Governance for Sustainable Development in Southeast Asia: Means, Concerns, and Dilemmas

M. Shamsul Haque

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Introduction

In the current age, although the field of state-centric development studies or development economics has come under challenge in an anti-state global atmosphere, there is an increasing proliferation of policies, institutions, debates, and publications related to the so-called "sustainable development". To a great extent, due to its integral linkage with the environment, the idea of sustainable development has gained worldwide recognition with the growing concern for natural disasters, non-renewable resources, ecological dangers, and unpredictable environmental catastrophes (Brown, 1990; Haque, 1999; Hempel, 1996). In fact, the principle of sustainable development has gradually become so widely accepted, legitimized, and entrenched that its conceptual controversies and theoretical debates seem to have become less significant than the concerns for its actualization or implementation through appropriate modes of governance at the international, national, and local levels. Due to the borderless nature of environmental sustainability, it requires almost all nations to adopt appropriate policies, programs, and institutions in compliance with various international agreements, conventions, and protocols. In this regard, there is a growing emphasis on how to pursue a mode of governance that is conducive to sustainable development. In examining this issue, it is necessary to briefly illustrate the connotations of sustainable development and governance, and explain the nature of relationship between them.

In general, sustainable development is understood as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987:8). Beyond this common definition, in existing literature, there are diverse interpretations of sustainable development: as economic development that is conducive to environment and society, as improvement in present living standards without constraining future living conditions, as optimization of current

socioeconomic benefits without jeopardizing similar benefits in the future, and as development that emphasizes inter-generational and inter-group equity (Noman, 1996; Barrow, 1995; Haque, 1999). However, what remain most central to the sustainability debate are various environmental or ecological concerns, including rapid resource depletion, excessive waste accumulation, and fast decline in biological diversity (Dovers, 1989:33). According to the *Rio Declaration on Environment and Development* emerging from the Earth Summit (1992), "In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it" (Lebel and Steffen, 1998).

Governance, on the other hand, is the exercise of a nation's political, economic, and administrative powers or authorities at various levels, and it covers the institutional and procedural mechanisms for citizens to actualize their interests and rights, carry out their obligations, and negotiate their mutual difference (UNDP, 1997). When such governance is based on participation, accountability, transparency, equity, rule of law, and partnership, and it can be portrayed as "good governance", which is considered essential for environmental protection and sustainable development (UNDP, 1997). In fact, these major features of governance, e.g. participation, rule of law, transparency, and partnership, are emphasized in the tenth chapter (entitled "Institutional Frameworks for Sustainable Development") of *Plan of Implementation*, which is a multilaterally agreed document emerging from the World Summit on Sustainable Development (Johannesburg, 2002) (Gardiner, 2002).

It should be mentioned, however, that governance for sustainable development affects diverse stakeholders, involves multiple actors, and operates at all levels. As Carley and Christie (2000:12) mention, "Sustaining the common resources for the benefit of present and future generations will depend very much on how governments, in partnership with all sectors of civil society, organise, coordinate and implement policy at all levels of action: the international, national, ecosystem, and town and village levels" (Carley and Christie, 2000:12). Among these stakeholders and actors of governance, while the state still plays a crucial role in creating an "enabling environment for sustainable human development", in recent years, there is greater recognition of the role played by non-state actors, especially private firms, non-profit institutions, and community-based grassroots organizations, in this endeavor (UNDP, 1997).

In line with this contention related to the need for restructuring governance for sustainable development, the recent two decades have witnessed a mushroom growth of international institutions, regional associations, national agencies, and local organizations created for making policies, implementing programs, and enforcing conventions related to environmental sustainability. In this regard, it was concluded at the World Summit on Sustainable Development (2002) that despite all the measures adopted for sustainability, there was no significant progress in environmental conditions: there is continuing loss of biodiversity, depletion of fish stocks, desertification of land, pollution of air and water, and greater frequency of severe natural disasters (WSSD, 2002). This inconsistency between the mission of new governance for sustainable development on the one hand, and the worsening indicators of environmental sustainability on the other, implies the need for more critical studies on the issue.

In the above context, this article attempts to examine the systems of governance for sustainable development in Southeast Asia. The region is important to explore the issue for various reasons. *First,* the region has global ecological significance, because its humid tropics may have considerable impact on land-use changes, climate variations, biogeochemical cycles, and nutrient and water cycles with worldwide consequences (Lebel and Steffen, 1998). It is estimated that about two-thirds of the world's tropical rain forests are in South-East Asia (Lim and Valencia, 1990). *Second,* most countries in the region have adopted considerable local, national, and regional measures of governance for environmental sustainability (Dupar and Badenoch, 2002), but they continue to suffer from some severe forms of environmental disorders. According to one estimate, the cost of environmental remedies in Southeast Asia may amount to nearly 5 percent of its Gross Domestic Product or GDP (ESCAP, 2003:21).

