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Research Note

Environmental Governance in Selected Asian Developing Countries

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The core issue of environmental governance is the way societies deal with environmental problems. It concerns interactions among formal and informal institutions and actors within society that influence how environmental problems are identified and framed. The purpose of this note is to review and survey the current state of environmental governance in Asian developing countries in a comparative manner, with special reference to case studies of China, Thailand and India, the most influential countries in each sub-region of Asia. This note reveals that, although many positive trends have been found recently in environmental governance of Asian countries, their environmental governance systems have not yet developed satisfactorily at the national level.

Keywords: Environmental governance, Asia, China, India, Thailand.

1. Introduction

Since the late 1980s and the end of the Cold War, the world hegemonies have been declining, and the importance of national boundaries is disappearing as a result of globalization. Various types of new global issues have risen to the fore, such as currency crises, environmental pollution, terrorism, the drug trade and AIDS. Under this dynamic situation, a new concept of "governance" has emerged.

Many scholars have suggested different definitions of governance from their own perspectives[1], and this concept is used in various contexts. A common understanding of the term has, however, enabled not only governments but also various other actors to form norms and/or rules for solving problems on their

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1 For example, James N. Rosenau gives a definition of "governance" as follows:

> [G]overnance refers to activities backed by shared goals that may or may not derive from legal and formally prescribed responsibilities and that do not necessarily rely on police powers to overcome defiance and attain compliance. Governance, in other words, is a more encompassing phenomenon than government. It embraces governmental institutions, but it also subsumes informal, non-governmental mechanisms whereby those persons and organizations within its purview move ahead, satisfy their needs, and fulfill their wants. Governance is thus a system of rule that is as dependent on intersubjective meanings as on formally sanctioned constitutions and charters. Put more emphatically, governance is a system of rule that works only if it is accepted by the majority (or, at least, by the most powerful of those it affects), whereas governments can function even in the face of widespread opposition to their policies (Rosenau 1992, 4).

own. Since the mid-1980s, the emergence of global environmental problems such as climate change and ozone depletion has coincided with new thinking about governance. Today the core issue of environmental governance is the way societies deal with environmental problems. It concerns interactions among formal and informal institutions and actors within society that influence how environmental problems are identified and framed.

The amount of literature on environmental governance at the global level has been growing rapidly since the early 1990s (e.g., Sand 1992; Hempel 1996; Young 1997). On the other hand, studies on national environmental governance systems and processes, particularly in Asian countries, are considerably few. The purpose of this note is to review and survey the state of environmental governance in Asian developing countries in a comparative manner, with special reference to case studies of China, Thailand and India, the most influential countries in each sub-region of Asia[2].

2. Recent environmental problems in Asia

Environmental problems in Asia are worsening, mainly due to rapid economic growth and population increases. Some noteworthy environmental phenomena in recent years are cited here.

Flooding of the Yangtze River in China. A catastrophic flood along the Yangtze River persisted for two months from mid-June to mid-August in 1998. Nearly two hundred million people were affected by the flood, and several hundred million mu (15 mu equal one hectare) of farmland and several million houses were damaged. The total cost of the damage caused by the flood was estimated to be about 100 billion Chinese yuan. This situation was attributed not only to abnormal climatic conditions, such as frequent rainstorms in a short period of time and simultaneous flooding in the upper, middle and lower reaches and tributaries of the Yangtze River, but also to ecological destruction, such as deforestation, in both the middle and upper reaches, with its resultant soil erosion and decrease in water-storing lake and wetland areas (Ren 1998).

Haze in ASEAN countries. During the second half of 1997, skies in Singapore and Malaysia were badly affected by air pollution arising from forest and peat fires in neighboring Indonesia. People had to endure this situation until early October. The haze caused confusion for ground, sea and air transportation, and gave rise to serious health damage. In Malaysia, surgical masks were distributed to people to prevent them from inhaling the pollutants. Environmental ministers of the Association of Southeast Asian Nations (ASEAN) met in December 1997 and adopted an action plan to prevent, monitor and fight the fires. Although there were early fire warnings in East Kalimantan in January and February, the haze problem lessened in intensity for the rest of 1998 (Sien 1998).

On the other hand, the Commission on Global Governance argues that:

> [G]overnance is the sum of many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and co-operative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest (Commission on Global Governance 1995, 2).

2 This work is based on the research activities of IGES Environmental Governance Project, supervised by Professor Kazu Kato, Nagoya University, Japan.

