in the chemical industry where investment in Mexico ballooned by over twenty-fold from 1982-1990, following a tightening of environmental regulations in the US.³⁷⁴ Production of some hazardous chemical products banned or strictly regulated in the US expanded in Mexico. However, it has been argued that low labour costs acted as the primary magnet for FDI to this region.³⁷⁵ Leonard also sees the Mexican situation as more a product of regulatory chill rather than a race to the bottom, as the environmental regime in the *maquiladora* region area has always been relatively light.³⁷⁶

The race to the bottom thesis has also been applied to international labour markets. It is postulated that FDI may cause jobs

369. Patrick Low & Alexander Yeats, *Do "Dirty" Industries Migrate?*, in *INTERNATIONAL TRADE AND THE ENVIRONMENT* (Patrick Low ed., 1992).

370. See, e.g., Gareth Porter, *Trade Competition and Pollution Standards: "Race to the Bottom" or "Stuck at the Bottom"?*, 8 *J. ENV'T & DEV.* 133 (1999); Muthukumara Mani & David Wheeler, *In Search of Pollution Havens? Dirty Industry in the World Economy, 1960-1995*, 7 *J. ENV'T & DEV.* 215 (1998); Esty & Geradin, *supra* note 362.

371. David Vogel, *Trading Up and Governing Across: Transnational Governance and Environmental Protection*, 4 *J. EUR. PUB. POL'Y* 556 (1997).

372. See Edward J. Williams, *The Maquiladora Industry and Environmental Degradation in the United States-Mexico Borderlands*, 27 *ST. MARY'S L.J.* 765 (1996); Daniel C. Esty & Bradford S. Gentry, *Foreign Investment, Globalisation and the Environment*, in *OECD, GLOBALISATION AND THE ENVIRONMENT: PRELIMINARY PERSPECTIVES* 141, 161 (1997).

373. David J. Molina, *A Comment on Whether Maquiladoras are in Mexico for Low Wages or to Avoid Pollution Abatement Costs*, 2 *J. ENV'T & DEV.* 221 (1993).

374. Clapp, *supra* note 359, at 99.

375. Gene M. Grossman & Alan B. Krueger, *Environmental Impacts of a North American Free Trade Agreement*, in *THE U.S. — MEXICO FREE TRADE AGREEMENT* 13 (Peter M. Garber ed., 1993). But labor conditions can also be environmental issues, such as Mexican workers exposed to occupational hazards associated with asbestos fibres. See H. JEFFREY LEONARD, *POLLUTION AND THE STRUGGLE FOR THE WORLD PRODUCT* 144-45 (1988).

376. LEONARD, *supra* note 375.

to relocate from high-income countries to labour-abundant economies in the developing world, forcing a competitive downward decline in real wages and the quality of working conditions all around.³⁷⁷ There is some empirical evidence that FDI flows are responsible for pushing wages downward in the global labour market and generating factory sweatshops.³⁷⁸ Labour conditions in some of East Asia's SEZs appear to support the race to the bottom hypothesis.³⁷⁹ Economic globalization is also said to be associated with a rise in exploitation of child labour.³⁸⁰ However, separate empirical research rejects the notion that FDI in newly industrialized countries is associated with sweatshops and declining labour market conditions.³⁸¹ Other research also suggests that global trade and associated foreign investment flows have had only modest impacts — positive or negative on labour markets — suggesting that other aspects of globalization (e.g., technology transfer and volatile capital markets) have greater impacts and risk for the welfare of workers.³⁸²

Some scholarship on investment relocation focuses on the nature of decision-making in TNCs. The main thesis is that international firms invest where they can exploit a comparative advantage. Increasing environmental management costs due to tightening environmental laws can detract from this advan-

377. See Eddy Lee, *Globalization and Employment: Is Anxiety Justified?*, 135 INT'L LAB. REV. 485 (1996); William B. Gould, *Labor Law for a Global Economy: The Uneasy Case for International Labor Standards*, 80 NEB. L. REV. 715 (2001); Chantal Thomas, *Should the World Trade Organization Incorporate Labor and Environmental Standards?* 61 WASH. & LEE L. REV. 347 (2004).

378. See, e.g., Ogutcu Mehmet & Akbar Tavakoli, *Does Foreign Direct Investment Cause a Race to the Bottom? Evidence from Four Asian Countries*, 8 J. ASIA PAC. ECON. 133 (2003) (providing empirical evidence from China, the Philippines, Singapore, and Thailand that support the race to the bottom argument); MIRIAM CHING YOON LOUIE, *SWEATSHOP WARRIORS: IMMIGRANT WOMEN WORKERS TAKE ON THE GLOBAL FACTORY* (2001).

379. See especially Gus Edgren, *Spearheads of Industrialization or Sweatshops in the Sun? A Critical Appraisal of Labour Conditions in Asian Export Processing Zones, in POVERTY AND POWER: THE ROLE OF INSTITUTIONS AND THE MARKET IN DEVELOPMENT* 119 (John Cameron et al. eds., 1995); Dong-Sook S. Gills, *Globalization of Production and Women in Asia*, 581 ANN. AM. ACAD. POL. & SOC. SCI. 106 (May 2002).

380. See Mahmood Monshipouri, *Promoting Universal Human Rights: Dilemmas of Integrating Developing Countries*, 4 YALE HUM. RTS. & DEV. L.J. 25 (2001) (arguing for increased investments in the education of children to reduce exploitation of child labour); Benjamin J. Stevenson, *Pursuing an End to Foreign Child Labor Through U.S. Trade Law: WTO Challenges and Doctrinal Solutions*, 7 UCLA J. INT'L L. & FOREIGN AFF. 129 (2002) (arguing for domestic and international legal measures to prevent trade in products made by children).

381. See Busse, *supra* note 179.

382. RICHARD B. FREEMAN, *TRADE WARS: THE EXAGGERATED IMPACT OF TRADE IN ECONOMIC DEBATE* (Nat'l Bureau of Econ. Research, Working Paper No. 10000, 2003).

tage.³⁸³ But most research suggests that investors rarely factor environmental costs into their decision-making on investment locations. The strictness or laxity of environmental regulation in the host country is usually not determinative.³⁸⁴ Environmental compliance costs are more likely to be a factor in the location of a *new* production facility rather than the relocation of an *existing* facility. Of higher priority to corporations usually are considerations of the availability of cheap labor, the natural resource endowments of the host country, existing infrastructure, taxes, transportation costs, availability of raw materials and market size.³⁸⁵

The literature also highlights a variety of extra-legal pressures on TNCs to act environmentally responsible. The global reach of TNCs is starting to be matched by the capacity of home country environmental groups and consumers to monitor and act against corporate behaviour overseas.³⁸⁶ Companies' financial sponsors such as banks and institutional investors may demand environmental due diligence of international investment activities in order to avoid bad publicity or costly pollution liabilities.³⁸⁷ Scrutiny from international consumer, labour and environmental groups can also influence foreign investors to adhere to credible environmental standards.³⁸⁸

Nonetheless, there is some evidence that Asian governments have diluted their environmental regulations in order to entice investment. Some Japanese companies relocated to their poorer Southeast Asian neighbours apparently to take advantage of lower environmental controls.³⁸⁹ There is also evidence of the migration of Japan's cement industry to China to take advantage

383. UNCTAD, *ENVIRONMENT, INTERNATIONAL COMPETITIVENESS AND DEVELOPMENT: LESSONS FROM EMPIRICAL STUDIES* (1995).

384. Lyuba Zarsky, *Havens, Halos and Spaghetti: Untangling the Evidence about FDI and the Environment*, in *FOREIGN DIRECT INVESTMENT*, supra note 333, at 47.

385. Esty & Geradin, supra note 362.

386. See Tony C. Lempriere et al., *Environmental NGOs, New Information Technologies and the Demand for Environmental Improvement in the Developing and Industrializing Countries of the Asia Pacific Region*, 1 *J. ASIA PAC. ECON.* 139 (1996).

387. Benjamin J. Richardson, *ENVIRONMENTAL REGULATION THROUGH FINANCIAL ORGANISATIONS: COMPARATIVE PERSPECTIVES ON THE INDUSTRIALISE COUNTRIES* 280-83 (2002).

388. David Wheeler, *Racing to the Bottom? Foreign Investment and Air Pollution in Developing Countries*, 10 *J. ENV'T & DEV.* 225, 236 (2001).

389. See Owen Cameron, *Japan and Southeast Asia's Environment*, in *ENVIRONMENTAL CHANGE IN SOUTHEAST ASIA* 67 (Michael J.G. Parnwell & Raymond L. Bryant eds., 1996); Alejandrino J. Ferreria et al., *Investments and TNCs in the Philippines: Towards Balanced Local and Regional Development*, 14 *REGIONAL DEV. DIALOGUE* 67, 78 (1997).

of softer environmental regulations.³⁹⁰ Esty and Gentry found that foreign energy companies were under pressure to reduce environmental standards in order to satisfy the Chinese authorities' desire for the cheapest generation of electricity.³⁹¹ In 1993, Taiwanese firms involved in recycling hazardous substances relocated their operations to the eastern coastal areas of China, such as Shenzhen and Zhuhai, after Taiwanese authorities banned trading these substances.³⁹² Xia Youfou found that many foreign investors in polluting industries entered into joint ventures with China's township and village factories that are usually beyond the reach of national environmental regulators.³⁹³ An OECD environmental performance review of China noted, "foreign firms promoted imports of outdated technologies and polluting or toxic substances, taking advantage of the lower (or more flexible) environmental standards in China."³⁹⁴ In another reported incident, Hong Kong manufacturers of styrofoam and electrical circuit boards, constructed with ozone-depleting CFCs (chlorofluorocarbons), relocated their activities to China's SEZs.³⁹⁵ As a developing country, China has enjoyed a longer grace period to phase-out CFCs according to the terms of the Montreal Protocol, a status not enjoyed by Hong Kong. Nonetheless, this report also noted that "the move into China is part of a wider phenomenon that is occurring mainly for reasons unrelated to the difficulties or cost of reducing consumption of CFCs. Cheap, plentiful labour in Guangdong province is the main factor luring hundreds of Hong Kong companies across the border."³⁹⁶

Countering the pollution haven theory, there are some examples where FDI has stimulated improvements in the host country's environmental regulations. The OECD has reported that foreign investors in China have brought significant resources for investment in environmental technology development as well as corporate environmental management systems.³⁹⁷ Professor David Wheeler examined air quality trends in the United States,

390. Thi Binh Minh Nguyen & A.T.M. Nurul Amin, *The Role of Foreign Direct Investment in Urban Environmental Management: Some Evidence from Hanoi, Vietnam*, 4 ENV'T DEV. & SUSTAINABILITY 279, 287 (2002).

391. Esty & Gentry, *supra* note 372, at 156.

392. OECD, ENVIRONMENTAL PRIORITIES FOR CHINA'S SUSTAINABLE DEVELOPMENT 31 (2001), available at <http://www.oecd.org/dataoecd/17/54/29516017.pdf>.

393. YOUFOU XIA, STUDY ON CHINA'S CONTROL MEASURES TO THE TRANSFER OF FOREIGN WASTES AND POLLUTION INTENSIVE INDUSTRIES THROUGH TRADE AND INVESTMENT (1995).

394. OECD, *supra* note 394, at 28.

395. Carl Goldstein, *Pollution Exporters: Hong Kong's CFC Users Shift to China*, 155(19) FAR E. ECON. REV. 54 (1992).

396. *Id.*

397. OECD, *supra* note 394, at 31-32.

China, Brazil and Mexico, the latter three representing the top three shares of FDI for developing countries in the 1990s.³⁹⁸ A general improvement of air quality in the major cities of all four countries was found.³⁹⁹ Professor Michael Porter surmises that stronger environmental regulations can improve a country's competitiveness by fostering innovation and efficiency.⁴⁰⁰ China is cited as an example where government policy in the power industry is to prefer investors that upgrade coal-fired power plants to clean combustion technology.⁴⁰¹ Further, Professor David Vogel argues that obtaining access to greener industrialized country markets can motivate higher standards.⁴⁰² For instance, both South Korea⁴⁰³ and Japan⁴⁰⁴ upgraded their emission control standards for automobiles according to standards in the United States and the EU. Similarly, Ruishu and others claim that large state-owned factories in China have assumed higher production costs to meet stronger environmental standards in industrialized country markets.⁴⁰⁵

Another driver for the "race to the top" is that TNCs sometimes seek to apply their home country's environmental standards regardless of where they do business.⁴⁰⁶ It can be more efficient to apply one set of standards than to adapt them to each country,⁴⁰⁷ and using home country standards can help alleviate harassment from home country consumers and environment groups. For example, General Motors has made an effort to comply with the United States' national environmental standards regardless of where it is producing.⁴⁰⁸ Investors' adoption of home country standards can be particularly helpful in situations where the host government lacks the capacity to effectively regulate en-

398. D Wheeler, *supra* note 388, at 227-31 (2001).

399. *Id.*

400. MICHAEL E. PORTER, *THE COMPETITIVE ADVANTAGE OF NATIONS* (1990).

401. Greta Goldenman, *The Environmental Implications of Foreign Direct Investment: Policy and Institutional Issues*, in *FOREIGN DIRECT INVESTMENT*, *supra* note 333, at 77-78.

402. See DAVID VOGEL, *TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN THE GLOBAL ECONOMY* (1995).

403. Sang Don Lee, *The Effect of Environmental Regulations on Trade: Cases of Korea's New Environmental Laws*, 5 *GEO. INT'L ENVTL. L. REV.* 651, 658-60 (1993).

404. David Vogel, *Environmental Regulation and Economic Integration*, 3 *J. INT'L ECON. L.* 265, 270 (2000).

405. RUI SHU LU ET AL., *A STUDY ON ENVIRONMENTAL PROTECTION AND FOREIGN TRADE DEVELOPMENT IN CHINA* (1993), available at http://r0.unctad.org/trade_env/docs/chinaf.doc (last visited Apr. 2, 2005).

406. See Edith B. Weiss, *Environmentally Sustainable Competitiveness: A Comment*, 102 *YALE L.J.* 2123 (1993); Vogel, *supra* note 371.