Third, the region is internationally known for its economic success based on the economic-growth principle, export-led production, intensive industrialization, and rapid urbanization, and such a success model itself requires critical study in terms of its adverse implication for long-term sustainability (Angel, 1998:2). Finally, the credibility of the region's economic success is under challenge due to its recent financial crisis, and this crisis has implications for worsening unemployment, increasing people's dependence on environmental resources, and thus undermining sustainable development (Cylke, 1998:3-5). The article begins with an

overview of the system of governance for sustainable development in Southeast Asia. It then explains how the relative failure of such governance continues to be evident in the region's experience with various environmental predicaments, and how this lack of success in environmental governance may have been caused by other dimensions of governance, including the region's excessive concern for economic growth, urban and industrial expansion, lifestyle based on consumerism, and so on. It concludes by suggesting some policy alternatives with a view to achieve a more effective mode of governance for sustainable development.

Levels and Measures of Governance for Sustainable Development in Southeast Asia

Southeast Asia consists of countries such as Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, which are extremely diverse in terms of territorial size, demographic composition, economic development, political system, and cultural and religious identity (Soegiarto, 1994). However, they share some common interests and face similar challenges with regard to environmental sustainability. In terms of governance for sustainability, although each country in the region has its own national and local sets of policies, rules, and institutions, they often exchange experiences, share information, and pursue collective initiatives at the regional and international levels. In discussing the major means and dimensions of governance for sustainability in Southeast Asia, it is crucial to adopt a multi-level approach involving various initiatives undertaken at the international, regional, national, and local levels (see Carley and Christie, 2000:18).

First, at the international level, there have emerged various conventions, protocols, and agreements related to environmental sustainability, which are to be followed by most countries, including those in Southeast Asia. The examples of such international measures include the Vienna Convention for the Protection of the Ozone Layer (1985), the Montreal Protocol on Substances that Deplete the Ozone Layer (1987), the Agenda 21 (1992), the UN Framework Convention on Climate Change (1992), the Convention on Biological Diversity (1992), the Convention to Combat Desertification (1994), the UN Framework Convention on Climate Change or the Kyoto Protocol (1997), and so on. In enforcing these

measures, there are well established international bodies like the United Nations Environment Programme**,** the United Nations Commission on Sustainable Development, the Climate Change Secretariat, the Secretariat of the Convention on Biological Diversity, and the Secretariat of the Convention to Combat Desertification. Among the ten countries in Southeast Asia, the Convention on the Law of the Sea has been signed or ratified by all; the Convention for the Protection of the Ozone Layer has been signed or ratified by all except Cambodia; and the Convention on Climate Change and the Convention on Biological Diversity signed or ratified by all except Brunei (Earth Council, 1997; Task Force, 2001). In addition, the Agenda 21 has been followed in cases like the Philippines, Indonesia, and Thailand (Earth Council, 1997); and some national biodiversity action plans and strategies have been formulated and adopted by Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam (UNESCAP, 2000b).

On the other hand, there are many international sources providing financial and technical assistance to Southeast Asian countries in order to enable these countries to develop environmental management and practice a sustainable mode of development. For instance, the U.S. Agency for International Development has assisted the Clean Industrial Production Program in Indonesia; the Industrial Environmental Management Project and the Environment and Natural Resources Accounting Project in the Philippines; and various projects related to biodiversity, coastal resource management, toxic waste, and air pollution in Thailand (US-AEP, 1997d). The United States-Asia Environmental Partnership (US-AEP) has provided financial support to environmental exchanges, clean technologies, and training programs in cases like Indonesia, Singapore, Thailand, and the Philippines (US-AEP, 1997a; 1997b; 1997c). Similar environment-related assistance is also received by most Southeast Asian countries from the governments of developed nations (e.g. Australia, Canada, Japan, Germany, and Netherlands) and donor agencies like the Japanese International Cooperation Agency, the German Agency for Technical Cooperation, the Danish International Development Agency, and so on (US-AEP, 1997a, 1997d). These are some examples of many of such external sources of financial and technical supports that constitute a part of the international dimension of governance for sustainable development in the region.

Second, at the regional level, it is possible to identify some major initiatives and institutions introduced by Southeast Asian countries in

pursuing development based on environmental sustainability. The areas of interstate cooperation in the region include sustainable forest management, freshwater resources, land and forest fires, transboundary haze pollution, coastal and marine environment, environment-friendly technology, environmental education, and so on (ESCAP, 2003:26). One major avenue for pursuing discussion and collaboration in this regard is the regular use of ministerial conferences. The major outcomes of the 1995 Ministerial Conference on Environment and Development in Asia and the Pacific were "the Ministerial Declaration on Environmentally Sound and Sustainable Development in Asia and the Pacific and the Regional Action Programme for Environmentally Sound and Sustainable Development, 1996-2000" (UNESCAP, 2001a:1). The main objective of the 2000 Ministerial Conference on Environment and Development in Asia and the Pacific, on the other hand, was to review the findings about the trends of environment and development in the Asia-Pacific region emerging after the Regional Action Programme (1996-2000), and to develop the new "Regional Action Programme for Environmentally Sound and Sustainable Development, 2001-2005" (Ibid.).