Urban air pollution in India. Air pollution has been quite serious for some time in New Delhi, the capital city of India. Levels of Suspended Particulate Matter (SPM) are five times higher than World Health Organization (WHO) guidelines. Fly-ash from coal-fired thermal power plants around Delhi has been a major contributor to air pollution in the area. In October 1998, the Delhi High Court responded to the increasing pollution hazard from fly-ash by issuing a notice to various government departments at national and city levels, calling for better management of fly-ash. In addition, the Environmental Pollution Authority (EPA) of the National Capital Region (NCR) contended that cancer-causing agents from diesel exhaust have reached dangerous levels. Prompted by concern over the rising demand for diesel vehicles for private use in the NCR, the Supreme Court of India proposed a ban on the registration of new non-commercial diesel vehicles (Iyer 1998).

3. Current state of environmental governance

How have Asian societies formed their environmental governance systems to deal with such serious environmental problems? Current states of environmental governance in the three Asian countries of China, Thailand and India can be summarized with four following points[3]:

3.1. Trends toward stronger environmental laws

In Asian countries, many positive trends can be found in environmental governance. Environmental laws were strengthened, particularly in the 1970s and again in the 1990s.

China. The environmental awareness of the Chinese government was aroused by the 1972 Stockholm Conference on the Human Environment. Following the conference, the Chinese government prepared the 32-Chinese character guiding principles at the First China National Conference on Environmental Protection held in Beijing in 1973. Their principles emphasized "overall planning, rational layout, comprehensive utilization, recycling, public participation, taking initiative actions, environmental protection and benefiting the whole society" and marked the beginning of environmental protection work in China. After the conference, the State Council established the Leading Group on Environmental Protection in 1974. Its major responsibilities included creating guiding principles and policies, formulating administrative regulations, defining state environmental planning and coordinating environmental protection work among different sectors. Since the Environmental Protection Law (Trial Version) was enacted by the Eleventh Meeting of the Standing Committee of the 5th People's Congress of 1979, China's environmental protection has been enforced on a sound legal basis.

3 This section, under the responsibility of author, summarizes the results from the presentations and discussions at the International Workshop on Environmental Governance in Asia, Hayama, Japan on 18 March 1999. Contributors to the workshop included: Dr. Bishnu Bhandari, Institute for Global Environmental Strategies (IGES), Japan; Ms. Phakatip Chungbhivat, Thailand Environment Institute (TEI), Thailand; Dr. Yohei Harashima, IGES, Japan; Mr. Kimhiko Hyakumura, IGES, Japan; Prof. Kenji Kamino, Nagoya University, Japan; Prof. Kazu Kato, Nagoya University, Japan; Prof. Mineo Kato, Yokohama National University, Japan; Ms. Chiharu Morita, IGES, Japan; Dr. James E. Nickum, University of Tokyo, Japan; Dr. Somrudee Nicro, TEI, Thailand; Prof. Jyoti Parikh, Indira Gandhi Institute of Development Research (IGIDR), India; Mr. Tata L. Rghu Ram, IGIDR, India; Dr. Miranda A. Schreurs, University of Maryland, the United States; Mr. Santosh K. Sharma, Development Alternatives, India; and Ms. Xin Zhou, Policy Research Center for Environment and Economy of the State Environmental Protection Administration (PRCEE/SEPA), China. For further information on presentations and discussions at the workshop, see IGES Environmental Governance Project (1999).

China's institutions for environmental policy and legislation have improved since the late 1980s. In 1989, China promulgated an amended Environmental Protection Law. At present, China has 6 total environmental protection laws: the Environmental Protection Law, the Law of Prevention and Control of Water Pollution, the Law of Prevention and Control of Air Pollution, the Regulations of Prevention and Control of Environmental Noise Pollution, the Law of Prevention and Control of Solid Waste Pollution and the Law of Marine Environmental Protection. China also has 9 laws for resource protection. The revised Criminal Law made it a criminal act to destroy the environment and/or natural resources. The nation has issued 28 environmental administrative regulations, 70 rules and 375 national environmental standards. China has more than 900 local environmental regulations. Since the Earth Summit in 1992, sustainable development has received general recognition. In 1994, the Chinese government released China's Agenda 21 White Paper on Population, Environment and Development in the 21st Century, in order to respond to the outcomes of the Earth Summit. Later, the former National Environmental Protection Agency (NEPA) was upgraded to the status of ministry and named the State Environmental Protection Administration (SEPA), which symbolizes rising environmental awareness in China.