407. NORDSTROM & VAUGHAN, *supra* note 361, at 40-41.

408. Edwards, *supra* note 158, at 195.

vironmental impacts.⁴⁰⁹ This phenomenon contributes to the “pollution halo” theory, which posits that host country environmental standards are improved as a result of FDI imports of advanced, cleaner technologies and corporate environmental management systems.⁴¹⁰ It dovetails with the ecological modernization doctrine, which predicts that improved corporate environmental performance can yield economic benefits as well.⁴¹¹ Some foreign companies may also see environmental technology market opportunities in the SEZs.⁴¹² Bruce Tremayne and Penny de Waal found a trend towards environmental ventures in China with foreign investors, such as selling technologies for treatment and recycling of wastes.⁴¹³ The ability of foreign companies to import pollution control technologies into the SEZs and open cities without customs duties also facilitates their compliance with environmental regulations.⁴¹⁴

C. ENVIRONMENTAL REGULATION IN SPECIAL ECONOMIC ZONES

Environmental regulation in China's SEZs

The most informative evidence regarding SEZ environmental regulation in East Asia comes from China's SEZs. Contrary to the race to the bottom thesis, Chinese authorities have ostensibly expanded and strengthened environmental controls in the SEZs and open cities in recent years. The 1986 Provisional Regulations on Environment Control for Economic Zones Open to Foreigners is the main national instrument, and is complemented by regulations specific to each zone and each open city. Local authorities rather than the central government have the responsibility of developing most of the details of the environmental regulations specific to their jurisdiction.

409. Sitanon Jesdapipat, *Trade, Investment and the Environment: Thailand*, 6 J. ENV'T & DEV. 350 (1997) (stating that in Thailand, even though environmental provisions are included in its investment legislation, the government lacks sufficient personnel to monitor projects for compliance).

410. Z Zarsky, *supra* note 384.

411. See Peter Christoff, *Ecological Modernization, Ecological Modernities*, 5 ENVTL. POL. 476 (1996); See also ECOLOGICAL MODERNISATION AROUND THE WORLD: PERSPECTIVES AND CRITICAL DEBATES (Arthur P.J. Mol & David A. Sonnenfeld eds., 2002); ARTHUR P.J. MOL, GLOBALIZATION AND ENVIRONMENTAL REFORM: THE ECOLOGICAL MODERNIZATION OF THE GLOBAL ECONOMY (2001).

412. See TERENCE TSAI, CORPORATE ENVIRONMENTALISM IN CHINA AND TAIWAN (2002); Gail Dutton, *Chinese Environmental Laws a Plus for the West*, 253 CHEMICAL MARKET REP. 7 (1998).

413. See Bruce Tremayne & Penny de Waal, *Business Opportunities for Foreign Firms Related to China's Environment*, in *Managing The Chinese Environment* 292 (Richard Louis Edmonds ed., 1998).

414. *Id.* at 305-06.

While many developments during the early years of China's SEZ reforms proceeded with merely perfunctory considerations of their environmental and social effects, authorities quickly began to take environmental regulation more seriously for several reasons.⁴¹⁵ First, PRC leaders felt that stronger environmental regulation would help them regain political control over the SEZs, which were gaining notoriety for "excesses" such as corruption and financial mismanagement.⁴¹⁶ Such problems convinced authorities of the need for more supervision of activities taking place in the zones. Second, tighter environmental regulation was also an outcome of internal struggles within the CCP between conservative and liberal factions over the direction of the market reforms. The conservatives cited environmental problems among the various reasons to oppose the SEZ model, thus prompting the reformers to increase environmental regulation in the SEZs to forestall further consternation.⁴¹⁷ Thirdly, the strengthening of environmental laws in the SEZs would, believed some CCP leaders, facilitate the reception of Western legal concepts and technologies, which could assist China's modernization.⁴¹⁸ For example, the introduction of EIA procedures could help improve the efficiency and productivity of Chinese industry by reducing profligate resource consumption. Finally, international development agencies financing projects in China have encouraged improvements to environmental regulation. The Asian Development Bank claims "a market-based economy offers more opportunities as it has proved easier for the government to effectively regulate the conduct of the private sector than to regulate itself."⁴¹⁹ Thus, for example, "government officials in charge of environmental protection do not feel the same responsibility under a command economy to ensure the survival of a state-managed enterprise."⁴²⁰

But while environmental controls in China's SEZs have been clearly fortified, their effectiveness is less apparent. A lingering structural weakness of much of Chinese environmental law is the assumption that the economy is a command, planned one, where production is dominated by state-owned enterprises. The SEZ environmental regulations have a command and sanc-

415. Joseph R. Profaizer, *Economic Development and Environmental Law in China's Special Economic Zones*, 28 TEX. INT'L L.J. 319, 320-21 (1993).

416. *Id.* at 330.

417. L. Ross & M.A. Silk, *Environmental Planning for Investment Projects in China*, in W.P. STRENG & A.D. WILCOX (EDS), *DOING BUSINESS IN CHINA* 11, 26 (1990).

418. Profaizer, *supra* note 415.

419. ASIAN DEVELOPMENT BANK, *REFORM OF ENVIRONMENTAL AND LAND LEGISLATION IN THE PEOPLE'S REPUBLIC OF CHINA* 7 (2000).

420. *Id.*

tion orientation, lack economic incentives for businesses to improve environmental practice and provide little opportunity for public input into decision-making. There is insufficient market-based regulation, such as environmental taxes and negotiable management agreements, that might offer a superior means of promoting environmental performance among the increasing numbers of private companies operating in these zones.

A complex web of municipal regulation and bureaucratic administration has arisen from the decentralization of economic and environmental responsibilities to local authorities in the SEZs. Local authorities are incongruously expected to be both advocates of business enterprise, and environmental regulators of business.⁴²¹ Local authorities also tend to lack the financial resources and environmental expertise to be effective environmental watchdogs. And in many municipalities, the local environmental protection bureau holds a low administrative rank, which further diminishes its limited influence.⁴²² Municipal authorities, of course, do not have a completely free reign in the SEZs and open cities, which are usually of provincial or national strategic significance. Stories of severe pollution and environmental degradation could bring unwelcome publicity to the SEZs, and thus central government bodies have established some minimum environmental standards for all SEZs.

In 1986, the central government issued the Provisional Regulations on Environment Control for Economic Zones Open to Foreigners.⁴²³ Applicable to domestic and foreign enterprises, the regulations have the stated aim: "to prevent and control environmental pollution and ecological damage, to ensure the health of human beings, to protect and create a sound investment environment and to promote economic and social development."⁴²⁴ Among their specific provisions, the regulations require SEZ managing authorities to include environmental protection measures in local development plans;⁴²⁵ to conduct environmental assessment studies of new development proposals;⁴²⁶ and to prohibit new projects that pose specified serious harms.⁴²⁷ Local authorities are permitted to adopt supplementary pollution con-

421. Abigail R. Jahiel, *The Contradictory Impact of Reform on Environmental Protection in China*, 149 CHINA Q. 81, 85 (1997).

422. *Id.* at 93.

423. State Counsel of the People's Republic of China, Provisional Regulations on Environment Control for Economic Zones Open to Foreigners (1986), available at <http://www.ccpitcanada.ca/laws/f34.htm> (last visited at Apr. 2, 2005).

424. *Id.* at art. 1.

425. *Id.* at art. 3.

426. *Id.* at art. 4.

427. *Id.* An example is manufacturing of electroplating: SINKULE & ORTOLANO, *supra* note 286, at 41.

trol standards, which may be stricter than baseline provincial standards.⁴²⁸

To get an insight into their effectiveness, it is worth commenting on the Provisional Regulations' provisions for environmental assessment of new investment projects. Such projects must incorporate appropriate pollution control facilities,⁴²⁹ and each contract between the authorities and project proponent must specify measures to control pollution in conformity with applicable legislation.⁴³⁰ Project proponents must submit a report on environmental protection measures to be adopted, for evaluation by the local environmental protection department (EPD).⁴³¹ From the standpoint of Western environmental law precedents, there are various shortcomings in these procedures. Notably, there is no reference to opportunities for public participation in this process and, indeed, the responsible EPD is directed to keep confidential the information provided by businesses under its supervision.⁴³² Moreover, there is no guidance in the regulations on the methods for the preparation of the environmental protection measures and on what basis they would be assessed. It can, however, be reasonably assumed that pollution per se would not bar project approval, because Article 9 provides a mechanism for the issuance of pollution discharge permits, even if national or local environmental standards are exceeded, so long as the prescribed fee is charged. Businesses that pollute without permission face various enforcement measures, including financial compensation orders for the cleanup of pollution and administrative fines.⁴³³

Besides this general template for environmental governance, local authorities in the SEZs and open cities have enacted environmental regulations tailored to their localities. Presently, Shenzhen SEZ has the largest collection of environmental rules.⁴³⁴ Since 1992, when the municipality was granted the right to pass laws, it has enacted at least 50 regulations and decrees

428. *Id.* at art. 5.

429. *Id.* at art. 6.

430. *Id.* at art. 7.

431. *Id.* at art. 8.

432. *Id.* at art. 10.

433. *Id.* at art. 11.

434. Examples of the Shenzhen SEZ environmental regulations include: Regulations on Environmental Protection of Shenzhen SEZ; Regulations on Prevention of Noise Pollution of Shenzhen SEZ; Regulations of the Shenzhen SEZ on the Appearance of the City and Environmental Sanitation; Regulations on Water and Soil Preservation in Shenzhen SEZ; Regulations on Prevention and Control of Pollution of the Sea Areas of the Shenzhen SEZ; Ordinances on Management of Urban Greening in Shenzhen SEZ; regulations listed in Qun Du & John Davis, *Local Enactment of Urban Environmental Management Law: The Case of Shenzhen City, China*, 6 ASIA PAC. J. ENVTL. L. 79 app. (2001).

concerning environmental protection.⁴³⁵ Similarly, Xaimen and Hainan SEZs have passed numerous local environmental protection regulations over the same period.⁴³⁶ Among the open cities, Shanghai has probably the most substantial library of environmental regulations.⁴³⁷ In all these cases, the SEZ regulations encompass such matters as land use planning, provision of urban amenities, pollution licensing and waste disposal. Poor legislative drafting, reflected by vague or unworkable provisions, plagues many regulations. For example, the Regulations of the Shenzhen SEZ on the Appearance of the City and Environmental Sanitation provide, "All units and individuals shall perform an obligation to preserve the appearance of the city and environmental sanitation, and take good care of public facilities."⁴³⁸ The regulation offers no definition of "environmental sanitation," and leaves it to the relevant municipal department to prepare a "plan of environmental sanitation" where, presumably, the matter would be defined.⁴³⁹ Similarly, the Measures on Administration of the Waigaoqiao Free Trade Zone of Shanghai dictate, "any projects which may cause environmental pollution shall be prohibited to be carried out in the Free Trade Zone."⁴⁴⁰ Again, the key phrase "environmental pollution" is left undefined, and the potentially all-encompassing and draconian scope of this rule does not assist regulators wishing to accommodate economically promising new investments that may pose minor pollution risks.⁴⁴¹

435. Wenfang Li, *Laws Protect Environment in Shenzhen*, CHINA DAILY, Dec. 24, 1998, available at 1998 WLNR 4555726.

436. *Xiamen's Growth Still Leaves Room for Nature*, CHINA DAILY, June 8, 1998, at 3.

437. The Shanghai municipal government has issued a plethora of environmental regulations, including: Regulation of Environmental Planning Management; Regulation of Urban Environmental Management; Regulation of Environmental Protection of On-Going Construction Projects; Regulation of Comprehensive Environmental Management; Regulation of Water Pollution Prevention and Control; Regulation of Air Pollution Prevention and Control; Regulation of Hazardous Wastes Pollution Prevention and Control; Regulation of Radioactive Pollution Prevention and Control; Measures for Pollution Prevention and Control of Hazardous Wastes of Shanghai, available at http://www.unescap.org/drpad/publication/integral_modalities/china/4ch02f.htm (last visited Apr. 2, 2005).

438. Administrative Regulations of the Shenzhen SEZ on the Appearance of the City and Environmental Sanitation (1999), art. 7, available at <http://fzj.sz.gov.cn/en/40.asp> (last visited Apr. 18, 2005).

439. *Id.* at art. 51.

440. Measures on Administration of the Waigaoqiao Free Trade Zone of Shanghai (1997), art. 13, available at http://www.techcn.com/etechnew/Market/law_view1.asp?Id=435303.

441. See further David W. Massey et al., *Economic Imperatives vs. Environmental Quality in the Dragon's Head: The Waigaoqiao Free Trade Zone, Shanghai*, 40(5) J. ENVTL. PLAN. & MGMT. 661 (1997).

The SEZ environmental regulations are somewhat austere and authoritarian, and provide few opportunities for formal citizen participation in SEZ environmental decision-making. The Regulations on Prevention and Control of Pollution of the Sea Areas of the Shenzhen SEZ bark, "It shall be forbidden for a ship with cargo in bulk to wash its polluted decks within a harbour,"⁴⁴² for which stiff fines are to be imposed.⁴⁴³ In China, the public has traditionally been seen by authorities as a mass to be mobilized and educated, through activities such as "Tree Planting Day" or "Love the Birds Week."⁴⁴⁴ Opportunities for public involvement arise mainly in relation to enforcement actions. Thus, the Regulations of the Shenzhen SEZ on the Appearance of the City and Environmental Sanitation provide, "The responsible department may engage some urban residents as volunteer-watchers to assist propagandistic education as well to help correct illegal acts."⁴⁴⁵ More concretely, the Regulations on Prevention and Control of Pollution of the Sea Areas of the Shenzhen SEZ give pollution victims the right to claim damages: "Any unit and individual falling a victim to the damages caused by environmental pollution in the sea areas shall have a right to claim compensation for loss from the party responsible for pollution."⁴⁴⁶

The extensive decentralisation of responsibilities to municipal authorities in China has contributed to variable and inconsistent implementation of environmental regulations in the SEZs. An unprecedented nationwide probe of the country's development zones, conducted by the Ministry of Land and Resources in 2003, found rampant land use and planning law abuses.⁴⁴⁷ Astonishingly, it is reported that the probe resulted in 2,426 development zones being closed by authorities.⁴⁴⁸ Of particular concern was evidence uncovered about the loss of arable lands to make way for the development zones and industrial parks.⁴⁴⁹ Legislation delegating powers to SEZ municipal authorities is vulnerable to being undermined by those authorities following local economic aspirations that diverge from national environmental

442. Regulations on Prevention and Control of Pollution of the Sea Areas of the Shenzhen SEZ (1999), art. 15, available at <http://fzj.sz.gov.cn/en/39.asp> (last visited Apr. 2, 2005).