The Association of Southeast Asian Nations (ASEAN) remains one most active entity to foster regional cooperation for the environment and sustainable development (Task Force, 2001). In this regard, there are institutional means such as the ASEAN Committee on Science and Technology (especially its Sub-Committee in Marine Science), the ASEAN Senior Officials on Environment (ASOEN), and the ASEAN Fisheries Forum (Soegiarto, 1994). Under the ASOEN, there are three Working Groups dealing three major dimensions of environmental sustainability—including Working Groups on Nature Conservation and Biodiversity, Coastal and Marine Environment, and Multilateral Environmental Agreement—as well as the Haze Technical Task Force (ESCAP, 2003:27). Among the more recent ASEAN initiatives are the Cooperation Plan on Transboundary Pollution (1995) and the Action Plan on the Haze (1997), which prescribe greater cooperation among Southeast Asian countries for the prevention, fire-fighting, and monitoring (Tay, 1998). In response to severe haze pollution in 1997, the ASEAN introduced the Hanoi Plan of Action (1999-2004), which reinforced the commitment of its member states to implement the above Cooperation Plan on Transboundary Pollution and the Action Plan on the Haze (UNESCAP, 2001a:5). Moreover, the ASEAN Regional Centre for Biodiversity Conservation attempts to generate

awareness and develop networks related to biodiversity conservation in the region (UNESCAP, 2000b). One of the main objectives of the recently launched ASEAN Vision 2020 is to achieve “a clean and green ASEAN with fully established mechanisms for sustainable development to ensure the protection of the region's environment, the sustainability of its natural resources, and the high quality of life of its peoples” (Task Force, 2001:224).

Another source of regional cooperation for environmental sustainability is the Asia-Pacific Economic Cooperation (APEC), which although is basically an economic bloc, has two Working Groups (out of ten) dealing with the Conservation of Marine Resources as well as Fisheries (Soegiarto, 1994). Since most Southeast Asian countries (except Myanmar, Laos, and Cambodia) are APEC members, they are partners in its “Action Plan for Sustainability of the Marine Environment” (which aims to prevent and control marine pollution) and its Cleaner Production Strategy (which promotes more environment-friendly policies and technologies) (Lebel and Steffen, 1998). Another regional institution is the Mekong River Commission (comprised of Cambodia, Laos, Thailand, and Vietnam), which plays a role in water allocation and flood control, and deals with environmental issues associated with water management (Badenoch, 2002:8). Some other organizations associated with the regional-level governance for environment and sustainable development include the Southeast Asian Fisheries Development Center which is involved in research and training in fisheries; the Acid Deposition Monitoring Network in East Asia which helps monitor the acidification of the environment caused by sulphur dioxide emissions in East and Southeast Asia; the network for the Transfer of Environmentally Sound Technologies which facilitates sharing of information (about the environmental impacts of certain technologies) among Asian nations, including Southeast Asian countries such as Indonesia, Malaysia, Philippines, Thailand, and Vietnam (UNESCAP, 2001a, 2000b; Soegiarto, 1994).

Third, at the national level, governments in Southeast Asia have adopted various policies and established institutions to manage growing environmental problems and achieve development based on sustainability. In Brunei, the environment or sustainable development has gained increasing significance in its National Development Plans. For instance, the Fifth National Development Plan (1986-1990) set certain environmental objectives like forest conservation, biodiversity, and wasteland protection;

the Sixth National Development Plan (1991-1995) adopted the principle of sustainable development as a part of overall national development; and Seventh National Development Plan (1996-2000) stressed the sustainable use of natural resources, reduction in population pressure on the environment, and balanced economic development in favor of environmental quality (Environment Unit, 2004). The state institutions to carry out these policies and programs include the Environment Unit (Ministry of Development) and the National Committee on Environment chaired by the Minister of Development. laid

Similarly, in the case of Malaysia, the government adopted long-term Outline Perspective Plan (1991-2000) as well as few medium-term (five-year) Malaysia Plans, which increasingly recognized the importance of environmental sustainability. For example, the Sixth Malaysia Plan (1991-1995) incorporated some principles of the Earth Summit's Agenda 21; and the Seventh Malaysia Plan (1996-2000) put greater emphasis on sustainable development and environmental management, especially under the overall guidance of the country's National Policy on Environment (Government of Malaysia, 1997). Realizing the increasing environmental dangers, the Malaysian government made some amendments to the Environmental Quality Act adopted in 1974 (US-AEP, 1997b). The main organizations responsible for such environmental policies and programs are the Economic Planning Unit, Prime Minister's Department; Ministry of Science, Technology and Environment; and the National Development Council.

In Indonesia, the government developed the Forestry Action Plan in 1992, the National Biodiversity Action Plan in 1993, and the environment issues became a major component of the country's 25-Year National Development Plan (1991-2015) (Task Force, 2001). The government also adopted a series of programs and strategies in favor of environmental sustainability, including the Blue Sky Program, the Prokasih (Clean Rivers) Program, the Cleaner Production Program, Environmental Impact Assessment, the Clean City Award, and so on. The main institutions that are directly or indirectly involved in formulating, implementing, and assessing such environmental policies and programs in Indonesia include the Environmental Impact Management Agency (BAPEDAL) under the Ministry of Environment, Ministry of Industry and Trade, Ministry of Public Works, Agency for the Assessment and Application of Technology,

and so on (US-AEP, 1997a). However, it is BAPEDAL that plays the most crucial role in environmental management in Indonesia.