Thailand. During the late 1970s, Thailand gradually recognized that its natural resources were at risk. Increased public interest in environmental problems and the environmental movement led by civil society in Thailand emerged in the late 1970s. The movement followed a course similar to environmental movements in industrialized countries and included an interrelated political movement for democracy that called for changes in the overall ruling system. In order to deal with its environmental problems, Thailand first demonstrated its commitment to environmental protection in its 4th National Plan (1977 to 1981) after participating in the Stockholm Conference. However, the Plan prioritized rehabilitating the economy rather than the environment, particularly because the 1970s was a period of worldwide recession.

Since the late 1980s and early 1990s, Thailand has witnessed renewed interest in and concern over environmental issues. Increasing enthusiasm towards meeting environmental challenges in Thailand has been reflected and reinforced under the 7th and 8th National Plans, which recognize environmental non-governmental organizations (NGOs) as important actors in environmental protection. The country has started to adopt a bottom-up approach, focusing on the concept of decentralization. The international calls, particularly from the 1992 Earth Summit, for a turnabout in attitudes toward environmental problems cannot be neglected as key external factors that catalyzed this change. In fact, at the government's initiative, Thailand saw rapid legislative and institutional improvements related to environmental protection in the first half of the 1990s. These improvements included the new 1991 Constitution of the Kingdom of Thailand and the enactment of the 1992 Enhancement and Conservation of National Environment Quality Act, which repeals the previous 1975, 1978 and 1979 Environment Acts, with the intent of improving the enforcement of environmental laws.

India. In India, the need to integrate environmental concerns into the process of economic development was voiced as far back as the late 1960s, during the formulation of the 4th Five-Year Plan (1969 to 1974), which stated that "planning for harmonious development is possible only on the basis of a comprehensive appraisal of environmental problems". Integration of environmental resource management

with national economic planning started with the 6th Five-Year Plan. The Water (Prevention and Control of Pollution) Act of 1974 has resulted in the creation of Central and State Pollution Control Boards (CPCB and SPCB) with the aim of prevention, abatement and control of water pollution. The Air (Control and Prevention of Pollution) Act of 1981 also empowered the CPCB and SPCB to deal with air pollution control. In 1986, shortly after the large Bhopal chemical disaster of 1984, the Environment (Protection) Act was enacted. This umbrella law empowers the central government to decide emission and effluent standards, restrict industrial sites, promulgate procedures and safeguards for accident prevention and handling of hazardous waste, investigate and research pollution issues, conduct on-site inspections, establish laboratories, and collect and disseminate information. The 7th and 8th Five-Year Plans recognized the issues of environmental resource preservation and sustainability as being as important as many other developmental objectives. The policies enunciated in the National Conservation Strategy and Policy Statement on Environment and Development and the Policy Statement on Control of Pollution, both established in 1992, are being pursued in the 9th Five-Year Plan (1997 to 2002).

3.2. Expansion of the role of local governments

While environmental policy formation and policy implementation in Asian countries still tend to be top-down, the role of local governments and civil society has gradually been expanding in each country.

China. China has exercised a centralized democratic system since the People's Republic of China was founded in 1949. Because environmental protection in China relies heavily on the government, environmental administrative authorities hold important positions relating to environmental governance. The State Environmental Protection Administration (SEPA) and the provincial Environmental Protection Bureaus (EPBs) are responsible for decision-making, macro-level guidance, coordination among sectors and supervision over lower levels. Town and county-level EPBs are responsible for the implementation of state policies, laws, regulations and standards; monitoring of pollution sources, supervision of reporting and registration of pollution discharge; issuance of pollution discharge permits; investigation of pollution control and collection of pollution charges. They have the duty to report to, and enjoy the right to submit proposals to, the upper levels of the government. Municipal environmental administrations, which are between the two levels, have both macro and micro functions.

China's top-down decision-making system, however, has its weaknesses. First, because the central government and SEPA make decisions while local EPBs implement policies, the overall decision-making process lacks a feedback mechanism from lower to upper-levels; this weakness may result in the inadequate reflection of the actual ground-level situation in policies and systems and in the failure to address priority problems. Second, the decision-making process provides no adequate channels for communication among decision-makers, enterprises, the public and the media. Therefore, enterprises may not take initiatives to respond to policies, and the public may not play a positive role in participation—shortcomings that may again limit the effectiveness of implementation.