443. *Id.* at arts. 42-44.

444. LESTER ROSS & MITCHELL A. SILK, ENVIRONMENTAL LAW AND POLICY IN THE PEOPLE'S REPUBLIC OF CHINA 207 (1987); see generally ALLEN P.L. LIU, MASS POLITICS IN THE PEOPLE'S REPUBLIC: STATE AND SOCIETY IN CONTEMPORARY CHINA (1996).

445. *Supra* note 438, at art. 7.

446. *Supra* note 442, at art. 53.

447. Discussed in Dai Yan, *Development Zones See Upsurge*, CHINA DAILY, Mar. 31, 2004, at 9.

448. *Id.*

449. *Id.*

protection objectives. From the reforms, municipal governments have become “fully fledged economic actors, not just administrative-service providers.”⁴⁵⁰ It is said that the “diminution in the central state’s capacity to control local policy decisions through the traditional mechanisms of patronage and Party discipline has meant that to a very large extent Beijing rules the provinces in name only.”⁴⁵¹ The power of local authorities is increasingly linked to local business interests, from whom they derive revenue and political support. Municipal governments in the PRC are embedded in various informal economic arrangements and institutional norms, the constellation of which is seen as “heralding the potential emergence of local corporatism.”⁴⁵² Apart from their antipathy to national policies that might hurt local economic growth, municipal authorities struggle to manage environmental problems that transcend their jurisdictional boundaries, and may lack the resources and technical expertise to address even local pollution hazards.

But when we look at China’s flagship SEZs, subject to much greater central oversight, environmental regulation appears to be much more effective. Some of China’s major cities with SEZs have experienced significant declines in pollution. For example, Wheeler found that from 1987 to 1995 particulate airborne matter concentration in the sampled cities declined from almost 500 g/m³ to about 300 g/m³.⁴⁵³ Further, China reduced its energy intensity (i.e., the quantity of energy used per unit of output) by about 50 percent since 1980.⁴⁵⁴ A 1999 survey suggested less than half of China’s industrial enterprises met national environmental standards, with compliance highest in eastern China (48.8%) and lowest in the west (23.5%).⁴⁵⁵ All of the cities in the major SEZs were among those coming closest to meeting air quality standards.⁴⁵⁶ According to the State Environmental Protection Administration, only 11 cities met or exceeded national air quality standards in 2000, and these cities included all the SEZ municipalities in Fujian and Guangdong provinces.⁴⁵⁷ The relatively few

450. Jean C. Oi, *The Role of the Local State in China’s Transitional Economy*, 144 CHINA Q. 1132, 1137 (1995).

451. Pitman B. Potter, *Globalisation and Local Legal Culture: Dilemmas of China’s Use of Liberal Ideals of Private Property Rights*, 2 AUSTL. J. ASIAN L. 1, 19 (2000).

452. *Id.*

453. Wheeler, *supra* note 388, at 229.

454. J. John Byrne et al., *The Challenge of Sustainability: Balancing China’s Energy, Economic and Environmental Goals*, 24 ENERGY POL’Y 455 (1996).

455. *Supra* note 302.

456. *Id.*

457. Rongrong Li, *International Market Insight Trade Inquiries: China: SEPA Environmental Projects*, INT’L MARKET INSIGHT TRADE INQUIRIES 1 (April 11, 2000).

State Owned Enterprises in the SEZ cities partly may explain their success in achieving environmental standards. In particular, pollution loads in Shenzhen are significantly lower than typical Chinese cities.⁴⁵⁸ Shenzhen has complied with national air and water quality standards, and has been described as “among the top five environmental enforcers in China.”⁴⁵⁹ The Shenzhen city authorities are reported to have vetoed 3,619 projects that have failed to meet environmental requirements.⁴⁶⁰ According to Qiu Mei, former deputy director of the Shenzhen Environmental Protection Bureau, by 1998 Shenzhen authorities had “dealt with 700 environmental cases in the past five years involving fines totalling 11.5 million yuan (US \$1.4 million) [and had] shut down dozens of small factories and rejected 240 projects of 4,000 projects because they were deemed potentially polluting.”⁴⁶¹

These achievements have been acknowledged by various environmental awards and honours. In recent years, Chinese authorities have begun to see the SEZs as places to showcase environmental excellence. A decade ago, Profaizer showed perceptiveness to argue that China “should utilize the SEZs as an environmental laboratory to study how economic growth can proceed in cooperation with environmental protection.”⁴⁶² Since 1997, Chinese authorities have designated five places as “model” environmental cities — all of them located in the major SEZs. The city of Shenzhen (an area which includes the SEZ) has been showered with several accolades, notably International Garden City in 2000 (bestowed by the International Association of Gardens and Recreational Facilities),⁴⁶³ and the Global 500 Roll of Honour of the United Nations Environment Program (UNEP) in 2002.⁴⁶⁴ In bestowing the award, UNEP cited the city’s array of environmental laws, large investments in environmental protection and extensive parks. The Shenzhen City’s Master Plan 1996-2010 has provided the blueprint for an era of sustainable urban living. According to a report on its UNEP award, “since being

458. K.C. Lam, *Environmental Protection in the Shenzhen Special Economic Zone: Achievements, Problems and Implications*, in CHINA’S SPECIAL ECONOMIC ZONES: POLICIES, PROBLEMS AND PROSPECTS, *supra* note 66, at 76, 78.

459. Li, *supra* note 435.

460. *Tale of Two Cities Cited for Care of Nature*, CHINA DAILY, May 17, 2002, at 3.

461. Li, *supra* note 435. .

462. Profaizer, *supra* note 415, at 345-46.

463. *China to Host 2002 World Environment Day Observance*, EARTHVISION ENVTL. NEWS, Mar. 20, 2002, at http://www.earthvision.net/ColdFusion/News_Page1.cfm?NewsID=19962 (last visited May 20, 2005).

464. UNEP Press Release, *The City of Shenzhen, People’s Republic of China, One of Eight Individuals and Organizations, to Receive United Nations Environment Award*, (May 2002) — Bluebook, available at <http://www.unep.org/documents/Default.asp?DocumentID=248&ArticleID=3056> (last visited Mar. 24, 2005).

established in 1980 as China's first special economic zone, the municipal council has spent 3.8 billion yuan (US \$463 million) on the environment, passed 38 local environmental laws and increased green coverage by 45 per cent."⁴⁶⁵

Another Chinese open economic city to receive recognition for its environmental performance is Dalian. It has received a UNEP Global 500 award and the Dalian Economic and Technological Development Zone (ETDZ) Administration was certified to the ISO 14001 voluntary standard in 1999.⁴⁶⁶ The Dalian ETDZ authorities sought ISO certification because existing governmental environmental regulations and policies were considered inadequate to promote local sustainable.⁴⁶⁷ For example, the ETDZ's new environmental system includes a plan to reduce the SO₂ emissions and dust pollution from coal burning by replacing coal with liquefied petroleum gas for domestic consumption.⁴⁶⁸ The Dalian ETDZ Administration is also helping local enterprises achieve their own ISO 14001 certification.⁴⁶⁹

The SEZs usually have the advantage of extra resources — financial and technological from the infusion of foreign investment to address environmental problems.⁴⁷⁰ Some of the environmental achievements of the SEZs appear to owe not so much to diligent regulation but investment in environmental infrastructure and public works schemes, such as construction of sewage treatment facilities, recreational parks and afforestation initiatives. Haikou city (on Hainan island SEZ) has invested heavily in tree planting, and 39 percent of the city is described as "green."⁴⁷¹ Shenzhen's environmental improvements can be credited in part to investments in hard infrastructure such as modern sewage treatment works.⁴⁷² In contrast to environmental investments, pollution and land use regulations appear to have played a less influential role. In November 2001, Xiamen SEZ was chosen to host an international exposition of environmental cities, as it had been listed among the "Top 40 Cities" for envi-

465. *Id.*

466. Geng Yong & Raymond Côté, *EMS as an Opportunity for Engaging China's Economic Development Zones: The Case of Dalian*, available at <http://www.unepie.org/pc/ind-estates/casestudies/Dalian.htm> (last visited Mar. 22, 2005). The ISO 14001 standard provides a framework of standards and processes for corporations to adopt to improve their internal use of materials and energy, and to provide a structure for companies to identify, appraise and minimise their environmental risks.

467. *Id.*

468. *Id.*

469. *Id.*

470. Lam, *supra* note 458, at 76.

471. *Growing Haikou Stays Green*, CHINA DAILY, Oct. 21, 1997, at 3.

472. *Shenzhen to Build a Number of Key Environmental Protection Projects*, SINOCAST CHINA BUS. NEWS DAILY, Aug. 15, 2003, at 1.

ronmental improvement investments.⁴⁷³ Between 1991-1995, Xiamen city spent 1.5 percent of its total GDP on environmental protection (about double the national average of 0.7 percent), and for the 1996-2000 period this rose to three percent of its GDP.⁴⁷⁴ Thus, the superior wealth and high national profile of the SEZs would appear to be factors that have enabled them to achieve superior environmental conditions, rather than as a result of innovations in their environmental regulation *per se*. Such wealth, however, would probably be unlikely in the absence of foreign investment.

There is a miscellany of other factors that help explain why certain SEZs have achieved superior environmental results. Such “showcase” cities are, by definition, exceptions. Most Chinese cities are very different — one United Nations study describing them as “vociferous consumers of resources and relentless emitters of pollutants.”⁴⁷⁵ Some SEZs enjoy superior environmental conditions because they had a head-start over other Chinese cities; initially set-up in relatively undeveloped areas, SEZs were given an advantage to engage in more systematic, careful planning from the outset.⁴⁷⁶ Before the SEZ policies, Shenzhen “was just a sleepy border town” in “agricultural backwater.”⁴⁷⁷ Similarly, in Vietnam, authorities established new industrial zones in the relatively undeveloped areas of Hanoi to avoid the pollution and congestion that affected older industrial areas in the city.⁴⁷⁸ Because much economic activity in the SEZs and open cities is new, it is also caught by environmental regulations that otherwise exempt existing industrial facilities.⁴⁷⁹ If they cannot comply, SEZ authorities have sometimes simply ejected their most pollut-

473. *Xiamen Special Economic Zone, China's Green City*, ASIAINFO DAILY CHINA NEWS, Nov. 12, 2001, at 1, available at http://www.highbeam.com/library/doc0.asp?docid=1P1:48188450&refid=ink_tptd_np&skeyword=&teaser (last visited Apr. 2, 2005).

474. *China: Xiamen Works to Become One of World Cleanest Cities*, CHINA BUS. INFO. NETWORK, Sept. 5, 1997, available at <http://proquest.umi.com/pqdweb?did=131852461&sid=6&Fmt=3&clientId=5220&RQT=309&VName=PQD>.

475. ESCAP, *supra* note 140, at 148 (describing trends in Chinese and other Asian cities).

476. See Mee Kam Ng & Wing-Shing Tang, *Theorising Urban Planning in a Transitional Economy: The Case of Shenzhen, People's Republic of China*, 75 TOWN PLAN. REV. 173 (2004); Mee Kam Ng & Wing-Shing Tang, *The Role of Planning in the Development of Shenzhen, China: Rhetoric and Realities*, 45 EURASIAN GEOGRAPHY & ECON. 190, 191 (2004).

477. Mee Kam Ng, *Shenzhen*, 20 CITIES 429, 429-30 (2003).

478. Minh Nguyen & Nurul Amin, *supra* note 390, at 282.

479. See Jiming Hao *et al.*, *Control Strategy for Sulfur and Acid Rain Pollution in China*, 12 J. ENVTL. SCI. 385, 387 (2000).

ing industries beyond city limits.⁴⁸⁰ Around Shenzhen, for example, is the highly polluted Pearl River Delta.⁴⁸¹ Finally, environmental model city status is probably partly due to the presence in these areas of a relatively well-educated workforce. A World Bank study of environmental policy in China noted that where communities have higher levels of literacy and education, they are more likely to complain about pollution.⁴⁸² Various studies show a correlation between rising income and rising societal demand for improved environmental amenities.⁴⁸³ This is because pollution damage receives a high priority after rising wealth has financed basic investments in health and education, and because wealthier societies have more resources to devote to environmental protection.⁴⁸⁴

Environmental regulation in other East Asian SEZs

There has been comparatively less effort to develop environmental regulations tailored to the SEZs in other parts of East Asia. There is also some evidence that environmental standards may be waived or diluted for SEZ investments. Looking at South Korea first, the recent Act on Designation and Operation of Free Economic Zones,⁴⁸⁵ promulgated in 2002, provides that “the possibility of securing the environmentally sound and sustainable development” is a matter to be taken into account by the government’s Free Economic Zone Committee when selecting sites.⁴⁸⁶ Further, the plan for each new free economic zone must include a “program for environmental preservation.”⁴⁸⁷ Controversially, Korean legislation also permits the authorities to reduce or waive any applicable pollution levies, environmental improvement charges or water use fees, where they consider this necessary “for smoothly carrying out the development project of any free economic zone.”⁴⁸⁸ Further, approval from the Minister of Finance and Economy of a zone’s implementation plan is deemed to supersede the need for any further administrative ap-

480. United States Embassy Beijing, *Curbing Chinese Pollution: A Tale of Two Cities*, at <http://www.usembassy-china.org.cn/sandt/Liaoningweb.htm> (last visited Mar. 23, 2005).

481. See A.W.M. Wong & M.H. Wong, *Recent Socio-economic Changes in Relation to Environmental Quality of the Pearl River Delta*, 4 REGIONAL ENVTL. CHANGE 28 (2004).

482. JOHNSON, *supra* note 153, at 61.

483. Wheeler, *supra* note 388, at 233.

484. *Id.*

485. Act on Designation and Operation of Free Economic Zones, Act. No. 6835 of Dec.30, 2002, available at <http://www.investkorea.org/templet/type0/1/read.jsp>.

