

EXECUTIVE SUMMARY

The Asian Environment Outlook (AEO) 2001 is organized into five chapters. The first three chapters provide an overview of how and why environmental degradation has occurred in the Asia and Pacific region and identify environmentally sustainable options and opportunities. The remaining two chapters discuss new approaches for policy integration and a call to action to adopt alternative policies. Chapter 1 discusses the economic transformation in the region and its environmental and social impacts on land, water, air, and human health. Chapter 2 explores the underlying driving forces that resulted in environmental problems in the region and the path these forces will take if no changes occur. Chapter 3 presents options and opportunities to redirect the current development trajectory implicated by these driving forces and illustrates positive initiatives that are being implemented in the region. Chapter 4 discusses the most important and immediate change that can be adopted by the region's policy makers — mainstreaming of environmental concerns across and within sectors into all levels of economic development planning through five entry points. Chapter 5 then challenges decision makers in the developing member countries (DMCs) of the Asian Development Bank (ADB) to confront issues raised by this report and identifies a consensus view on priorities for action.

This Executive Summary briefly discusses the highlights of each chapter of the AEO 2001 report and the overall conclusions. Detailed discussions on cross-sectoral, sectoral, and country-specific policy recommendations will be included in future editions of the AEO 2001 and the AEO website at <http://www.adb.org/environment/aeo>.

Over the past four decades, the Asia and Pacific region's rich resources have undergone dramatic changes resulting from accelerated economic and social transformation. Socio-economic changes such as large increases in population, agricultural output, industrial production and capital, and advances in science and technology have transformed the region's natural resource base, both as a source of material inputs and as a sink for pollution and other negative outputs associated with economic activity. Environmental degradation in the region is pervasive, accelerating, and unabated. At risk are people's health and livelihoods, the survival of species, and ecosystem services that are the basis for long-term economic development. Economic development and poverty reduction are increasingly constrained by environmental concerns, including degradation of fisheries and forests, scarcity of freshwater, and poor human health as a result of air and water pollution. Intensified crop and livestock production combined with

misdirected incentives have contributed to increased production of chemical and organic wastes (and accompanying health risks), natural resource and biodiversity loss, and soil erosion.

Pressure on land in the Asia and Pacific region is most severe as compared to the other regions in the world. Countries in the region have lost 70 to 90 percent of their original wildlife habitat to agriculture, infrastructure development, deforestation, and land degradation. The most severe losses have been in Bangladesh, India, Indonesia, Philippines, Sri Lanka, and Viet Nam. The Philippines and Viet Nam have lost about 70 and 50 percent of their mangrove forests, respectively, and 75 percent of the Asia and Pacific region's marine protected areas are considered to be under high potential threat from coastal development.

Particularly affected are the region's rural poor who are dependent on agriculture and its ancillary activities. Many countries in the region already face an acute shortage of

productive land resources that can support its growing population. In 1990, approximately 850 million hectares (ha) had some degree of land degradation, representing more than 28 percent of the region's land area. According to the United Nations Environment Programme (UNEP), there are 350 million ha of degraded land in India, Pakistan, and People's Republic of China (PRC), most of which are grasslands. About 1,320 million people, or 39 percent of the region's population, live in areas prone to drought and desertification.

Several initiatives in the region are combating this trend. Community-based forest management has been adopted as the national strategy for the management and sustainable development of forest resources in the Philippines. At present, more than 500,000 ha of well-stocked, national forests have been turned over to communities, mostly of indigenous peoples. Decentralized forest management systems are also being successfully adopted in Nepal and Papua New Guinea. Reforestation programs have had considerable success in reducing the loss of forest cover in Thailand and elsewhere and forest regeneration has been significant in Orissa and West Bengal (Poffenberger and McGean 1998).