In the past, due to politics and low public awareness about the environment, few environmental NGOs existed in China. The public and NGOs played minor roles in environmental governance. In recent years, however, frequent incidences of pollution accidents and their damage to public health have aroused

public concern about environmental problems closely linked to their health and daily lives, such as noise, air and water pollution. Victims have complained about degraded environmental quality. They have informed local governments about pollution discharge, and a few have even brought lawsuits against polluters, placing a certain degree of pressure on local governments. Organized civil protest on environmental issues, however, has not yet emerged in China.

Thailand. The Thai government adopted Western concepts, including those in the field of natural resource management. In 1896, the Department of Royal Forestry was established and decreed that all forests in the country belonged to the government. In 1940, the government implemented the National Forest Act, which re-stated that all forests in the country belonged to the government. As a result of this policy, natural resource management depends, by and large, on governmental decisions and policies. An environmental movement emerged in the 1970s and 1980s, however, in which the people challenged the bureaucratic and military elite. A scandal in April 1973 involved military police using publicly owned guns and helicopters for illegal poaching in the Thung Yai Naresuwan Wildlife Sanctuary, an area protected under the Wildlife Conservation Law. Significant changes in the government's position on environmental problems could be observed in the 1990s, partly in response to an increasingly organized people's movement concerning environmental issues.

The 1992 Enhancement and Conservation of National Environment Quality Act recognizes certain legal rights and duties of Thai citizens in relation to the protection of the environment, and also allows NGOs—Thai or foreign—that are directly engaged in environmental protection activities to register as "environmental NGOs". Thailand's 8th National Plan (1997 to 2001) was the first national plan that called for public participation in decision-making processes at the sub-district, district and provincial levels in Thailand. Public awareness of Thailand's environmental conditions has increased partly as a result of media coverage. The media have extensively cooperated with NGOs in almost every environmental and developmental area to ensure that the issues reach the political agenda. Wide media coverage on environmental issues has created a huge impact on society, gaining official responses, the cooperation of related sectors and public concern. The frequency of environmental disputes has caused the government to gradually change its attitude about local people's protest movements. In recent years, some protesters have achieved actual changes in their favor. In 1988, the construction of the Nam Choan Dam was suspended; in 1995, local communities received compensation for damages after the construction of the Pakmum Dam; also in 1995, the plan to build a waste-burning electric power generation plant in Hangdong was withdrawn. These events received wide media coverage, which may have given people the courage to raise even more issues concerning the environment.

India. The Indian Constitution classifies various legislative subjects into three categories: union list, state list and concurrent list. The legislation in the union list is enacted by the Indian parliament, while the state list legislation can only be enacted by the state legislatures. The concurrent list specifies the subjects that are to be looked after jointly by the central and state governments. For example, while water supplies, irrigation and canal drainage are within state jurisdiction, the regulation and development of interstate rivers and river valleys are subjects for the central government to address. Forests and protection of wild animals and birds are examples of subjects in the concurrent list. When the central government enacted the Water Act of 1974, because the Parliament has no power to make such a law for the

states, it had to resort to Article 252 of the Indian Constitution, which allows the Parliament to act at the request of the states. The environmental policy was explicitly incorporated into the Indian Constitution in 1976.

Under India's federal structure, the central government exercises much more power to legislate measures for environmental issues than suggested by the description of powers in the Indian Constitution. The central government has controlled most of the resources, while the states, deprived of resources, have had to represent regional interests and stake claims for resources controlled by the central government. In addition, in the course of its articulation, political power has become more centralized and bureaucratized in the central government. As a result of these conditions, the policy process relating to environmental protection is heavily centralized (Sapru 1998).

The implementation of environmental policy in India faces a variety of difficulties at the state level. For example, 75 percent of polluting effluents by volume in India comes from the domestic sector. The municipal authority or the village *panchayat* has the responsibility of collecting and treating the wastewater. Domestic sewage, however, is not adequately treated due to an absence of basic amenities, such as sewage systems and sanitary services. Other sources of problems include the absence of implemented legal requirements, insufficient financial resources to provide needed amenities and, in some cases, lack of awareness among the public.

3.3. Lack of integration between environmental policy and economic planning

In Asian countries, environmental policy still tends to be separate from the economic planning process. Integrating environmental thinking into economic planning is necessary. The key issues for achieving this are how economic instruments can be used for environmental purposes, and how inter-ministerial cooperation can be enhanced in each country.