486. *Id.* at art. 5.5.

487. *Id.* at art. 6.11.

488. *Id.* at art. 15.2.

provals under separate environmental and planning laws (e.g., for clearance of forestry reserves, diversion of farmland to industrial development or establishment of sewage facilities).⁴⁸⁹ These latter provisions dangerously displace environmental protection regulations and standards, which may not be adequately incorporated into a zone's development plan. Environmental and labour laws are known to have been previously waived in Masan SEZ, for investors.⁴⁹⁰ South Korea's foreign investment laws are similarly vague or non-committal on environmental protection. The only reference to the environment in the Foreign Investment Promotion Law⁴⁹¹ is a proscription against investment "where it has harmful effects on public hygiene or the environmental preservation of the Republic of Korea."⁴⁹²

Like Korea, Taiwan has not enacted any environmental statutes specifically for its SEZs and has relied on miscellaneous provisions for environmental management and planning scattered among Taiwan's economic and environmental legislation. Thus, the Air Pollution Control Act of 1975 mentions that "when developing special industrial parks air quality monitoring facilities shall be planned and installed within the boundaries of the parks or in appropriate zones."⁴⁹³ Further, the Environmental Impact Assessment Act of 1994 requires that environmental assessments be undertaken into proposals to establish any industrial park.⁴⁹⁴ Interestingly, as in China, Taiwanese authorities have begun to see their SEZs as arenas for showcasing their best environmental practices. Taiwan's Environmental Protection Administration has recently announced plans to establish "eco-parks" in Hualien and Kaohsiung counties, and in Taoyuan and Tainan counties, to promote investment and development of environmentally friendly industries.⁴⁹⁵ The "Environmental Science and Technology Parks," as they are formally described, are expected to pioneer research and development into clean energies and waste

489. *Id.* at arts. 9, 11.

490. TRADE UNION ADVISORY COMMITTEE, LABOUR STANDARDS IN THE GLOBAL TRADE AND INVESTMENT SYSTEM (1996), available at <http://www.itcilo.it/actrav/actrav-english/telearn/global/ilo/standard/tuacinv.htm>.

491. Foreign Investment Promotion Act, Act No. 5559, effective from Sept. 16, 1998, available at <http://www.investkorea.org/templet/type0/1/read.jsp>.

492. *Id.* at art. 4(2).2. There is no indication as to the threshold of "harmful effects."

493. Kongqi Wuran Fangzhifa [Air Pollution Control Act 1975], art. 15 (2002), available at <http://law.epa.gov.tw/en/laws/889404502.html> (last visited Mar. 22, 2005).

494. Environmental Impact Assessment Act 1994, art. 5.1 (2003), available at <http://law.epa.gov.tw/en/laws/379692190.html> (last visited Mar. 22, 2005).

495. Chiu Yu-Tzu, *Eco-parks to Aid Taoyuan and Tainan*, *TAIPEI TIMES*, Mar. 26, 2004, at 4, available at <http://www.taipetimes.com/News/taiwan/archives/2004/03/26/2003107792> (last visited Mar. 22, 2005).

recycling, for example.⁴⁹⁶ Similarly, Singapore has established an Eco-Recycling park for industries wishing to develop commercial applications for recycled products.⁴⁹⁷

Vietnam has promulgated a miscellany of regulations and guidelines that contain provisions on the environmental activities of foreign investors in its special industrial zones.⁴⁹⁸ Management plans for the establishment of industrial zones are to include measures for environmental protection, although the relevant regulation contains no guidance on what specific measures should be incorporated into the plans.⁴⁹⁹ Among the taxonomy of investments to be encouraged and which are enumerated in the 1996 Law on Foreign Investment in Vietnam, are those for “protecting the environment or investing in research and development.”⁵⁰⁰ It is also stated in a 1997 administrative circular that industries prohibited from investing in the country’s industrial zones include those producing harmful chemicals, dyes and radioactive materials.⁵⁰¹ Another circular on the EIA of investment projects specifies requirements for investors to undertake environmental assessments according to standards formulated by the Ministry of Science.⁵⁰² Also relevant is the Regulation on the Protection of the Environment in Industrial Parks, which posits procedures for the construction of development infrastructure in manufacturing areas, and procedures for inspections to evaluate environmental conditions and the processing of industrial

496. ENVIRONMENTAL PROTECTION ADMINISTRATION, ENVIRONMENTAL SCIENCE AND TECHNOLOGY PARK IN TAIWAN, available at <http://cemnt.epa.gov.tw/eng/> (last visited Mar. 22, 2005).

497. MINISTRY OF THE ENVIRONMENT OF SINGAPORE, THE SINGAPORE GREEN PLAN 2012, iv (2002), available at <http://www.mewr.gov.sg/SGP2012/default.htm>.

498. Bryant & Akers, *supra* note 294, at 182.

499. Circular No. 04-BXD-KTQH, on Providing Guidelines for Implementation of Decree 36-CP Dated 24 April 1997 of the Government with Respect to Preparation and Approval of Detailed Plans, Management of Construction in Accordance with Plans and Evaluation of Technical Designs of Works of Investment Projects in Industrial Zones, Export Processing Zones and High-Tech Zones (July 30, 1997), cl. 1.2, available at http://www.vietnamese-law-consultancy.com/sources/s_EPZ_IPs/plan_07_1997.htm (last visited Mar. 22, 2005).

500. Law on Foreign Investment in Vietnam (1996), art. 3.1(c), available at <http://www.dpi.hochiminhcity.gov.vn/invest/html/law2.html> (last visited Mar. 22, 2005).

501. Circular No. 08/KHDT, on Providing Guidance on the implementation of the List of Industries Which are Encouraged or Limited or Prohibited To Invest in Industrial Zones and High-Technology Industrial Zones (July 29, 1997), cl. A.IV, available at http://www.vietnamese-law-consultancy.com/sources/s_EPZ_IPs/gene_circular_07_1997.htm (last visited Mar. 22, 2005).

502. Circular No. 1100/TT-MTg, on Guiding Preparation and Evaluation of Report on Assessing Environmental Impact in Respect of Investment Project (Aug. 20, 1997), available at http://www.vietnamese-law-consultancy.com/sources/s_EPZ_IPs/other_08_1997.htm (last visited Mar. 22, 2005).

waste.⁵⁰³ Implementation of these measures appears wanting so far. One study has reported that the National Law on Environmental Protection and the National Environmental Agency “are relatively weak compared to the pro-industry sections of government and also to the various regional governments. The consequence is that the Export Processing Zones, like those in Ho Chi Minh City and Haiphong, experience minimal pressure to adhere to proper procedure.”⁵⁰⁴

In Thailand, all designated industrial estates are overseen by the Industrial Estate Authority (IEA). The IEA is a state enterprise attached to the Ministry of Industry with a legislative mandate to promote industrial development in accordance with land use planning and environmental protection measures.⁵⁰⁵ The IEA is responsible for industrial pollution control and other environmental management within all of the industrial estates. It has set up environmental monitoring systems and a central wastewater treatment plant in each estate, though it usually subcontracts this work to private contractors. Companies in the industrial estates pay to use these facilities, and thus have incentives to reduce waste. Companies that generate wastewater containing chemicals such as heavy metals are obliged to establish their own in-house pre-treatment facilities. Although the IEA is able to support waste and environmental management facilities in the estates, because it is charged with the conflicting responsibilities of both promoting development and regulating the environmental effects of that development, it has been known to be reluctant to enforce pollution controls that are unpopular with its investors.⁵⁰⁶

The Philippine’s Special Economic Zone Act 1995 contains just two brief clauses on environmental management. The Act provides that the Philippine Economic Zone Authority “in coordination with the appropriate agencies, shall take concrete and appropriate steps and enact the proper measures for the protec-

503. Regulation on the Protection of the Environment in Industrial Parks, Công Báo No. 46, Sept. 20, 2002, 43-50 (enacted pursuant to the Environment Protection Act, 1993), available at <file:///C:/Documents%20and%20Settings/Maria/Local%20Settings/Temporary%20Internet%20Files/OLK82/Vietnam.htm> (last visited Apr. 18, 2005).

504. Drakakis-Smith & Dixon, *supra* note 5, at 34.

505. This discussion draws on UNEP, *Laem Chabang Industrial Estate, Thailand*, available at <http://www.unepie.org/pc/ind-estates/casestudies/LaemChabang.htm> (last visited Mar. 22, 2005); see also Industrial Estate Authority of Thailand, available at <http://www.ieat.go.th/main.php3> (last visited Mar. 22, 2005).

506. For a more benign view of the IEA’s environmental regulatory activities, see Kasemsri Homchean, *Thailand’s Environmental Enforcement Program*, Fourth International Conference on Compliance and Enforcement (1996), available at <http://www.inece.org/4thvol2/homchean.pdf>.

tion of the local environment.”⁵⁰⁷ The legislation unfortunately gives no hint as to what constitutes “concrete and appropriate steps.” Secondly, the Special Economic Zone Act also authorises the government to compulsorily acquire lands within or adjacent to an SEZ “for the protection of watershed areas and natural assets valuable to the prosperity” of the zone.⁵⁰⁸ More helpful are the extensive environmental provisions in the SEZ laws enacted for specific zones. Thus, the Cagayan Special Economic Zone Act of 1995⁵⁰⁹ gives the Cagayan Economic Zone Authority (CEZA) the powers, *inter alia*, “to protect, preserve, maintain and develop the virgin forests, beaches, coral and coral reefs within the Zone. The virgin forest within the Zone will be proclaimed as a national park and will be covered by a permanent total log ban. For this purpose, the rules and regulations of the Department of Environment and Natural Resources shall be implemented by the CEZA.”⁵¹⁰ The Act also gives the Authority power “to adopt, implement and enforce reasonable measures and standards to control pollution within the Zone.”⁵¹¹ Similar environmental provisions are contained in the Zamboanga City Special Economic Zone Act of 1995.⁵¹² The Philippine Foreign Investments Act of 1991 also provides that: “all industrial enterprises regardless of nationality shall comply with existing rules and regulations to protect and conserve the environment and meet applicable environmental standards.”⁵¹³ The Implementing Rules and Regulations of the Foreign Investments Act elaborates by specifying that the applicable environmental standards are those set by the Department of Environment and Natural Resources, which shall provide the Securities and Exchange Commission with a list of environmentally critical activities, projects and areas.⁵¹⁴

507. Philippine Special Economic Zone Act 1995, § 33, available at <http://www.chanrobles.com/specialeconomiczoneact.htm> (last visited Mar. 22, 2005).

508. *Id.* at § 29(c).

509. Cagayan Special Economic Zone Act of 1995, Republic Act No. 7922, available at <http://www.chanrobles.com/republicactno7922.htm> (last visited Mar. 22, 2005).

510. *Id.* at § 6(g).

511. *Id.* at § 6(h).

512. Zamboanga City Special Economic Zone Act of 1995, Republic Act No. 7903, § 7(i), available at <http://www.chanrobles.com/republicactno7903.htm> (last visited Mar. 22, 2005).

513. Act No. 7042, § 11, available at www.chanrobles.com/default8fia91.htm#FOREIGN%20INVESTMENTS%20ACT%20OF%201991.

514. Implementing Rules and Regulations of the Foreign Investments Act 1991 (July 9, 1996), Rule XVII, available at <http://www.chanrobles.com/default1.htm#IMPLEMENTING%20RULES%20OF%20FOREIGN%20INVESTMENTS%20ACT> (last visited Mar. 22, 2005).

In passing, it is worth noting that the experience of other nations outside of East Asia reveals a similar contradictory pattern of strong and weak SEZ environmental regulation. In Costa Rica, for instance, the Free Zone Law excluded a wide range of regulations, including environmental ones, from application to its free economic zones.⁵¹⁵ The Belize Environmental Impact Assessment Regulations also exempt development projects in its export processing zones from regular environmental review, but only where a project has already been approved pursuant to an alternative EIA review mechanism, and it does not pose serious pollution problems.⁵¹⁶ At the other end of the spectrum some states have developed specific environmental management regimes for their SEZs. Zambia's Export Processing Zones Act of 2001 provides for special EIA provisions for foreign investment projects in its zones.⁵¹⁷ Sri Lanka has a separate department in its Board of Investment to monitor environmental conditions in its SEZs, and each zone benefits from its own environmental monitoring facility, and investors are subject to specific pollution control standards and limits.⁵¹⁸

D. DIFFERENTIAL ENVIRONMENTAL REGULATION OF FOREIGN AND DOMESTIC ENTERPRISES: THE CHINESE EXPERIENCE

To properly understand the environmental consequences of SEZs, we should assess how governing authorities have regulated and managed the environmental activities of foreign investors. Differences between the way foreign and domestic enterprises are regulated could be expected in countries seeking to industrialize through FDI. One might expect regulators to treat foreign investors - bringing coveted capital, technology and management skills - more favourably than domestic enterprises. Theories of inter-jurisdictional competition for economic investment predict this exact situation. The question therefore is: do the privileges and incentives offered by SEZs to foreign investors extend to "special" arrangements concerning environmental regulation? Certainly, there are some notorious instances where authorities have waived environmental rules to avoid jeopardizing foreign investment deals. This is alleged to have occurred in the approval

515. DANIEL C. ESTY, *GREENING THE GATT: TRADE, ENVIRONMENT, AND THE FUTURE* (1994).

516. Belize Environmental Impact Assessment Regulations (1995), Statutory Instrument No. 107, § 9(c); available at <http://www.elaw.org/resources/text.asp?ID=936> (last visited Mar. 22, 2005).

517. Export Processing Zones Act, 2001, § 19(d), available at <http://www.hurid.org.zm/leg01-7.htm> (last visited Mar. 22, 2005).

518. See generally <http://www.boi.lk/BOI2005/index.asp>.

of Sony Corporation's TV kinescope production facility in China's Pudong New Area.⁵¹⁹ A similar story of expedited approval and perfunctory compliance with environmental procedures involved the Shell oil refinery project in Guandong.⁵²⁰ However, as the following analysis will show, in fact environmental regulators seem more likely to treat domestic enterprises leniently.