In the case of the Philippines, the government has adopted the Philippine Agenda 21 with a view to achieve sustainable development by integrating it into socioeconomic planning, allowing participation of all stakeholders, and adopting a comprehensive system of evaluation and monitoring (GOP, 1997). In fact, the government introduced the Philippine Strategy for Sustainable Development quite early in 1989, and it became a major part in the country's overall National Environmental Action Plan ratified in 1990 (US-AEP, 1997b). In line with the Clean Air Act (1999) requiring industries to decrease emissions, the Clean Air 2000 Program was introduced by the government to reduce the worsening vehicular air pollution (US-AEP, 2002). The state institutions dealing with such environment-related provisions and programs in the Philippines include the Department of Environment and Natural Resources, the Environmental Management Bureau, the Pollution Adjudication Board, and so on.

In Singapore, the government launched the Singapore Green Plan (SGP), which is considered the "environmental master plan" indicating government achievements related to environment and mapping out government policies and programs for future environmental concerns and issues (Government of Singapore, 1997). The purpose is to transform Singapore into a "model green city". There are various laws in Singapore with regard to any form of pollution (air, water, noise, etc.), and there are heavy penalties for violating these environmental rules (US-AEP, 1997c). The institutional responsibilities for the environment lies with the Ministry of Environment, including environmental regulation, enforcement of emission standards, environmental monitoring, and public awareness campaigns.

In the case of Thailand, the environmental regulations are included even in its new Constitution introduced in 1997, which is supposed to make such regulations more effective (UNESCAP, 2000b). The Thai government adopted the National Environmental Quality Act, the Hazardous Substances Act, and the Enhancement and Conservation of Environmental Quality Act in 1992 for enhancing environmental sustainability. It also introduced new plans and strategies for environmental management and sustainability, especially under its "Environmental Management Master Plan 1999–2006" (Bateman, 1999a). There are more specific environmental programs in Thailand, including Industry and Environment Program (for waste

minimization, improvement in environmental quality, and clean technology); National Resources and Management Program (for exploring problems and policies related to natural resources management); and so on (Earth Council, 1997). The most crucial government organization for dealing with all these environmental provisions, programs, and concerns is the Ministry of Science, Technology, and Environment under which there are more specialized units like the Office of Environment Policy and Planning, the Pollution Control Department, and the Environmental Quality Promotion Department (US-AEP, 1997d). In addition, there is an inter-ministerial body like the National Environmental Board headed by the prime minister, which approves environmental action plans and quality standards, recommends policy measures, and supervises environmental funds (ibid.).

Other Southeast Asian cases have also developed considerable policy initiatives and institutional mechanisms for environment and sustainable development. For example, Cambodia introduced the Environmental Action Plan, and was considering other plans such as the Regional Biodiversity Action Plan, National Wetlands Action Plan, and so on (Task Force, 2001). It also adopted the Law on Environment Protection and Natural Resources Management in 1996, which now defines the government's obligation for ensuring environmental protection and sustainable development. The Ministry of Environment is the main institution in this regard. In Vietnam, the government launched the National Plan on Environment and Sustainable Development, introduced the Law on Environmental Protection, and assigned the Ministry for Science, Technology and Environment with responsibility for managing environmental protection (Task Force, 2001).

In addition to all the abovementioned national plans, programs, laws, and institutions, there are many strategic instruments and measurement criteria adopted by various countries in Southeast Asia. These include the pollution charges in the Philippines**,** environmental quality standards in Vietnam, environmental impact assessment in Indonesia and Philippines, means for regulating mining wastes in Laos and Malaysia, and cleaner production centers in Indonesia and Thailand (UNESCAP, 2000b). However, there is a growing trend towards the use of market-based instruments (MBIs) in terms of imposing charges for wastewater, emission charges, and differential pricing systems, and these MBIs have already been tested in some Southeast Asian countries like Indonesia, Malaysia, Philippines, Singapore, and Thailand (ADB, 2001:6).

Finally, at the local level, there is an increasing preference for non-government organizations (NGOs), grassroots institutions, and decentralized local governments in the overall governance for sustainable development (UNDP, 1997). Based on an assumption that such governance requires greater organizational flexibility, people's participation, and community involvement, there have emerged many NGOs dealing with issues related to environmental sustainability (Zarsky, 1999). Among Southeast Asian countries, in Indonesia, there are nearly 270 NGOs dealing with environmental matters—including the Indonesian Forum for the Environment (working as an umbrella organization for many environmental NGOs); Indonesian Legal Aid Foundation (representing human rights and environmental lawyers); Indonesian Center for Environmental Law (providing policy inputs to the government and legal assistance to various advocacy groups); and Friends of the Environment Fund (providing fund for the recycling purpose and addressing industry-related environmental concern) (US-AEP, 1997a).