China. In addition to the State Environmental Protection Administration (SEPA), other administrative authorities of the State Council are responsible for the protection of resources in China, such as the Ministry of Agriculture, the Ministry of Water Conservation and the National Marine Agency. Sectoral authorities of the State Council, such as the Ministry of Chemical Industry and the Ministry of Metallurgical Industry, are in charge of pollution prevention and control within each sector. Local Peoples' Governments have the same administrative structure as the State Council. The lower level is subordinated to the upper level. In the case of water pollution, the Ministry of Water Conservation holds the main responsibility for the protection of water resources, including development and protection of main river basins, planning of water supply in major cities, construction of irrigation works, implementation of water and soil conservation, and construction and management of reservoirs. Under the Ministry of Water Conservation, there are 7 water basin Commissions who are mainly responsible for the coordination of cross-regional water conservation. Each province, city and county sets relatively independent units for water conservation under its jurisdiction. The SEPA is responsible for the formulation of regulations and standards for water pollution prevention and for water quality protection. Local EPBs are responsible for the execution of laws, regulations and standards and the monitoring and supervision of pollution sources.

Moreover, the Ministry of Construction and its corresponding local units are responsible for water supply and sewage collection and treatment. The Ministry of Public Health is responsible for monitoring the quality of drinking water and the incidences of relevant diseases. The basic feature of environmental water management in China is that the SEPA is in charge of overall supervision and coordination, while each institution has independent functions and responsibilities. Such a mechanism can make full use of initiatives in each sector. It is difficult, however, to coordinate among various sectors, and overall supervision is lacking. Cross-provincial disputes cannot be settled easily or promptly.

A system of pollution charges in China has been implemented since 1979 as a major economic incentive for environmental governance. The total charges increased from 1.2 billion Chinese yuan in 1986 to 2.7 billion in 1993. The system of pollution charges in China, however, has not been able to adapt to economic development under market conditions. The system could not create effective incentives for pollution control because the rates of pollution charges were low compared to the operating expenses of control facilities. On the other hand, pollution charges are major sources of administrative funds for most local EPBs. Bargains between EPBs and enterprises on pollution charges have made the system vulnerable. Reform of the pollution charge system in China will be high on the agenda in the future.

Thailand. In the long-established governance structure in Thailand, powers and responsibilities are divided among a number of ministries and departments at the level of the central government, while lower levels of government have traditionally had rather limited powers. Despite the government's emphasis on environmental legislation, the implementation of environmental law has proved to be difficult. For example, in general, the Ministry of Agriculture and Cooperatives has the main responsibility for the protection of water resources. However, the Ministry of Science, Technology and Environment (MOSTE); Ministry of Public Health and the Ministry of the Interior also house agencies responsible for monitoring and controlling water quality. Specifically, with respect to industry, the Department of Industrial Works (DIW), under the Ministry of Industry, retained its role in 1992 as the primary environmental enforcement agency. Under the 1992 Enhancement and Conservation of National Environment Quality Act, however, the Pollution Control Department (PCD) is empowered to determine environmental regulations when it considers the DIW not to be enforcing environmental regulations firmly enough. A wide range of ministries and government agencies has jurisdiction over more than 70 environmental laws enacted since the 1920s. This overlap of responsibilities has created cross-jurisdictional problems and inter-agency tensions in certain areas. One of the weaknesses of the monitoring system is the ambiguity of water quality standards. For example, two different government agencies in Thailand implement two different regulations with respect to biological oxygen demand (BOD), a unit of measure of water pollution. The Office for Environment Policy and Planning (OEPP) indicates that the BOD should be no more than 60 mg per liter, while the DIW allows up to 100 mg per liter of water discharged.

In Thailand, a twenty-year Environmental Quality Promotion Policy was approved in 1997, under which a Five-Year Environmental Quality Promotion Action Plan is being prepared to achieve policy targets. The new Environmental Quality Promotion Policy forms the core basis for the government to consider natural resource management and environmental protection issues in coordination with economic and social development policy. Sectoral ministries, in coordination with the National Environ-

mental Board (NEB), implement the government's environmental programs. A number of mechanisms are used to ensure that the programs and projects implemented by both governmental and non-governmental agencies comply with the environmental policies and laws. The most commonly used tool is the establishment of standards and sanctions. Other mechanisms being experimented with include the use of environmental impact assessments (EIA) as a part of project planning, the adoption of economic instruments based on the polluter pays principle (PPP), and the development of appropriate social and environmental development indicators at different levels to monitor progress towards sustainable development of the country. The introduction of market-based instruments such as the PPP in Thailand, as reflected in the 7th and 8th National Plans and the 1992 Enhancement and Conservation of National Environment Quality Act, ideally provides incentives that will encourage enterprises to adopt production processes and consumers to buy goods that cause less environmental damage. Although the PPP has been accepted into the government's environmental policy at present, no comprehensive system of pollution charges or incentives for firms to reduce their pollution has been established.