In general, Chinese environmental law ostensibly applies equally to all entities, whether a foreign company, a state-owned enterprise (SOE), a township and village enterprise (TVE) or a domestic private company. Within the corpus of its environmental law, there are few provisions that single out foreign investors. Article 18 of the Constitution provides that all foreign investors must comply with Chinese laws and regulations and meet the host country's environmental standards.⁵²¹ The procedures governing approval of foreign investments have included some environmental measures.⁵²² Beginning in 1983, the NPC promulgated a circular which contained a provision making foreign polluters liable for environmental harm.⁵²³ In 1990, the Rules for the Implementation of the Law of the PRC on Foreign-Capital introduced a provision: "application for the establishment of a foreign-capital enterprise shall not be approved if the proposed enterprise would involve possible creation of environmental pollution."⁵²⁴ The Rules also stipulated that an application to establish a foreign-capital enterprise must disclose the risks of "environmental pollution and the measures for tackling pollution."⁵²⁵

China's main regulations concerning the allowable scope for foreign investment are presently the Regulations for Guiding the

519. Carlos Wing-Hung Lo & Plato Kwong-To Yip, *Environmental Impact Assessment Regulation in Hong Kong and Shanghai: A Cross-city Analysis*, 42 J. ENVTL. PLAN. & MGMT. 355, 366 (1999).

520. Bruce Gilley, *A Tangled Web*, 159 FAR E. ECON. REV. 27 (1996).

521. Constitution of PRC, *supra* note 258, art. 18.

522. See generally Yasheng Huang, *One Country, Two Systems: Foreign-Invested Enterprises and Domestic Firms in China*, 14 CHINA ECON. REV. 404 (2003); George O. White III, *Enter the Dragon: Foreign Direct Investment Laws and Policies in the PRC*, 29 N.C. J. INT'L L. & COM. REG. 35 (2003).

523. The Circular stated: "[F]oreign contractors who take part in the joint exploitation of offshore oil will assume all risks themselves during the exploitation period", *quoted* in ROSS & SILK, *supra* note 444, at 342.

524. State Council, *Zhonghua Renmin Gongheguo Waizi Qiyefa Shishi Xize* [Rules for the implementation of the Law of the People's Republic of China on Foreign-capital Enterprises], art. 5 (approved on Oct. 28, 1990), *available at* <http://www.fdi-xiamen-cn.com/v4/html/en-invest-tzfg-05-01.php> (last accessed on Mar. 24, 2005).

525. *Id.* at art. 14(10).

Direction of Foreign Investment of 2002⁵²⁶ and its companion Catalogue for Guiding Foreign Investment in Industry.⁵²⁷ They provide guidance to prospective investors on which foreign investment projects can be approved at a local government level, the preferential treatment that such projects will receive, and which investment projects are restricted or prohibited in China. The Guiding Regulations and Catalogue were updated in 2002 to bring China's foreign investment rules in line with the requirements of its WTO membership.⁵²⁸ These regulations divide industrial and commercial sectors into four categories for foreign investment: encouraged, permitted, restricted and prohibited investments. The Foreign Investment Catalogue lists the sectors in which foreign investment is encouraged, restricted or prohibited. Foreign investment is deemed "permitted" in sectors that are not listed, except where other laws, regulations or industrial policies provide otherwise. Reflecting the growing opening of China's economy since its WTO accession, the number of industries in the "encouraged" category has increased from 186 to 262, while the "restricted" category shrank from 112 to 75 items. One significant difference between the "encouraged" category and the other categories is that customs duties for certain qualifying imported equipment and import-level value-added tax may be waived only for companies in the "encouraged" group. Applications for "permitted" projects involving an investment of more than US\$30 million must be handled by central or provincial government authorities, while smaller projects may be approved at the local level.

Among the investment projects deemed "encouraged" by these regulations are those that involve use of renewable resources, new technology or equipment for preventing and controlling environmental pollution. Also included, are projects that use new or advanced technology to save energy, raw materials, raise economic efficiency or alleviate shortages in the domestic market.⁵²⁹ Restricted categories of foreign investment include projects with an adverse effect on the environment or energy conservation; and projects involving the exploration for and/or

526. Discussed in Baker & McKenzie, *Venture Capital Newsletter* (April 2002); listed in State Environmental Protection Administration, at <http://www.zhb.gov.cn/english/chanel-3/chanel-3-end-2.php3?chanel=3&column=2>.

527. WANG, *supra* note 195, at 188-93; listed in State Environmental Protection Administration, at <http://www.zhb.gov.cn/english/chanel-3/chanel-3-end-2.php3?chanel=3&column=2>.

528. The previous regulations were: State Planning Commission, the Provisional Regulations for Guiding the Direction of Foreign Investment (June 27, 1995); and State Council, the Catalog for Guiding Foreign Investment in Industry (Dec. 29, 1997).

529. WANG, *supra* note 195.

extraction of rare or precious mineral resources.⁵³⁰ Prohibited foreign-investments, according to the Catalogue, include projects that pollute the environment or endanger human health; and projects that occupy large tracts of farmland. These provisions are reinforced by rules in the Foreign Trade Law, which enable authorities to prohibit the import or export of goods or technology: (i) where necessary to protect the lives or health of citizens; and (ii) where the ecological environment will be endangered.⁵³¹

Not only do the above provisions suggest that foreign investments are subject to greater environmental scrutiny than projects initiated by domestic enterprises, but in practice foreign investment projects “are almost always monitored at the national level because of the widely acknowledged fact that local regulators may be overly sensitive to the need to attract outside investment.”⁵³² For instance, foreign projects are more likely than domestic projects to be subject to EIA procedures. According to the Management Procedures for Environmental Protection in Construction Projects,⁵³³ the State Environmental Protection Agency (SEPA) is generally responsible for the review and approval of the EIA process for “mega projects” representing investments larger than RMB 200 million, which will usually be foreign investment projects. Such projects must also be approved by the State Planning Commission.⁵³⁴ The Management Procedures also stipulates that business contracts concerning the management of foreign-construction projects shall not contain clauses that contravene Chinese national or local environmental laws.⁵³⁵

The structures for the implementation and enforcement of environmental regulation also allow for some distinctions to be made between domestic and foreign enterprises. Professors Zhang Hongjun and Richard Ferris argue that, “local enforcement practices may vary the application of the law with respect to domestic and foreign-owned operations, or even between foreign operations owned by different companies.”⁵³⁶ An important consideration is that China’s environmental regulations and policies have been institutionalised primarily within the State Owned Enterprise (SOE) sector.⁵³⁷ For example, a study by Hua Wang and others of China’s pollution levy system found that levy pay-

530. *Id.*

531. Foreign Trade Law, arts. 17(3)-(4).

532. Zhang & Ferris, *supra* note 277, at 50.

533. National Environmental Protection Agency [hereinafter NEPA], Management Procedures for Environmental Protection in Construction Projects (1990).

534. Zhang & Ferris, *supra* note 277, at 50.

535. NEPA, *supra* note 533, at art. 4.

536. Zhang & Ferris, *supra* note 277, at 49.

537. Jahiel, *supra* note 421, at 102.

ments are generally based on negotiations between factory managers and local environmental protection offices; and that private companies tend to have less bargaining clout than the SOEs over the size of levy payments.⁵³⁸ The mechanisms for collection of discharge fees, monitoring of environmental pollution and so on, arose principally for the SOE sector. Thus, policies aimed at expanding the market economy have resulted in the challenge of implementing equal treatment by Chinese environmental authorities of SOE's and foreign enterprises.

A comparison of the environmental regulation of foreign and domestic businesses in China is complicated by the fact that foreign investment does not always involve direct investment through a single company, but rather is undertaken in cooperation with a local enterprise through a joint venture or other form of association.⁵³⁹ Among the various business partnerships, contractual or equity joint ventures are the most popular arrangements.⁵⁴⁰ Under a contractual joint venture, the rights, obligations and profit sharing between the partners are governed by contract. An equity joint venture materializes as a limited liability corporation, in which the domestic and foreign partners take equity shares, with profits distributed according to their respective shares. Chinese authorities have used investment regulations to encourage or mandate joint ventures.⁵⁴¹ Nonetheless, wholly foreign-owned ventures remain the most popular investment vehicle, recently amounting to about 65 percent of China's total FDI.⁵⁴²

Some research suggests that foreign investment in China, whether undertaken through a joint venture or WFO, is more stringently regulated for its environmental effects than domestic economic activity. In joint ventures, the domestic partner tends to leave the environmental management concerns to the foreign partner, and authorities usually target enforcement of environmental laws against that foreign partner.⁵⁴³ Professors Julia Klee and Felicity Thomas argue that, "because many Chinese officials consider international companies to have more resources and

538. Hua Wang et al., *Incomplete Enforcement of Pollution Regulation: Bargaining Power of Chinese Factories*, 24 ENVTL. & RESOURCE ECON. 245, 248, 258 (2003).

539. See JAMES E. SHAPIRO ET AL., *DIRECT INVESTMENT AND JOINT VENTURES IN CHINA* (1991); ROGER BARAN ET AL., *INTERNATIONAL JOINT VENTURES IN EAST ASIA* (1996).

540. WANG, *supra* note 195, at 185-87.

541. See, e.g., Provisional Regulations Governing Development and Operation of Tracts of Land with Foreign Investment, art. 4 (1990).

542. *China: Investment Regulations*, 301 EIU VIEWSWIRE CHINA, April 27, 2004, available at 2004 WLNR 13974936.

543. Suzanne McElligott, *China Lags in Environment*, 158 CHEMICAL WK. S24 (1996).

more experience in meeting pollution-control requirements, they often expect them to be in full and immediate compliance with the requirements.”⁵⁴⁴ Sims found that authorities are much more likely to collect environmental fines from foreign companies “that are believed to have deep pockets” than from SOEs, which are often at the margins of solvency.⁵⁴⁵ The differential treatment of foreign firms and the SOEs also owes to the pivotal role SOEs play in providing housing, health and other social welfare services to local communities.

Yasheng Huang suggests that the foreign investor enterprise-government relations are typically “more arm’s length” than equivalent relations between regulators and domestic enterprises.⁵⁴⁶ The foreign investment regulations, for example, do not generally refer to the CCP and do not mandate establishment of Party units within foreign companies.⁵⁴⁷ Foreign enterprises are also less likely to be immersed in local *guanxi*,⁵⁴⁸ which can impede referral of cases to the courts.⁵⁴⁹ The first environmental law case in a Chinese SEZ was decided in 1985, *Shenzhen Municipal Shekou District Environmental Monitoring Station v. Kaida Enterprises Ltd.*⁵⁵⁰ The case involved a Hong Kong based toy company, which was successfully prosecuted and fined for pollution based on violations of China’s Environmental Protection Law, even though the company’s business contract with the SEZ authorities did not contain any environmental protection measures.

Whereas the letter of the law is more likely to be applied to foreign entities, a pragmatic and tolerant approach is often displayed towards local enterprises.⁵⁵¹ Surveys of the environmental regulation of Chinese firms reveal lax supervision and arbitrary enforcement practices.⁵⁵² This is particularly the case with the SOE sector, despite the fact that the structures for the implementation of environmental regulation arose principally out of the SOE sector. Enforcement action against SOEs is less likely than

544. Julia E. Klee & Felicity C. Thomas, *An Evolving Environmental Framework*, 24 CHINA BUS. REV. 34, 39 (1997).

545. Sims, *supra* note 201, at 1241.

546. Huang, *supra* 522, at 410.

547. *Id.*

548. However, the *guanxi* relations that can undermine adherence to the letter of the law can also arise with foreign companies, because a significant number of foreign investors are overseas Chinese domiciled in Malaysia and Taiwan.

549. Huang, *supra* note 522, at 490.

550. The case is translated in Ross & Silk, *supra* note 444, at 258-71.

551. Case examples of tougher regulation of foreign companies are discussed in POLLUTION CONTROL IN THE PRC: AN INVESTORS’ GUIDE (S. Clarke & F. Thomas eds., 1997).

552. ULRICH STEGER ET AL., GREENING CHINESE BUSINESS 25 (2003).

against foreign or other domestic enterprises because SOEs function as more than mere factories. Because they provide important local social services to workers and their families, such as housing and health care,⁵⁵³ many SOEs are allowed to continue operations despite pollution emissions.⁵⁵⁴ While recent reforms to the SOE sector have given the enterprise managers more autonomy and scope to make independent business decisions,⁵⁵⁵ these reforms have hardly touched the environmental policy dimensions of the SOE system. These polluting SOEs, argue Professors Julia Klee and Felicity Thomas, "frequently lack the capital to invest in clean technologies to meet the requirements of environmental regulation and, thus, receive deferential application, if any, of environmental requirements."⁵⁵⁶ Local environmental protection bureaux have been known to reduce discharge fees for SOEs facing insolvency.⁵⁵⁷ The fact that unprofitable enterprises benefit from lenient regulation reflects the continuing presence of socialist practice and principles. Thus, as China shifts to a market economy, tensions will arise between such socialist redistributive policies and the need to promote an efficient allocation of scarce resources. If China is to make strides in protecting its environment, it must separate key social services from the unprofitable enterprises. Such services must be provided through another medium to ensure people still get them but that only profitable and environmentally sound firms operate.⁵⁵⁸ Local government is one possible alternate medium.⁵⁵⁹

V. FROM ECONOMIC MODERNIZATION TO ECOLOGICAL MODERNIZATION

A. INSTRUMENTS FOR ECOLOGICAL MODERNIZATION

Industrialization and market transformation will continue to be an indelible feature of East Asia's economic policy for some time. But the region's long-term economic modernization will ultimately not be sustainable unless its economic policy is wedded

553. XIAOYING MA & LEONARD ORTOLANO, ENVIRONMENTAL REGULATION IN CHINA: INSTITUTIONS, ENFORCEMENT AND COMPLIANCE 145 (2000).

554. John G. Taylor & Qingshu Xie, *Wuhan: Policies for the Management and Improvement of a Polluted City*, in CHINA'S ECONOMIC GROWTH: THE IMPACT ON REGIONS, MIGRATION AND THE ENVIRONMENT, *supra* note 282, at 143.