In Malaysia, there are NGOs like the World Wide Fund for Nature (Malaysia), the Malaysian Nature Society, and Environmental Protection Society of Malaysia, which are often engaged in dialogues with the government regarding environmental concerns (Task Force, 2001). Other environmental NGOs in Malaysia include Sahabat Alam Malaysia, Friends of the Earth-Malaysia, and the Consumers' Association of Penang. In the Philippines, some of the major environmental NGOs are the Philippine Businesses for the Environment (facilitating public-private partnerships for managing environmental issues); the Water Environmental Association of the Philippines (providing an avenue for networking by environmental professionals); and so on (US-AEP, 1997b). Among the Singaporean environmental NGOs, most well known cases are the Nature Society (focusing on natural conservation and impact assessment); the Singapore Council for the Environment (fostering environmental awareness and organizing various workshops and seminars on environment); Singapore Association of Environmental Companies (dealing with technology transfer and environmental business); and so on (US-AEP, 1997c; Tay, 1998). Similar examples of environmental NGOs can be found in Thailand where NGOs have increasingly greater role in environmental management. In recent years, such NGOs have also emerged in Cambodia and Vietnam, and these NGOs are largely involved in environmental matters and natural resources management (Pednekar, 1995).

Growing Threats to Sustainability Despite its Multi-Faceted Governance

It is evident from the above description that in almost all countries in Southeast Asia, there has been a significant proliferation of policies, programs, laws, and institutions related to environmental issues and concerns, which represents a considerable expansion of governance for sustainable development at the international, regional, national, and local levels. However, the effectiveness of such multi-layered governance is questionable, because according to existing studies, the region continues to face some serious forms of sustainability challenges, including atmospheric pollution, land degradation, pollution of marine ecosystems, deforestation, decline in biodiversity, hazardous wastes, and so on (ESCAP, 2003; Lebel and Steffen, 1998). In order to comprehend this relative failure of governance, this section of the article examines some of these major challenges to environmental sustainability in Southeast Asia.

First, in terms of air pollution, the condition in Asia as whole is worse many other regions. It has been observed that during 1991-95, the average levels of air particulates in Asia were five times higher than OECD countries, and two times higher than the world average (Angel, et al., 1999). In Southeast Asia, the emissions of CO2 (the most critical greenhouse gas) have grown fast due to increasing use of energy—between 1980 and 1995, the volume of CO2 emissions increased from 25825 thousand to 80821 thousand metric tons in Indonesia, from 7838 thousand to 28095 thousand metric tons in Malaysia, and from 10921 thousand to 47773 thousand metric tons in Thailand. (Lebel and Steffen, 1998). In is observed that it is the industrial sector which accounts for 15 percent of emissions of suspended particulates, 63 percent of sulphur oxide, and 16 percent of nitrous oxide in Indonesia (Jakarta); and 56 percent of suspended particulates and 22 percent of sulphur dioxide in Thailand (World Bank 1994; Sachasinh et al. 1992). Due to rapid industrialization, between 1975 and 1988, the pollution caused by the emissions of sulphur oxide, nitrous oxide, and suspended particulates increased five times (US-AEP, 1997a).

The transboundary nature of the region's air pollution can be seen from the fact that in the case of Vietnam, about 39 percent of the total annual sulphur deposition in the air comes from China and 19 percent from

Thailand; and in the case of Malaysia about 30 percent of such sulphur deposition comes from Singapore (Lebel and Steffen, 1998). However, one of the most widely known examples transboundary haze in Southeast Asia caused by slash-and-burn agriculture, large-scale clearing of forests for plantations, and so on (especially in Sumatra and Kalimantan, Indonesia), which eventually led to the formation of the ASEAN Cooperation Plan on Transboundary Pollution (Lebel and Steffen, 1998). The adverse impacts of such fire and haze, especially on human health and tourism industry, was most severely felt in Malaysia, Thailand, and Singapore (Lebel and Steffen, 1998; Murdiyarso, 1998).

There are also serious problems of water and marine pollution in some Southeast Asian countries. It is estimated that in the region, in 1999, diarrheal diseases killed more than one million people, and most of these cases were caused by contaminated water and poor sanitation (ADB, 2001). On the other hand, oil and cargo shipping and offshore oil and gas production in Southeast Asia are responsible for oil slicks and tar residues affecting the Straits of Malacca and Johor and the South China Sea (Lebel and Steffen, 1998). In most countries in the region except Singapore, the declining water quality in major rivers is caused by resource-based industries like food and beverages, rubber and textiles, palm oil (Lebel and Steffen, 1998). In the case of Indonesia, industrial water pollution accounts for 25 to 50 percent of pollution some rivers in Java (US-AEP, 1997a).

Second, there are serious problems of land degradation in Southeast Asia (especially Thailand) caused by deforestation, soil erosion, salinization, soil acidification, and waterlogging. (ADB, 2001). Salinization of soil caused by excessive use of groundwater is quite serious in some areas in Indonesia, Philippines, and Thailand; and land desertification caused by deforestation remains a critical concern is agricultural countries like Cambodia, Indonesia, Laos, Malaysia, and Vietnam (ADB, 2001). The process of soil erosion and degradation is considered an environmental problem by governments in some Southeast Asian countries (ADB, 2001; UNDP, 1997). According to Lebel and Steffen (1998), as long as Southeast Asian countries continue to expansion and intensify cultivation to increase the production of food, fiber, and energy, it will difficult to reduce environmental costs such as land or soil degradation.