India. The legal provisions of the legislation in India relating to the environment are mostly command-and-control types of regulatory measures. The poor quality of air and water in many parts of India prove that these measures have not worked. This is because legislation that is not or cannot be implemented is ineffective. Over the last two decades the Pollution Control Boards (PCBs) have initiated thousands of court cases against polluting industries but have obtained only a handful of convictions. For example, in Rajasthan, only 2 convictions have been obtained out of nearly 7,000 cases. The PCBs are poorly staffed, lack technical facilities to measure and monitor pollution, have meager financial resources and are subject to political pressure. For pollution control in the industrial sector, the present policy relies on industry-specific emissions and effluent standards based on the best available technology. However, industries often do not reveal their best possible performance capabilities and thereby obtain lax standards. Further, in the case of water pollution, effluent taxes are levied in proportion to the volume of the effluent and not to the pollutant concentration of the effluent. This arrangement fails to encourage industry to reduce pollutant concentrations. A more appropriate policy would be to measure pollutant quantities and levy taxes at rates that rise with these quantities. This method would provide industry with incentives to clean up their emissions and effluent. Such a simple economic solution is opposed on the grounds that effective measurement and monitoring are not feasible. However, in the absence of such monitoring, India's present policy is ineffective, as the PCBs are unable to obtain many convictions in the courts.

3.4. Problems with industry noncompliance

In Asian countries, industry has a growing role in environmental governance. Because small firms in particular have been large sources of environmental pollution, serious attention should be paid to problems with bringing them into compliance.

China. Generally, most enterprises in China have passive attitudes toward pollution prevention. Environmental awareness among enterprises is still low. According to the Resolution on Environmental Protection of 1984 adopted by the State Council, large and medium-sized enterprises are required to establish environmental units or designate regular staff for environmental work within each enterprise. Large-

scale enterprises usually invest more into pollution control than small and medium sized enterprises. The industrial sector is the major contributor to achieving rapid economic growth in China. In particular, the positive roles played by Township and Village Enterprises (TVEs) cannot be neglected. In recent years, their share of total industrial production has risen to 27 percent. Thus, pollution generated by the TVEs has become a growing factor in many environmental problems. However, enforcement of pollution standards is uneven because large and medium government-owned enterprises are the only targets of environmental monitoring, pollution charges and fines, while small-scale enterprises escape from liability and TVEs are excluded from environmental monitoring and pollution charges.

Thailand. Before the 1980s, businesses and environmentalists in Thailand were often assumed to be structurally and strategically in opposition in major environmental debates, rather than in alliance. This was often true worldwide, and some of the early struggles in Thailand reflected this tendency, as in the campaign against the Union Carbide-dominated Thailand Exploration and Mining Corporation (TEMCO) from 1974 to 1975. More recently, business has been regarded as a partner in caring for the environment. At the national level, a number of prominent businesses, groups and individuals have adopted environmentalist positions in one form or another. The best known individuals who have committed to making industrial practice compatible with environmental initiatives are Sophon Suphaphong, President of Bangchak Petroleum, and Pornthep Pornprapha, President of Siam Motors. Nevertheless, although factories, industrial estates, large commercial buildings, hotels, restaurants and large condominiums are required by law to treat their wastes on-site, the wastes are, in most cases, released directly into the water without treatment. While most factories and industries comply with regulations requiring installation of treatment systems, many do not actually use them because the annual cost of operating treatment systems exceeds the annual capital cost of purchasing treatment equipment. Instead they discharge untreated or barely treated wastewater, increasing BOD loads in the already overburdened surface water. Moreover, in the wake of an economic crisis, the Thai government has cut the government's budget for environmental infrastructure by one third, to 3 billion baht.

India. Similarly, a large number of small-scale industrial facilities (including unorganized and household units) are not adequately addressed in India's current pollution abatement policy. With regard to providing fiscal incentives, such as financial assistance for establishing common effluent treatment plants or for adoption of clean technologies, the main problem is the lack of incentive mechanisms to induce firms to take advantage of these schemes. In the absence of strict enforcement of discharge standards, polluting industries have no reason to voluntarily avail themselves of the fiscal incentive schemes.