555. See Alison W. Conner, *To Get Rich is Precarious: Regulation of Private Enterprise in the People's Republic of China*, 5 J. CHINESE L. 1 (1991); Andrew Xuefeng Qian, *Riding Two Horses: Corporatizing Enterprises and the Emerging Securities Regulatory Regime in China*, 12 UCLA PAC. BASIN L.J. 62 (1993).

556. Klee & Thomas, *supra* note 544.

557. MA & ORTOLANO, *supra* note 553, at 133-34.

558. Alford & Shen, *supra* note 288, at 413.

559. See Stanley Lubman, *Bird in a Cage: Chinese Law Reform After Twenty Years*, 20 Nw. J. INT'L L. & BUS. 383, 402 (2000).

to stronger environmental regulation. The challenge is to reform environmental law and policy to take account of East Asian circumstances without accommodating them so completely as to surrender all possibilities of improvement.

The developmental state has not disappeared from East Asia, and there often persists a large gap between the professed new market-oriented law and the traditional norms of central planning and administrative regulation.⁵⁶⁰ This gap particularly persists in the socialist regimes - China and Vietnam - where administrative agencies threatened by the changes in market governance have resisted reforms aimed at decreasing their power over enterprises and the economy.⁵⁶¹ Concomitantly, the incomplete transition to a market economy has fueled clientelism and corporatism. Without the security of a well-functioning legal order and mature markets, businesses have sought to forge closer relationships with authorities who control access to capital, technology, raw materials and development approvals.⁵⁶² Consequently, local authorities commonly interfere in the operation of enterprises and in disputes with third parties in an effort to protect local businesses in which they have a stake.⁵⁶³

The problems of adapting environmental law to the transition from a planned economy to a capitalist, market-based economy are acute in China. Its still extant environmental legislation dating from the 1980s or earlier assumes enterprises are owned by the state. Some provisions of the Environmental Protection Law of 1989 — such as those conferring responsibility for use of polluting technologies⁵⁶⁴ and for disabling pollution controls⁵⁶⁵ — can be interpreted as applying only to government work units (*danwei*). Authorities seem to assume that national development plans can shape the behaviour of economic actors who increasingly respond to market signals — signals that may conflict with those plans. The laws do not envisage the vast and complicated array of corporate and other business entities that have proliferated since China's economic opening. An increasingly market-based economy requires policy instruments that offer incentives for businesses to improve their environmental performance.

560. WANG, *supra* note 195, at 32.

561. Peerenboom, *supra* note 210, at 57.

562. *Id.* at 55-56.

563. *Id.*

564. Zhonghua Renmin Gongheguo Huanjing Baohufa [Environmental Protection Law of the People's Republic of China], art. 34 (1989), available at <http://www.sepa.gov.cn/eic/649645345759821824/19891226/1022930.shtml> (last visited Mar. 31, 2005).

565. *Id.* at art. 37.

A model of “ecological modernization” reform could offer major advantages to the more advanced economies of East Asia. Drawing on their study of traditional Chinese values, Professors Robert Weller and Peter Boll conclude that environmental policies will only succeed if they appeal to the profit and welfare of those charged with implementing them — from officials to factory managers. Abstract appeals to the sanctity of “nature” are unlikely to work at this stage, in their opinion.⁵⁶⁶ Although criticized by some environmentalists as a compromise that alleviates rather than solves the environmental crisis, the advantages of ecological modernization would appear to outweigh its disadvantages, especially for economies rapidly industrializing.⁵⁶⁷ Ecological modernization doctrine promises a healthy synergy between economic development and environmental protection when economies and technologies are “modernized” to allow for more efficient and less wasteful production.⁵⁶⁸ Modernization can occur through corporate environmental management systems and the application of advanced, clean technologies, encouraged through policy instruments such as pollution taxes and corporate environmental reporting obligations. The ecological modernization model was the basis of Japan’s successful response to air pollution in the 1970s, and the cleanup of West Germany’s industrial and energy sectors after the acid rain-induced forest death in the 1980s.⁵⁶⁹

But ecological modernization reforms are probably not suitable for all East Asian economies. Command and control regulation is more suitable for countries setting up an environmental regulatory apparatus in the first instance, a position in which poorer nations in Indo-China presently find themselves. The standards established by command regulations are clear and can be relatively easier to monitor and enforce if resources and motivation exist. Economic policy instruments such as environmental taxes are more complex to design and implement — requiring, for instance, the constant re-evaluation of the economic costs of

566. Robert P. Weller & Peter K. Bol, *From Heaven-and-Earth to Nature: Chinese Concepts of the Environment and their Influence on Policy Implementation*, in *ENERGIZING CHINA: RECONCILING ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH*, supra note 288, at 473, 496.

567. See Richard Welford & Peter Hills, *Ecological Modernisation, Environmental Policy and Innovation: Priorities for the Asia-Pacific Region*, 2 *INT’L J. ENV’T & SUSTAINABLE DEV.* 324 (2003).

568. Christoff, *supra* note 411; HOLLIDAY ET AL., *supra* note 334, at 83-102.

569. See STEPHEN C. YOUNG & J. VAN DER STRAATEN, *THE EMERGENCE OF ECOLOGICAL MODERNISATION: INTEGRATING THE ENVIRONMENT AND THE ECONOMY?* (2001); OECD, *ENVIRONMENTAL POLICIES IN JAPAN* (1977).

particular resources and pollution that must be reflected in the pricing of the economic incentives.⁵⁷⁰

Command and control regulation in much of East Asia is gradually being supplemented by a mosaic of environmental governance mechanisms, spanning market incentives, business self-regulation, management system-based approaches, voluntary reporting schemes, and audit requirements designed to increase the transparency and accountability of industry and regulators. Economic instruments such as pollution charges, pricing policy, favourable terms of investment for environmental technology, and market creation can yield significant environmental benefits.⁵⁷¹ Japan, with the most advanced environmental laws in the region, continues to lead in research and experimentation with economic instruments.⁵⁷² Elsewhere in East Asia, one can find sporadic ecological modernization measures, though nothing systematic. Financial mechanisms to encourage investment in clean technology are appearing. South Korea is promoting investment in clean technologies through its Act Relating to Environmental Technology Support and Development of 1994.⁵⁷³ There is some evidence of Korean companies embracing cleaner technologies.⁵⁷⁴ Vietnam has been participating in various donor projects for clean production demonstration, such as UNEP's "Strategies and Mechanisms for Promoting Cleaner Production Investments."⁵⁷⁵ The Singapore government is also advocating technological solutions to its environmental problems, establishing the National Energy Efficiency Committee in 2001 to forge programs to encourage more efficient use of energy by industries, homes, commercial buildings and vehicles.⁵⁷⁶ The government budgeted US\$20 million for an Innovation for Environmental Sustainability Fund to finance pioneering projects.⁵⁷⁷ The Vietnam

570. Edward D. McCutcheon, *Think Globally, (En)Act Locally: Promoting Effective National Environmental Regulatory Infrastructure in Developing Nations*, 31 CORNELL INT'L L.J. 395, 445-46 (1998).

571. See OECD, *INTEGRATING ENVIRONMENT AND ECONOMY* (1996).

572. The Japanese government established a Research Panel on Economic Instruments such as Taxation and Charges in Environmental Policies, whose first report — ENVIRONMENT AGENCY, *UTILIZATION OF ECONOMIC INSTRUMENTS IN ENVIRONMENTAL POLICIES - TAXES AND CHARGES* (1996) — made general recommendations to expand use of environmental taxes and other economic policy tools.

573. Lee & Adeel, *supra* note 155, at 144.

574. See J.S. Chung, *General Environmental Policies and Clean Technology in the Republic of Korea*, 19(JAN./MAR.) *INDUSTRY & ENV'T* 43 (1996); Jean Aden et al., *What is Driving the Pollution Abatement Expenditure Behaviour of Manufacturing Plants in Korea?* 27 *WORLD DEV.* 1203 (1999).

575. J.K. Staniskis & Z. Stasiskiene, *Promotion of Cleaner Production Investments: International Experience*, 11(6) *J. CLEANER PRODUCTION* 619, 624 (2003).

576. Singapore Green Plan 2012, *supra* note 497, at v-vi.

577. *Id.* at viii.

Ministry for the Environment is also creating a special environmental fund, financed by revenues from environmental taxes and fines, and contributions from international donors.⁵⁷⁸ This fund will be used to subsidize training, education, and emergency environmental measures. A similar financial mechanism was established by Thailand's Enhancement and Conservation of National Environmental Quality Act 1991.⁵⁷⁹ These financing schemes work more effectively when complemented by mechanisms that curtail funding to environmentally problematic enterprises.

Investment in clean technologies is also a high priority of Chinese leaders, particularly given the legacy of a state enterprise sector lumbered with old, inefficient and wasteful technologies dating from the 1950s. However, there can be cultural misunderstandings among SOE managers regarding what "clean production" entails. One anecdote is that an SOE factory boss believed it involved giving each worker a broom to clean up their workspace.⁵⁸⁰ Various government policies have advocated change, such as the 1993 Decision of the second National Working Conference on Industrial Pollution Prevention and Control,⁵⁸¹ and the current Trans-Century Green Programme.⁵⁸² In 1993, National Environmental Protection Agency established the National Cleaner Production Center to facilitate cooperation in the research, manufacture, trade and service of environmental technologies.⁵⁸³

The most substantial Chinese initiative is the Clean Production Promotion Law (CPPL) of 2002.⁵⁸⁴ It shifts China's environmental regulatory focus from traditional end-of-pipe controls to the products and processes from which pollution originates. The CPPL requires enterprises to recycle some specified products and packaging, and to report regularly on their pollution emissions. It also advocates some preferential measures for those who adopt the clean production model, such as preferential loans, tax cuts or exemptions. Among the specific provisions, it is decreed

578. Circular No. 93/2003/TT-BTC guiding the implementation of the financial management for Vietnam Environment Protection Fund (June 2003); see further Bryant & Akers, *supra* note 294, at 169-70.

579. §§ 22-31, *supra* note 290.

580. Han Shi, *Cleaner Production in China*, in GREENING INDUSTRIALIZATION IN ASIAN TRANSITIONAL ECONOMIES 61, 68 (Arthur P.J. Mol & Joost C.L. Van Buuren eds., 2003).

581. *Id.* at 63.

582. NATIONAL ENVIRONMENTAL PROTECTION AGENCY, EXECUTIVE SUMMARY OF CHINA'S TRANS-CENTURY GREEN PLAN (1997), *quoted* in Tremayne & Waal, *supra* note 413, at 312.

583. The Center collaborates through the China Association of Environmental Protection Industry, available at <http://www.cepi.com.cn>.

584. *World's First Clean Production Law to Be Publicized in China*, ASIAINFO DAILY CHINA NEWS, Sept. 10, 2001, available at LEXIS News Library.

that, “[t]he State Council shall formulate fiscal and tax policies conducive to the implementation of cleaner production.”⁵⁸⁵ Further, there are provisions for the phasing-out of inefficient technologies;⁵⁸⁶ mandatory eco-product labelling;⁵⁸⁷ environmental assessment of new construction projects to include the feasibility of adoption of clean production methods and equipment;⁵⁸⁸ mandatory recycling of designated materials,⁵⁸⁹ and compulsory clean production audits for enterprises that violate pollution discharge regulations.⁵⁹⁰ Products made from approved recyclable materials are exempt from value-added tax.⁵⁹¹ It is, however, premature to assess the impact of the new CPPL. Complementary reforms to the energy sector, including energy commodity pricing and removal of wasteful subsidies, will be critical to the new law’s long-term success.⁵⁹²

Another sign of ecological modernization reform is environmental taxation. Air pollution charges have been levied in South Korea and China; and water effluent treatment charges exacted in Thailand, Hong Kong and China; water consumption charges exacted in virtually all countries.⁵⁹³ Even Vietnam, with one of the most elementary environmental law systems in East Asia, has introduced regulations providing for the payment of environmental protection fees by developers⁵⁹⁴ and a natural resources use tax.⁵⁹⁵ The most widely used economic instrument in the region is wastewater charges, though they tend to have been limited to just a few big industries or large industrial estates.⁵⁹⁶ The emission and resource charges are used primarily to raise reve-

585. Cleaner Production Promotion Law (approved on June 29, 2002), art. 7, available at http://www.chinacp.org.cn/eng/cppolicystrategy/cp_law2002.html.

586. *Id.* at art. 12.

587. *Id.* at art. 13.

588. *Id.* at art. 18.

589. *Id.* at art. 27.

590. *Id.* at art. 28.

591. *Id.* at art. 35.

592. For some of these challenges, see Philip Andrews-Speed & Stephen Dow, *Reform of China's Electric Power Industry: Challenges Facing the Government*, 28 ENERGY POL'Y 335 (2000).

593. ASIAN DEVELOPMENT BANK, *supra* note 172, at ch. 11; OECD, ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL MANAGEMENT IN DEVELOPING COUNTRIES (1993); see also Joon Keum Jung, *The Korean Experience with Market-based Environmental Policy Instruments*, in PROCEEDINGS 6TH RUSSIAN-KOREAN INTERNATIONAL SYMPOSIUM ON SCIENCE AND TECHNOLOGY 100 (2002).

594. Government Decree on Providing Guidance for the Implementation of the Law on Environmental Protection (Oct. 18, 1994), arts. 34-36, available at <http://coombs.anu.edu.au/~vern/luat/english/Gov-175CP-env-impl.txt> (last visited Apr. 1, 2005).

595. Ordinance on Natural Resources Tax 1993, available at <http://coombs.anu.edu.au/~vern/luat/english/Ord-nat-resource-tax.txt> (last visited Apr. 1, 2005).