Land scarcity resulting from land degradation is becoming even worse in Southeast Asia due to the growing need for using land to dump hazardous waste. In the case Thailand, according to the US-AEP (1997d),

the number of industries generating hazardous waste increased from only 631 in 1969 to 51,500 in 1990, and between 1979 and 1989, the number of hazardous waste generators doubled. In Indonesia, it is estimated that about 2.2 million tons hazardous wastes per year are being generated in West Java and metropolitan Jakarta (US-AEP, 1997a). Such a colossal amount of wastes creates additional pressure on land.

Third, in Southeast Asia, a considerable challenge to sustainability is posed by the rapid depletion of non-renewable resources such as fuel oil and ecological resources like mangroves. Since the 1980s, oil has been the primary source (over 70 percent) of energy in ASEAN countries (Lebel and Steffen, 1998). In the region, most electricity is generated from fuel oil, and there is increasing demand for such energy due to expansive industrialization and urbanization.

Among ecological resources, most Southeast Asian countries lost about 50 percent of their mangroves between 1980 and 1994 in the process of expanding urban settlements, developing agriculture, harmful fishing practices, and building shrimp ponds (Lebel and Steffen, 1998; ADB, 2001). Since 1980, the percentage of mangroves lost is 17 percent in Brunei, 32 percent in Malaysia, 48 percent in Thailand, 62 percent in Vietnam, 45 percent in Indonesia, and 76 percent in Singapore, (Lebel and Steffen, 1998). According to Von Post and Ahman (1997), the over-exploitation of fisheries and the expansion of shrimp aquaculture have adverse impacts on mangroves in ASEAN countries. Another ecological resource under serious threat in Southeast is the region's coral reefs. According to some estimates, while almost one-third of the world's coral reefs are in Southeast Asia, more than 80 percent of them are at risk due to over-fishing, sedimentation, coastal development, and so on (Lebel and Steffen, 1998).

Finally, another major form of challenge to sustainable development in Southeast Asia is the process of deforestation and biodiversity loss in the region. In the whole Asia-Pacific region, the annual rate of deforestation rate increased from 2 million hectares during 1976-1981 to 3.9 million hectares in 1981-1990 (UNESCAP, 2000a). Some of the Southeast Asian countries had the fastest rates of deforestation during 1981-90—about 1.0 percent in Indonesia, 1.8 percent in Malaysia, 2.9 percent in Philippines, 2.9 percent in Thailand, 1.4 percent in Vietnam. (Lebel and Steffen, 1998). Such a rapid rate of deforestation began in the 1950s—e.g., between 1952 and 1977, the Philippines lost 61 percent of its forest reserves have rapidly lost their trees. From 1952 to 1977 the rate of depletion of forest reserves,

and between 1966 and 1971, the rate of deforestation accelerated in Indonesia as its timber exports increased by 1,500 percent (Lim and Valencia, 1990). The main causes of deforestation in the region are commercial logging and land-clearing for commercial agriculture and plantation crops (ADB, 2001).

This process of deforestation—together with factors such as pollution, hazardous wastes, and habitat modification—is also responsible for losses in biodiversity in Southeast Asia. According to ADB (2001), in the region, most severe biodiversity losses have been experienced by Vietnam and Philippines. On the other hand, the conversion of natural habitats, which threatens biodiversity by endangering various animal and plant specifies, have been quite significant in Thailand, Indonesia (Java), and the Philippines (UNESCAP, 2001a:16). It has been pointed out that the loss of biodiversity—caused by damages done to forests, watershed areas, and wildlife habitat—has continued in Southeast Asia even after the adoption of the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, and the ASEAN Agreement in this regard (UNESCAP, 2001a:16).

Inherent Dilemmas in Governance for Sustainable Development in Southeast Asia

It is clear from the above analysis that in Southeast Asia, despite the unprecedented expansion of governance for environmental sustainability, the region has not been able to make much progress in terms of overcoming environmental predicaments (e.g. air and water pollution, land degradation, deforestation, resource depletion, and biodiversity loss), which represent a major challenge to sustainable development in the region. The contention of this article is that in Southeast Asia, the expansion of environmental governance has not often been complementary to or consistent with the region's economic governance dominated by the mission of economic growth, industrial and urban expansion, utilitarian consumerism, and market-driven policy agenda. This section of the article attempts to explain how this anti-environmental mode of economic development may worsen environmental problems and jeopardize governance for sustainable development in Southeast Asia.