4. Actors in environmental governance

Although there is diversity in governmental structures, environmental governance has not fully developed in Asia because the central government remains the most important actor in environmental governance in Asian developing countries. The central government still plays a strong role in Asian environmental governance for two reasons. First, the nature of environmental pollution itself makes public intervention, to some extent, indispensable for dealing with environmental problems. Thus, market mechanisms are not always panacea for solving environmental problems. Second, these environmental gover-

nance structures were established at a time when many Asian developing countries adopted centralized political regimes in which the central government held a dominant position over local governments. The power of local governments was limited, and in many cases the central government had the power to designate local governors. During this period after World War II, centralization of power might have been an unavoidable choice for Asian developing countries to maintain national order and to catch up with Western society.

While environmental problems are a newly emerging issue within Asian societies, more traditional actors also have been involved in environmental governance. In Thailand, the monarchy is a unique force in promoting Thailand's commitment to environmental protection. Royal projects have had high environmental profiles for some time, particularly King Bhumibol Adulyadej's development projects among highland ethnic minorities. In an important speech delivered by the King on the 4th of December 1989, one day prior to his birthday, he referred to the massive floods and landslides that occurred in November of 1988 in the southern part of Thailand. He declared the need for the whole nation to embark on a campaign to plant trees and protect nature in order to prevent natural disasters. At the beginning of the following year, the government designated the 4th of December as National Environment Day, and it has now became an established custom to plant a large number of trees on national holidays and to hold commemorative ceremonies for the purpose of preserving forests across the nation.

In India, traditionally, rural communities have used the village *panchayat* system. The *panchayats* are representatives of people from various sectors of society, and decisions made by the *panchayats* are to reflect the consensus of the community (Jain 1998). The *panchayats* are in charge of matters related to agriculture, land, animal husbandry, irrigation, housing, roads, etc. Collection and treatment of wastewater in the domestic sector are also the responsibility of the village *panchayat*. In addition to the *panchayat* system, decisions of the justice system also influence decision-making in the Indian government. In the field of the environmental protection, the Delhi High Court responded to the increasing pollution hazard from fly-ash by issuing a notice to various government departments that called for better management of fly-ash disposal.

In addition to the above actors, many new environmental actors emerged and contributed to the progress of Asian environmental governance in the 1990s. A good example is the civil society movement in Thailand. This movement, reflecting the people's dissatisfaction with the Thai government's development planning as well as with its unsustainable model of development, has shifted the debate about development. Civil society, through bottom-up advocacy, has put the environment on the development agenda. The 1992 Enhancement and Conservation of National Environment Quality of Thailand is an advanced example of legislation in Asia which formally recognizes the existence of Thai and foreign NGOs directly engaged in environmental protection activities. Similarly, numerous NGOs have been organized in India, and their activities have covered various aspects of environmental problems. For example, the Chipko movement in the Uttar Pradesh hills and the Appiko movement in Western Ghats of Karnataka were launched against tree-felling for commercial purposes, and environmental movements were launched against the construction of dams over Bhagirathi in Uttar Pradesh, Subernarekha in Bihar, and Narmada in Madhya Pradesh.

In contrast, China still lacks a proper mechanism for bringing the public into full participation. More recently, the amended Law of Water Pollution Prevention and Control of 1996 stipulated that environmental assessment reports for new construction projects should include opinions from local citizens and other institutions. If this procedure were to work properly, it would be an epoch-making step forward for China's environmental governance system. At the same time, the strengthened role of the media in China's environmental governance represents noteworthy progress. The media has begun to play a positive role in revealing environmental violations, informing the public and reporting pollution accidents, and thus, in turn, influencing business behavior and governmental decisions. The Long March of Environmental Protection, a special documentary film co-produced by China Central Television (CCTV) and the National Environmental Protection Agency (NEPA), received nationwide coverage in 1994 and portrayed the state of the environment, both environmentally friendly and unfriendly business behavior and ecological degradation. Another example of media participation is the weekly reporting system. In 1997, the NEPA promoted a weekly reporting system on urban air quality. As a result, many cities have been issuing their air quality reports via media such as the newspaper.

5. Processes in environmental governance

When compared to the past records of developed countries, the tempo of institutional development of environmental policy in Asian developing countries has been faster than that of their economic growth (Harashima and Morita 1998). Such rapid institutional developments are mostly due to imitation of policy measures of developed countries. Since the 1980s, international agencies such as the World Bank and United Nations agencies have taken an interest in environmental problems because of the threat of environmental deterioration. After World War II, policies of Asian developing countries have relied on development assistance from international agencies such as the World Bank, and their development planning processes have been greatly influenced by these agencies.