596. ASIAN DEVELOPMENT BANK, *supra* note 172, at 12.

nue, and the fees are usually not calibrated to reflect the marginal cost of ecological damage. Also, their effect is often offset by the continuation of environmentally-harmful subsidies in the energy and agricultural sectors. Tradeable emission permits have hardly been introduced in the region.⁵⁹⁷ The potential of economic instruments to improve environmental conditions in SEZs has been demonstrated in the Philippines — there the Laguna Lake Development Authority introduced two incentive fees for water conservation and pollution abatement, which have both been evaluated as having significantly helped improve environmental conditions in the Laguna industrial estate.⁵⁹⁸

The most extensively studied environmental charge in East Asia is China's pollution discharge levy. Introduced by the State Council in the early 1980s after three years of experimentation, China's discharge levy system formally requires that a fee be paid by any enterprise whose effluent or emission exceeds the legal standard. Charges are levied for water and air pollution, solid waste, as well as noise. The scheme was arbitrarily implemented until about 2000, when new methods of collecting the levy were adopted, coupled with more recycling of levy revenue into pollution control projects.⁵⁹⁹ But fundamental problems remain because the levy rate is usually much lower than the costs of installing or operating pollution control equipment, and so polluters have little incentive to minimize their discharges.⁶⁰⁰ In fact, enterprises typically find it cheaper to mothball existing pollution control mechanisms, which are more expensive to operate than the discharge fees. In practice, the amount of levy paid by a polluting factory ultimately depends on the result of its negotiations with the local environmental protection bureau.⁶⁰¹ Nonetheless, the potential for pollution taxes to help China's environment is clear. A study of 260 enterprises in Beijing and Tianjin with multiple water pollution sources found that an appropriately set emission charge would reduce abatement costs

597. The Japanese government has gone the furthest in planning reforms for tradeable pollution permits. OECD, IMPLEMENTING DOMESTIC TRADEABLE PERMITS: RECENT DEVELOPMENTS AND FUTURE CHALLENGES 74 (2002).

598. UNITED STATES INTERNATIONAL AID AGENCY, PLACE-BASED PUBLIC POLICY IN SOUTHEAST ASIA: DEVELOPING, MANAGING AND INNOVATING FOR SUSTAINABILITY ch. 2 (1999), available at <http://apocalypse.usaep.org/policy/reportch2.htm>.

599. Jahiel, *supra* note 421, at 89, 91; see also Keith H. Florig, *et al.*, *China Strives to Make the Polluter Pay: Are China's Market-based Incentives for Improved Environmental Compliance Working?* 29 ENVTL. SCI. & TECH. 268 (1995).

600. Jahiel, *supra* note 421, at 94; Theodore Panayotou, *The Effectiveness and Efficiency of Environmental Policy in China*, in ENERGIZING CHINA: RECONCILING ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH, *supra* note 288, at 431, 443.

601. Wang *et al.*, *supra* note 538, at 248.

under the prevailing regulatory regime from US\$47 million to \$33 million annually.⁶⁰²

Another way that governments can facilitate ecological modernization of their economy is by encouraging enterprises to comply with best practice corporate environmental management standards (EMSs), such as those embodied in the International Standardization Organization (ISO) 14000 series.⁶⁰³ An EMS provides a framework of standards and processes for corporations to improve their internal use of materials and energy, and to provide a structure for companies to identify, appraise and minimise their environmental risks. At a higher scale, the concept of the “eco-industrial park” has been advanced by scholars to extend a corporate EMS to a group of companies on an industrial estate that cooperate to reduce environmental waste and improve resource efficiency.⁶⁰⁴

Although developing countries were not well represented in the negotiations of the drafting of the ISO 14000 series,⁶⁰⁵ the developing world including East Asia is increasingly viewing ISO 14000 as a means to stimulate corporate environmental responsibility and thereby achieve sustainable development.⁶⁰⁶ Companies in East Asia are seeking certification for several reasons, principally for reputation enhancement and environmental materials and waste cost savings.⁶⁰⁷ Among further motivations, export-oriented industries are seeking to avoid potential environmentally-based trade barriers, and some large companies are responding to shareholder demands for corporate social responsibility.⁶⁰⁸ Some empirical research in East Asia shows that ISO 14001 certified companies have a record of better com-

602. S. DASGUPTA, ET AL, WATER POLLUTION ABATEMENT BY CHINESE INDUSTRY: COST ESTIMATES AND POLICY IMPLICATIONS (1996);

603. See David Monsma, *Sustainable Development and the Global Economy: New Systems in Environmental Management*, 24 VT. L. REV. 1245, 1256 (2000); Paulette L. Stenzel, *Can the ISO 14000 Series Environmental Management Standards Provide a Viable Alternative to Government Regulation?* 37 AM. BUS. L.J. 237 (2000).

604. See BRADEN R. ALLENBY, INDUSTRIAL ECOLOGY: POLICY FRAMEWORK AND IMPLEMENTATION (1999); Suren Erkman, *Industrial Ecology: An Historical Approach*, 5 J. CLEANER PRODUCTION 1 (1997).

605. RIVA KRUT & HARRIS GLECKMAN, ISO 14001: A MISSED OPPORTUNITY FOR SUSTAINABLE GLOBAL INDUSTRIAL DEVELOPMENT 41-45, 61 (1998).

606. Christine Mikulich, *ISO 14000-14001, The Developing World's Perspective*, 17 TUL. ENVTL. L.J. 117, 120 (2003).

607. See Gerald E. Fryxell & Agnes Szeto, *The Influence of Motivations for Seeking ISO 14001 Certification: An Empirical Study of ISO 14001 Certified Facilities in Hong Kong*, 65(3) J. ENVTL. MGMT. 223, 223 (2002).

608. Mikulich, *supra* note 606, at 147-48.

pliance with government environmental regulations and standards than non ISO-certified companies.⁶⁰⁹

But as some businesses may be reluctant to implement EMSs, especially in the small business sector, where shareholder and trade pressures are weaker or non-existent, governments are looking for ways to promote more corporate participation in EMSs. China adopted the ISO 14000 series as official state policy on April 1, 1997.⁶¹⁰ The China Accreditation Committee for Environmental Management Systems Certification Bodies works to encourage domestic enterprises to adopt the ISO 14001 standard as a means of strengthening environmental enforcement in China, and to conduct trial certifications of Chinese companies.⁶¹¹ The chief reason for adoption of ISO by the PRC is that it would enable China to bolster its environmental regulatory regime without sacrificing economic growth.⁶¹² Calkins suggests that China only takes "environmental steps if it sees a capitalist advantage" — thus, the economic benefits to be derived from ISO 14000 participation were seen as the "greater marketability of Chinese products, improved and streamlined raw material consumption, reduced cost of waste management, reduced liabilities."⁶¹³ So far, ISO certification among Chinese enterprises has been slow, and has arisen mostly in the context of joint ventures with Western companies operating in the SEZs.⁶¹⁴ Surveys of Chinese firms suggest low levels of awareness and commitment to environmental protection, and a preference to adopt discrete, end-of-pipe technological solutions rather than holistic reorganisation of management practices as demanded by EMSs.⁶¹⁵

Elsewhere in East Asia, the Taiwanese government has fervently promoted certification of corporate EMSs, and introduced environmental reporting regulatory schemes into the Environmental Protection Administration regulations.⁶¹⁶ The government offers financial assistance to firms wishing to invest in measures to acquire ISO 14001 certification.⁶¹⁷ The South Ko-

609. See, e.g., Dong-Myung Kwon et al., *A Study of Compliance with Environmental Regulations of ISO 14001 Certified Companies in Korea*, 65 J. ENVTL. MGMT. 347 (2002).

610. *ISO 14000 Series to Be Adopted April 1 as State Policy in China*, 20 INT'L ENVTL. REP., CURRENT REP. (BNA) No. 5 at 198 (Mar. 5, 1997).

611. Mikulich, *supra* 606, at 145.

612. See Calkins, *supra* note 352, at 616.

613. *Id.*

614. *Id.* at 615, 636.

615. STEGER ET AL., *supra* note 552, at 22-23.

616. Kinne, *supra* note 157, at 93.

617. See Shen-yan Chiu & Yi-Zong Yang, *Taiwan's Experiences in Promotion of ISO 14000, Presentation at the World Bank Environmental Forum: Challenges and Strategies for Environmental Management in Asia, Cheju Island, Korea*, at 6, 8 (Feb.

rean government is also encouraging ISO 14000 certification. In 1994, it initiated a pilot certification scheme. In 1995, the Korean Standards Association established training activities jointly with certification bodies from the United Kingdom.⁶¹⁸ South Korea is implementing ISO 14001 by requiring that companies adopt a general EMS, an environmental assessment of their manufacturing processes, and a plan for the improvement of environmental management.⁶¹⁹ The South Korean Ministry of the Environment reviews the applications, and companies deemed environmentally friendly must report annually on their progress and meet improvement plan indicators. In turn, these companies should enjoy reduced compliance inspections.

While ISO standard compliance can be a useful adjunct to the environmental regulatory process, it is certainly not in its current form an adequate substitute. To be transformed into an effective EMS would require several additional elements, notably: (i) requirements for measurable improvements in environmental performance, rather than mere adoption of an environmental management structure; (ii) environmental audits verified by a third party; (iii) publication of audit findings; and (iv) public participation mechanisms.⁶²⁰ Other corporate EMSs that overcome some of these deficits are available, such as the chemical industry's Responsible Care program,⁶²¹ and the European Union's Eco-Management and Audit Scheme (EMAS).⁶²² The EMAS, for example, seeks to promote continuous environmental performance improvement in industrial activities or company level operations, by committing certified entities to evaluate and improve their environmental performance and provide relevant information to the public.⁶²³ There is already evidence of growing interest in Responsible Care among East Asian companies.⁶²⁴

8-10, 2001), available at: http://www.inem.org/htdocs/iso/iso_taiwan.html (last visited Apr. 17, 2005).

618. Environmental Management Standards Particularly the ISO 14000 Series: Trade and Investment Impacts on Developing Countries Report by the UNCTD Secretariat, UNCTAD, Agenda Item 3, at 15, U.N. Doc. TD/B/Com.1/EM.4/2 (1997).

619. Mikulich, *supra* note 606, at 147.

620. KRUT & GLECKMAN, *supra* note 605, at 95.

621. See Peter Simmons & Brian Wynne, *Responsible Care: Trust, Credibility and Environmental Management*, in ENVIRONMENTAL STRATEGIES FOR INDUSTRY: INTERNATIONAL PERSPECTIVES ON RESEARCH NEEDS AND POLICY IMPLICATIONS 201 (Kurt Fischer & Johan Schot eds., 1993).

622. *Supra* note 348.

623. Eric W. Orts, *Reflexive Environmental Law*, 89 Nw. U. L. Rev. 1227, 1289 (1995).

624. Jean-Francois Tremblay, *Responsible Care Gains Ground in Asia*, 75 CHEMICAL & ENGINEERING NEWS 20 (June 23, 1997).

The EMAS is being adopted by a number of European companies engaged in business in East Asia.⁶²⁵

B. INTERNATIONAL ASSISTANCE FOR EAST ASIA'S ENVIRONMENTAL REFORMS

Increased cooperation and assistance from international donors and lenders, and international environmental organizations, are vital conduits for ecological modernizing reforms.⁶²⁶ Many developing countries lack the financial resources, technical expertise, and management systems to devise and implement sustainable development policies. In 1987, the World Commission on Environment and Development appealed for more international environmental cooperation, and requested that bilateral and multilateral donors provide more assistance to both governmental and non-governmental environmental institutions.⁶²⁷ This clarion message has been reiterated many times.

Regional intergovernmental organizations in East Asia can be an instrument for the modernization of environmental laws and policies. An advantage of regional level collaboration is that it may be easier for states to reach agreement on environmental policy at the regional plane where there is less diversity of social and economic characteristics between the participating parties than would be found at a broader, global scale. Both the Asia-Pacific Economic Cooperation (APEC) and the Association of South-East Asian Nations (ASEAN)⁶²⁸ have formally incorporated environmental concerns into their agendas, although neither has challenged the economic status quo.

A variety of intergovernmental statements and agreements on environmental protection have been drafted by ASEAN.⁶²⁹ Plans of Action have also been published periodically, such as

625. See ENVIRONMENTAL MANAGEMENT SYSTEMS AND CLEANER PRODUCTION (Howard J. Markman ed., 1997).

626. See especially Andreen, *supra* note 300.

627. WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, OUR COMMON FUTURE 319-30 (1987).

628. See generally the website of ASEAN, <http://www.aseansec.org>. ASEAN was established in 1969 and, as of 2004, consists of ten members: Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia.

629. These include: the Manila Declaration on the ASEAN Environment 1981; the ASEAN Agreement on the Conservation of Nature and Natural Resources 1985; the Kuala Lumpur Accord on the Environment and Development 1990; the Singapore Resolution on Environment and Development, the ASEAN Common Stand on Environment and Development 1992; and the Bandar Seri Begawan Resolution on Environment and Development 1994. Boer, *supra* note 159, at 1525. Intergovernmental environmental cooperation in Northeast Asia is not so extensively institutionalised. See Kim Myungjin, *Environmental Cooperation in Northeast Asia*, 22 IMPACT ASSESSMENT & PROJECT APPRAISAL 191 (2004).

the *ASEAN Strategic Plan of Action on the Environment 1999-2004*,⁶³⁰ as well as specialist plans, such as the *ASEAN Cooperative Plan on Transboundary Pollution 1995*.⁶³¹ According to Professor Ben Boer, “the effectiveness of such measures however suffers from weakness in monitoring, assisting and ensuring state compliance. This is because of the ‘ASEAN way’ and its preference for non-interference in the domestic affairs of member states; for non-binding plans, instead of treaties; and for centralized institutions with relatively little initiative and resources.”⁶³² The only ASEAN treaty for environmental protection — the ASEAN Agreement on the Conservation of Nature and Natural Resources 1985 — has never come into effect owing to insufficient ratifications.⁶³³ The APEC forum has had even less affection for environmental policy reform.⁶³⁴ In March 1994, APEC member governments adopted an *Environmental Vision Statement* and a *Framework of Principles* for integrating economic and environment policy concerns.⁶³⁵ Despite grand visions, optimistic agendas, and some gains in normative standards and capacity-building, APEC’s broader sustainable development agenda has had “little to show in terms of implementation or improvements in environmental performance.”⁶³⁶ Like ASEAN, its rhetoric of sustainability has failed to deliver, while its broad agenda of financial and market liberalization might even have accelerated natural resource degradation. There does, however, appear to be a tentative, long-term political commitment to environmental management across the region.