First, almost all Southeast countries (except latecomers like Myanmar, Vietnam, and Cambodia), have single-mindedly pursued the mission or ideology of "economic growth" through rapid and intensive industrialization process. But some scholars mention that market-led economic growth is "ecologically expansionist" and the "root cause' of ecological crisis; that unsustainable development is the direct result of growth; and that the unsustainable nature of growth has made it urgent to initiate sustainable development (Wee, 1995; Stokke, 1991; Redclift, 1987). In developed countries, in the past, the growth-led and profit-driven industrialization created havoc on the environment in terms of intensive exploitation of natural resources (e.g. croplands, forests, minerals, water resources) (Haque, 1999). During the recent decades, the Newly Industrialized Countries (NICs) in Southeast Asia have followed similar route to economic growth often at the expense of environmental degradation (Rock, 1998; (UNESCAP, 2000a). It has been pointed out that the principle of "grow now and clean up later" has led to energy-intensive production, natural resource depletion, unhealthy air, and polluted rivers (Angel, et al., 1999).

In Southeast Asia, following the first-tier NICs (Singapore, Malaysia), the second-tier NICs (Indonesia, Malaysia, Philippines, and Thailand) and late-comers (Myanmar, Vietnam, Cambodia, Laos) have intensified their efforts to accelerate growth through rapid industrial and urban expansion, which have intensified energy consumption and environmental degradation (Angel, et al., 1999). Even in the agriculture sector, in the name of higher growth, there have emerged large-scale agribusiness in Indonesia, Malaysia, and Thailand where native forests and smallholder agricultural areas have been converted into large-scale plantations (Lebel and Steffen, 1998). There is no doubt that some of these Southeast Asian countries have performed "economic miracle" by achieving an average growth rate of 7-8 percent (Esty and Pangestu, 1999). But these impressive economic growth figures of economic growth do not often reflect the environmental costs of such growth. It has been calculated that the toxic intensity of GDP growth increased during 1976-84—about 5.4 times in Indonesia 3.05 times in Malaysia, and 2.48 times in Thailand (Angel, et al., 1999). According to Pednekar (1995), since the late-1980s, the rapid economic growth in Southeast Asia has coincided with increasing degradation of natural resources. It is largely due to such environmental

costs of economic miracle in Southeast Asia that some observers consider this model flawed and unsustainable (Cylke, 1998:3-5).

Second, the narrow concern for economic growth often worsen the condition of poverty and inequality—in the process of pursuing economic growth, often the rich get richer while the poor suffer from worsening poverty. In the case of Southeast Asia, According to Zarsky (2001), the Asian Miracle often produced adverse social outcomes like the worsening disparity in income distribution (Zarsky, 2001). It is noted, for example, that the situation a stage when the rich began to earn 8-10 times higher than the poor in Indonesia, and only 5 percent of farming households owned nearly 80 percent of the land (Wee, 1995). In this context, both the worsening poverty and the growing affluence may pose an endangered environmental sustainability, because while the poor increasingly rely on natural resources, the rich consume more luxurious industrial products that are hazardous to the environment. Thus, a country with high income-inequality is likely to have more harmful effect on the environment as compared to a country with less income inequality. In particular, the growing consumption of hazardous industrial products by the affluent class, often facilitated by the globalization of consumerism, may pose a challenge to sustainability. This involves the increasing consumption of environmentally harmful goods like private cars, air conditioners, washing machines, televisions, and so on (ADB, 2001). In Southeast Asia, this luxurious lifestyle has rapidly expanded, and is becoming a common norm for the younger generation.

With regard to the poverty-environment linkage, ADB (2001) mentions that "environmental degradation reinforces poverty, which in turn reinforces environmental degradation, and so on." Although Southeast Asian as a region has been able to substantially reduce the overall percentage of people living below the poverty line, the situation did not improve drastically in cases such as Indonesia, Philippines, Laos and Cambodia where poverty still continues to create pressure on the environment. In the case of the Philippines, according to Lim and Valencia (1990), rural poverty continuously increased to almost 80 percent of rural households falling below the poverty line in the late 1980s. It is this poverty which usually pushes the low-income households to over-exploit forest resources, use fire to clear land for cultivation, and so on (Zarsky, 2001). However, the poverty situation has worsened in most cases after the severe economic crisis beginning in 1997—all countries in the region except Singapore and the Philippines, experienced negative economic growth

(Bateman, 1999b). The hardest hit was Indonesia where per capita income fell from US$1,100 in 1996 to US$460 in 1998; an the average rate of GDP growth declined from 7.3 percent during 1991-97 to 4.6 percent in 1997 to -15.3 percent in 1998 (Esty and Pangestu, 1999; Angel, et al., 1999). This worsening economic condition not only pushed low-income households to intensify the use of environmental resources, it also led to government cutbacks in environmental regulatory activities (Angel, et al., 1999).