In the same way, environmental policy processes have also been influenced by international agencies, and many Asian countries' governments have conducted environmental programs financially supported by those agencies. Asian developing countries generally use environmental impact assessments (EIA) as a part of project planning and have adopted economic instruments based on the polluter pays principle. Many of these mechanisms imitate those advocated by international agencies. Because of their foundation in existing tools of developed countries, these mechanisms have little regard for differing cultural, economic, environmental, political and social contexts. A common and serious problem for Asian countries is the ineffectiveness of environmental policy implementation. The reasons are financial shortage, overlap of administrative authority, insufficient communication between the public and private sectors and lack of economic incentives for firms to reduce pollutants.

While environmental policies, which are institutionalized in formal processes, have not always worked effectively in Asian countries, campaigns for environmental protection are increasingly organized both formally and informally. As mentioned above, a weekly reporting system on urban air quality in China, which aroused the attention of municipal governments, stimulated public concern and increased the environmental awareness of enterprises. A reforestation project to mark the fiftieth anniversary of the

coronation of the Thai king is another good example. Though this project has not achieved its target yet, as an initiative by the Royal Family, the highest national authority in Thai society, it is influential in raising public awareness for environmental protection. Similarly, India's experience suggests that concerted awareness campaigns targeting all concerned stakeholder groups and conflict resolution mechanisms at the protected area level can go further in assisting biodiversity conservation than ineffective conservation laws and policies. In this regard, Thailand is preparing a new community forest law, under which communities will have rights to forest resources and will be responsible for managing the forest resources under their jurisdiction.

Informal negotiations between governmental agencies and polluters can be observed in the process of environmental policy implementation in Asian developing countries. In Samut Prakarn, a major industrial province in Thailand located at the mouth of the Chao Phraya River, the wastewater management component of its pollution control action plan has proposed a central wastewater treatment system for the province that would treat water from both industrial and domestic sources. This wastewater management project would involve a public-private partnership that involves the government contracting the design, construction, operation and maintenance processes to a range of companies. At the same time, persisting dissatisfaction with the government's development planning process has triggered grassroots movements. In 1997, for example, Samut Prakarn communities protested plants in Bangphli, Samut Prakarn that released hazardous waste into public areas causing eye irritation and respiratory problems to local residents. The Bangphli district and the provincial office negotiated with the plants and demanded the end of the practice.

Recently, even Asian developing countries have recognized the limitations of environmental programs initiated by the central government. New types of environmental programs have been launched with the participation of various actors, such as local governments. As mentioned above, water basin commissions are organized under the Ministry of Water Conservation in China, and they are mainly responsible for the coordination of cross-regional water conservation. In particular, the Leading Grouping on Water Resource Protection of Huaihe River Basin, which is composed of members from the State Environmental Protection Administration (SEPA), Ministry of Water Conservation and four Provinces, was established. In August 1995, the State Council promulgated and implemented the Temporary Regulation on Pollution Prevention and Control of Huaihe River Basin, the first environmental regulation for river basins. Because the Chinese government attached great importance to Huaihe River and local governments strictly implemented policies and laws, 1,111 pulp-making factories with annual capacities below 5,000 tons and another 3,678 seriously polluting small-scale enterprises were shut down or stopped production in four provinces. In response to these actions, newspapers, radio and television stations reported the stories. Citizens participated in monitoring and reporting. At the end of 1997, the target was basically achieved, setting a good example for water pollution control.

6. Concluding observations

The essential findings of this note can be summed as follows. First, environmental governance systems in Asia have not yet developed satisfactorily at the national level. In accordance with the govern-

mental structures of each country, more traditional actors such as the Royal Family, the judicial system and the village *panchayats* have played a certain part in environmental governance. Moreover, new actors such as environmental NGOs and the media have also been emerging, particularly during the 1990s. Second, the potent influence of initiatives by international agencies is broadly felt in the environmental policy processes of Asian developing countries. Many Asian countries have introduced policy mechanisms adopted previously in developed countries. In contrast to the past dominance of formal institutions, a combination of both formal and informal campaigns for environmental protection has to some extent succeeded. New types of environmental programs, which involve various actors other than the central government, also have been initiated in Asian countries.

The above findings imply that environmental governance systems in Asia have combined inherent Asian systems with forms of environmental governance from Western industrialized countries. Recently, institutional styles similar to those of developed countries are increasingly being adopted in Asian countries, and this may become the predominant trend. Though environmental governance and policies of Asian countries are likely to become more similar in style to those in industrialized countries, the actors and processes involved in decision-making and the implementation of environmental governance are not always the same as in developed countries. This suggests that more in-depth analysis of environmental governance systems in Asian developing countries is necessary.

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