At a broader, global level, there are a miscellany of institutions and treaties that incorporate mechanisms to enable developing countries to modernize their domestic laws to implement treaty obligations. Various countries in East Asia are reforming

630. ASEAN, STRATEGIC PLAN OF ACTION ON THE ENVIRONMENT 1994-1998, available at <http://www.aseansec.org/8950.htm> (last visited Apr. 17, 2005).

631. ASEAN, COOPERATION PLAN ON TRANSBOUNDARY POLLUTION, available at <http://www.aseansec.org/8938.htm> (last visited Apr. 17, 2005).

632. Boer, *supra* note 156, at 1527-28.

633. Text available at <http://sunsite.nus.edu.sg/apcel/kl treaty.html> (last visited Apr. 17, 2005). It is unclear why ASEAN members rejected their own regional treaty, but it might be because their governments felt that they should not incur obligations to protect their environment without tying such obligations to Western financial and technical assistance, which could be secured through a global, rather than a regional, environmental treaty.

634. See Lyuba Zarsky & Jason Hunter, *Environmental Cooperation at APEC: The First Five Years*, 8 COLO. J. INT’L ENVTL. L. & POL’Y 323 (1997).

635. ASIA PACIFIC ECONOMIC COOPERATION [hereinafter APEC], http://www.apcecsec.org.sg/apcec/apcec_groups/other_apcec_groups/sustainable_development.html (last visited Apr. 17, 2005).

636. Jason Hunter, *APEC: Promise or Peril in the Asia-Pacific*, 2 ECOLOGICAL ECON. BULL. 3 (1997), available at http://www.nautilus.org/archives/papers/enviro/hunter_apcec.html#II (last visited Apr. 17, 2005).

their environmental laws in collaboration with international organizations.⁶³⁷ For example, the United Nations Environment Program (UNEP) has assisted scores of countries through its Environmental Law and Institutions Programme Activity Centre in Nairobi, and its UNEP Regional Office for Asia and the Pacific in Bangkok. Environmental law training programs have also been funded by the Asian Development Bank and coordinated by the National University of Singapore and the IUCN Commission on Environmental Law.⁶³⁸

Besides such support, the channelling of financial and technological assistance through treaties is vital to enhance the institutional capacity of Newly Industrialized Countries. Most East Asian nations have ratified the major multilateral environmental treaties, many of which provide the states parties with enhanced access to environmental technologies and financial assistance.⁶³⁹ For example, China's success in reducing ozone-depleting chemicals owes principally to the financial and technological support it received from joining the Montreal Protocol.⁶⁴⁰ The Kyoto Protocol⁶⁴¹ will likely play an even more influential role, mainly by means of its dedicated funds⁶⁴² to help developing countries abate CO₂ emissions through technology transfer for energy efficiency and by land use and waste management changes.⁶⁴³ The Kyoto Protocol's Clean Development Mechanism (CDM) can also support investments in non-fossil energy projects in developing countries.⁶⁴⁴ China probably will become the largest recipient of CDM projects, and its authorities have already given priority

637. Boer, *supra* note 156, at 1513-14.

638. *Id.*

639. See IMPLEMENTING INTERNATIONAL ENVIRONMENTAL LAW IN GERMANY AND CHINA (Zhengua Tao & Rudiger Wolfrum eds., 2001).

640. Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 26 I.L.M. 1550, available at <http://www.unep.org/ozone/pdfs/Montreal-Protocol2000.pdf> (last visited Apr. 17, 2005); see Jimin Zhao, *The Multilateral Fund and China's Compliance with the Montreal Protocol*, 11 J. ENV'T & DEV. 331 (2002).

641. Kyoto Protocol to the Framework Convention on Climate Change [hereinafter Kyoto Protocol], Dec. 10, 1997, 37 I.L.M. 22, available at <http://unfccc.int/resource/docs/convkp/kpeng.html> (last visited Apr. 17, 2005).

642. Namely, the Special Climate Change Fund, Least Developed Countries Fund and Kyoto Protocol Adaptation Fund. See Suraje Dessai, *The Special Climate Change Fund: Origins and Prioritisation Assessment*, 3 CLIMATE POL'Y 295 (2003), available at <http://www.uea.ac.uk/~e120782/papers/scfcf.pdf> (last visited Apr. 17, 2005).

643. See EUROPEAN COMMISSION, SUMMARY OF THE KEY ELEMENTS OF THE BONN AGREEMENT ON CLIMATE CHANGE (July 23, 2001), available at <http://europa.eu.int/comm/environment/climat/pressbckgnd.htm> (last visited Apr. 17, 2005).

644. Kyoto Protocol, *supra* note 641, art. 12(3)(b). The CDM allows industrial countries to invest in projects in non-Annex I parties and to use the "certified emissions reductions" that derive from the projects towards compliance with their Protocol commitments.

to energy efficiency and renewable energy projects for CDM-finance.⁶⁴⁵

China is estimated to be the world's second-largest emitter of greenhouse gases (GHG), behind the United States.⁶⁴⁶ Most of China's GHG emissions come from burning coal, which is the country's staple energy source. Significantly, it seems that China's CO₂ emissions decreased by 7.3 percent between 1996 and 2000 due to the implementation of new energy efficiency technologies and the closure of obsolete SOE factories.⁶⁴⁷ Although the PRC did not accept a mandatory emissions target when it ratified the Kyoto Protocol in August 2002, Chinese agencies have been developing programs to reduce CO₂ emissions in collaboration with international partners under the CDM program. The Chinese government has established a National CDM Management Office to coordinate its participation in the mechanism.⁶⁴⁸ So far, Canada has been the most active government to participate in CDM-related projects in China.⁶⁴⁹

Bilateral and multilateral aid and loans can also provide a conduit for environmental assistance. Japan is the most generous bilateral donor in the region, and a significant number of its aid projects contain environmental improvement elements.⁶⁵⁰ The European Union (EU) is emerging as a major donor in the region, and its environmental initiatives include the EU-China Environmental Management Co-operation Programme (2001-2005),⁶⁵¹ and the EU-China Liaoning integrated Environmental Programme (1999-2004).⁶⁵² An increasing proportion of World Bank and Asian Development Bank finance is also tied to sustainable development practices.⁶⁵³ Typically, loan agreements include environmental standards such as EIA of proposed

645. Kristian Tangen & G_rild Heggelund, *Will the Clean Development Mechanism be Effectively Implemented in China?* 3 CLIMATE POL'Y 303, 304 (2003).

646. See Deborah E. Cooper, *The Kyoto Protocol and China: Global Warming's Sleeping Giant*, 11 GEO. INT'L ENVTL. L. REV. 401, 404 (1999).

647. David G. Streets et al., *Recent Reductions in China's Greenhouse Gas Emissions*, 294 SCI. 1835, 1835 (2001).

648. For background, see Tauna Szymanski, *The Clean Development Mechanism in China*, 29 CHINA BUS. REV. 26 (2002).

649. The collaboration has mostly occurred through the Canada-China Climate Change Cooperation Project, at <http://www.ccchina.gov.cn/english/source/ea/ea2002121201.htm> (last visited Apr. 17, 2005).

650. Tremayne & Waal, *supra* note 413.

651. See <http://www.cestt.org.cn/emcp/index/eindex.jsp?id=0103000000> (last visited Apr. 17, 2005).

652. See <http://www.eu-lnip.com/en/061.htm> (last visited Apr. 17, 2005).

653. Lin Gan, *World Bank Policies, Energy Conservation and Emissions Reduction*, in CHINA'S ECONOMIC GROWTH: THE IMPACT ON REGIONS, MIGRATION AND THE ENVIRONMENT, *supra* note 282, at 184, 193.

projects.⁶⁵⁴ The environmental effects of foreign investment can be mitigated when project financing is linked to co-financing consortia with multilateral development agencies operating under usually stricter environmental management controls.⁶⁵⁵ In this way, a limited stream of aid money could serve as an environmental screen for a far larger pool of private capital. Co-financing arrangements are often sponsored through the World Bank Group's International Finance Corporation⁶⁵⁶ and the Multilateral Investment Guarantee Agency.⁶⁵⁷ All World Bank agencies are bound by the mother bank's environmental and social policies.⁶⁵⁸

At a strategic level, the World Bank also usually requires each borrower to prepare a national environmental strategy.⁶⁵⁹ Professor Michael Rock argues that such requirements have "attracted the attention of political and policy elites in East Asia and created a political space for those in and out of government who wanted to see more environmentally friendly pollution management policies."⁶⁶⁰ No doubt, the international donor community itself has to undergo further institutional reform if it is to be a more positive driver of environmental change in East Asia. There is a litany of environmentally reckless investments supported by the World Bank and its financial accomplices.⁶⁶¹ Apart from adopting stronger environmental policies, international financiers must increase their environmental staffing, improve coordination of assistance programs, and open up their operations to greater public information and participation.⁶⁶²

654. See ROBERT STEIN & BRIAN JOHNSON, *BANKING ON THE BIOSPHERE? ENVIRONMENTAL PROCEDURES AND PRACTICES OF NINE MULTILATERAL DEVELOPMENT AGENCIES* (1979); *THE STRUGGLE FOR ACCOUNTABILITY: THE WORLD BANK, NGOS, AND GRASSROOTS MOVEMENTS* (Jonathan A. Fox & L. David Brown eds., 1998).

655. PRIVATE CAPITAL FLOWS AND THE ENVIRONMENT: LESSONS FROM LATIN AMERICA (Bradford S. Gentry ed., 1999); Zhongxiang Zhang & Aki Maruyama, *Towards a Private-Public Synergy in Financing Climate Change Mitigation Projects*, 29 ENERGY POL'Y 1363 (2001).

656. The website of the International Finance Corporation, <http://www.ifc.org>.

657. The website of the Multilateral Investment Guarantee Agency, <http://www.miga.org>.

658. WORLD BANK, *THE WORLD BANK operational manual, operational policies*, at 4.01 (Jan. 1999) (Environmental Assessment).

659. WORLD BANK, *TAKING STOCK OF NATIONAL ENVIRONMENTAL STRATEGIES* (1995), available at http://www-wds.worldbank.org/servlet/WDSContentServer?WDSPath=IB/1999/09/14/000178830_98101912362529/Rendered/PDF/multi_page.pdf (last visited Apr. 17, 2005).

660. Rock, *supra* note 180, at 94.

661. Bruce M. Rich, *The "Greening" of the Development Banks: Rhetoric and Reality*, 19 ECOLOGIST 44 (1989).

662. Sims, *supra* note 201, at 1236-37.

VI. CLOSING REMARKS

East Asia is industrializing very quickly, causing environmental policy to dangerously trail economic modernization. Its market reforms clearly present threats to the environment but also, ironically, some possible solutions. If the region is to avoid uneven modernization, policy-makers must prioritize long-term environmental health above short-term and possibly ephemeral economic gains. Interestingly, while the SEZs pose momentous environmental challenges, the zones do not appear to be suffering from pollution problems any worse than other parts of East Asia. There have been some problems associated with inappropriate relations between local administrations and businesses in the SEZs, but the environmental governance of SEZs appears, in general, to be at least as competent as other parts of East Asia's economies. Because the SEZs attract new industries often utilizing more advanced technologies and efficient production methods, those firms can often pose a lower pollution burden compared to the old, industrial state-run enterprises. Foreign investment can certainly be a force that exacerbates environmental problems in developing countries, but it can also offer some environmental and social benefits, as the experience of China's SEZs testifies. Because of their high profile and greater wealth, foreign investors in SEZs are also likely to be subject to stricter environmental regulation than local firms. So, the most pressing areas for environmental law reform are not necessarily those in the kernel of industrialization. The most serious environmental problems posed by East Asia's SEZs tend to be more long-term and indirect, notably their contribution to the development of a Western-style consumer culture and an increase in greenhouse gas emissions.

International environmental law and intergovernmental assistance are necessary elements in the modernization of East Asia's environmental regulations and policies. More use of economic instruments and other ecological modernization reforms will be vital to ensuring the sustainable economic transformation of East Asia's SEZs. But while external forces can provide a catalyst for some change, they alone will not secure a sustainable future. The region's legal and political systems pose a range of deep-rooted structural barriers to environmental reform. The rule of (environmental) law has yet to become firmly established in East Asia. A national constituency for law reform has to exist; it can neither be manufactured nor led from outside. While relevant laws, practices, and processes of law reform from other countries can and should be assessed during the reform programme, the output has to be seen to be national, dovetailing

into the existing corpus of law and appropriate to local circumstances. East Asian governments' growing preference for market-based governance would therefore appear to offer opportunities for ecological modernization policy reforms.

Most capacity-building efforts to date have focused on core national institutions but not on regional and local governments. Among the various problems is the need to enhance the institutional capacity of municipal authorities to be environmental regulators, and to change the incentive structure for taking environmental protection action. The extent to which national environmental policy goals are attained is strongly influenced by the effectiveness of the local implementation apparatus. Central governments should require all local administrations in the SEZs to establish environmental protection bureaux of first-tier status and equip them with adequate staff and resources. Some of the revenue from SEZs should be earmarked specifically for these bureaux. East Asian governments must also enhance institutional mechanisms for cross-jurisdictional environmental cooperation among local authorities.

Environmental law reform in the region must also be linked to wider changes to promote democracy, respect for human rights and good governance. Thus, opportunities for meaningful citizen participation in decision-making should be enhanced and the independence of the courts strengthened, which together can thereby help counterbalance the problematic alliances between local governments and local capital in some zones. The authors of a study on *Civil Society and the Future of Environmental Governance in Asia* argue that the "growth and effectiveness of [Asian] civil society - and the process of democratization that nourish it - are likely to be the most significant force in the emergence and implementation of [a new paradigm of ecologically sustainable and equitable development in Asia]."⁶⁶³ Their recommended direction for Asian governments is to include a broad array of stakeholders (both business and civil society) that can potentially function as a "crucial driver for paradigm and policy change."⁶⁶⁴ The development of a vibrant civil society and greater democratization is a crucial complement to the SEZ market reforms. Increased political pluralism can enhance the influence of civil society, providing an important counter-weight to the state and the market.

663. Lyuba Zarsky & Simon Tay, Abstract, *Civil Society and the Future of Environmental Governance in Asia* (2000), available at http://www.nautilus.org/archives/papero/enviro/zarsky_tay.html (last visited Apr. 17, 2005).

664. *Id.*