Third, another underlying causal factor challenging sustainable development in Southeast Asia is the region's rapid pace of industrialization and urbanization in the process of economic growth or development. It is not necessary to explain the obvious fact that industrial expansion means more depletion of non-renewable resources, pollution of air and water, accumulation of hazardous wastes, and emissions of environmentally harmful gases. Despite this adverse effect, in most Southeast Asian countries, the rapid pace of economic success has been realized through a high rate of industrial growth. Between 1970 and 1993, Southeast Asia's industrial output increased by 25 times, and the contribution of industries to the region's GDP increased from 25 to 40 percent (Lebel and Steffen, 1998). In the case of Indonesia, its Environmental Impact Management Agency (BAPEDAL) reports that in Jakarta, it is the industrial sector that was responsible for emitting 15 percent of total suspended particulates, 16 percent of nitrous oxide, and 63 percent of sulphur oxide; and in Surabaya, the industrial sector accounted for 28 percent, 43 percent, and 88 percent of such emissions respectively (US-AEP, 1997a). In Malaysia, the major industrial polluters were food processing, chemicals and electronics, rubber and palm oil, and textiles (US-AEP, 1997b). It is predicted that with the process of expansive industrialization, the pollution problem is likely to worsen (Lebel and Steffen, 1998).

Another integral facet of rapid industrial expansion is the intensive urbanization process since cities are the centers of trade and industry in Southeast Asia. During the period 1980-1995, the average annual growth rate of urban population was 2.1 percent in Singapore, 2.3 percent in Myanmar, 3.4 percent in Vietnam, 4.3 percent in Thailand, 4.5 percent in the Philippines, 6.9 percent in Indonesia, 7.5 percent in Malaysia, 9.3 percent in Laos, and 13.9 percent in Cambodia (Lebel and Steffen, 1998). Between 1970 and 1996, the number of urban population, as a percentage of total population, increased from 34 to 54 percent in Malaysia, 17 to 36 percent in Indonesia, 33 to 55 percent in Philippines, and 13 to 20 percent in

Thailand. (Esty and Pangestu, 1999). This expansion of urbanization and urban population may imply more vehicle emissions and more pollution problems (Lebel and Steffen, 1998). Expansion of cities in Southeast Asia also represents a threat to environmental sustainability.

Fourth, in line with the global trend, Southeast Asian countries have adopted various market-led neoliberal economic policies such as privatization, trade liberalization, welfare cut, deregulation, and so on. Although such market-oriented policies have been embraced extensively by Malaysia, Indonesia, Singapore, Thailand, and the Philippines, for some critics, these policies are inappropriate for sustainable environment and may lead to environmental degradation (see Stokke, 1991:17; Hempel, 1996:83). Although the advocates of free trade emphasize its positive benefits in terms of gaining from cleaner technologies and technical innovations, but critics argue that liberalization may lead to worsening pollution and abuse of natural resources (Lebel and Steffen, 1998). For instance, the expansion of export-led textile production in Indonesia and Thailand worsened pollution of rivers by the textile industry that accounts for nearly 70 percent of total pollution (UNESCAP, 2000c).

In terms of foreign direct investment (FDI), Southeast Asia ha been an attractive region for foreign investors. Between 1988-91 and 1997, the average FDI flow increased from $746 million to $5.4 billion in Indonesia, $1.6 billion to $3.8 billion in Malaysia, $501 million to $1.3 billion in Philippine, and $3.6 billion to $10 billion in Singapore (Esty and Pangestu, 1999). There are numerous studies showing that foreign investment is often encouraged by factors such as chief labor, available raw materials, expansive market, good infrastructure, and lack of environmental regulations. It has been pointed out that in the case of the Philippines, the liberalization of mining industry and increasing foreign investment in the sector has not been environmentally sustainable (Earth Council, 1997). The adverse implications of contemporary promarket policies for the environment have to be seriously taken into account in exploring governance for sustainable development in Southeast Asia.

Concluding Remarks

In this article, it is emphasized that although considerable efforts have been made by most countries in Southeast Asia to expand the scope of governance for sustainable development in terms of policies, programs, and institutions, there are still serious threats to sustainability, including the

worsening conditions of pollution, land degradation, loss of biodiversity, and other environmental disorders. It is argued that this relative failure to attain environmental sustainability is largely due to the dilemma between excessive concern for economic growth and need for sustainable development, between industrial expansion and environmental protection, between market-led policy and environmental agenda, and so on. In this regard, the policy-makers in Southeast Asia have to explore alternative development perspectives and policy priorities, especially since they appear to be strongly committed to the cause of sustainable development (IISD, 1997).

In particular, it is crucial to reexamine the single-minded mission of economic growth based on industrial and urban expansion, which is widely known to be detrimental to the environment. It is also necessary to redress the problem of income disparity through appropriate measures of income redistribution, because as discussed in this article, such disparity in income has serious implications for environmental sustainability. Finally, although adopting promarket neoliberal policies has become a common global trend, such policies need serious reconsideration in terms of their adverse consequences for the environment. There is no doubt that the realization of sustainable development requires relevant state policies and institutions, but the construction of this sustainability-driven governance alone may eventually become futile if it is not complemented by appropriate structures and priorities in other domains of governance related to overall socioeconomic development. More specifically, it may be necessary to reexamine, and even reverse, the primacy of economic growth, industrialization, consumerism, and overall market ideology (Haque, 1999) in order to achieve the success of much-debated governance for sustainable development, especially in Southeast Asia where economic growth seems to be considered the ultimate measure of legitimation for most policy decisions.

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