Lack of clean water is another severe environmental problem in many parts of the region and directly impacts human health and slows the development of economies. The explosive growth in populations and economies has had the greatest impact on the availability and quality of the region's freshwater resources. Water quality has steadily slipped, degraded by sewage, industrial effluent, urban and agricultural runoff, and saline intrusion. Levels of suspended solids in the region's rivers almost quadrupled since the late 1970s, and rivers typically contain four times the world average and 20 times the Organization for Economic Cooperation and Development (OECD)-recommended levels of suspended solids. Eroded sediment carried by runoff fouls rivers in Pakistan, the PRC, Western India, and other arid regions. Biochemical oxygen demand, a key indicator of overall water quality, is 1.4 times the level recommended by OECD. The fecal coliform level, an indicator of the health risk from human waste, is three times the world average and 50 times higher than the level recommended by the World Health Organization (WHO). As a result, one in three Asians and Pacific Islanders has no access to a safe drinking water source (that operates at least part of the day) within 200 meters of the home. Access to safe drinking water is worst in South and Southeast Asia, where almost one in two persons has no access to sanitation services and only 10 percent of sewage is treated at a primary level.

Air pollution levels in the region's large cities are among the highest in the world and climbing, producing serious human health impacts. Of the 15 cities in the world with the highest levels of particulate matter, 12 are located in the Asia and Pacific region. One study in Delhi conducted from 1991 to 1994 projected that an increase of 100 micrograms per cubic meter of particulate matter would result in a loss of life equivalent to 1,385 lives in a year distributed among varying age groups. At the time of the study, readings of particulate matter in Delhi were 378 micrograms per cubic meter, approximately 5 times the WHO annual average standard. In a majority of the region's most populated cities, measures of pollution levels exceed WHO guidelines by wide margins. Of the 15 cities in the world with the highest levels of sulfur dioxide, 6 are located in Asia. The region's emissions of sulfur and nitrogen oxides in 2030 are projected to be three to four times their 1990 levels. Unlike the effects of water pollution, which are borne mainly by the poor, no resident of any major city in the region is safe from the effects of air pollution. However, the poor are disproportionately exposed to air pollution, living along roads and in industrial areas, thus suffering the highest concentration of air pollutants almost constantly.

Another contributor to air pollution is burning wood fuels and low quality coal, which pose a number of air quality and human health problems. The Asia and Pacific region is by far the world's largest consumer of wood fuels, accounting for nearly 44 percent of global consumption. Indoor air pollution from biomass smoke is one of the largest environmental risk factors for ill health of any kind. Four to five million child-deaths are attributed to acute respiratory infection each year. Studies in India, Nepal, and Papua New Guinea show that nonsmoking women who have cooked on biomass stoves for many years exhibit a higher prevalence of chronic lung diseases (such as asthma and chronic bronchitis) than nonsmoking women who don't cook on biomass stoves. These studies also reveal a 50 percent increase in stillbirths in women exposed to indoor smoke during pregnancy in Western India.

Industrial growth and urban expansion have greatly contributed to and increased the generation and accumulation of solid and hazardous wastes in many DMCs, outstripping the collection efficiency and disposal capacity of many municipalities. Kolkata, which generates about 2,500 metric tons of waste per day, has developed effective collection and disposal systems that capture 95 percent of the waste stream. Most cities collect 70 to 80 percent of solid wastes, leaving an average of about 1,000 tons per day uncollected in cities such as Manila and Jakarta. Cities such as Dhaka and Ka-

rachi collect less than 50 percent. The balance ends up in drains and rivers, exacerbating flooding, or in vacant lots or roadsides, where it impacts public health by providing habitat for rodents, flies, and other disease vectors. Roughly two-thirds of the population in South Asia lack access to adequate systems of sanitation. This lack of sanitation also adversely impact water quality in cities. Poor sanitation and dirty water cause more than 500,000 infant deaths a year in the region, as well as a huge burden of illness and disability. In 1990, the region accounted for about 40 percent of the total global diarrhea episodes in children under five years of age. In Southeast Asia alone, diarrhea-related diseases killed more than 1 million people in 1999, nearly half of all deaths from such cases in the world. Most of the fatalities resulted from poor sanitation and dirty water. Changes in the region are being made to turn these alarming trends around, for example Indonesia and Thailand implemented low-cost projects that involved public-private-community participation to successful upgrading of waste disposal and sanitation systems. One such project is the Kampung Improvement Program in Indonesia.

In an attempt to combat this environmental degradation and its impacts on human health, over the last two decades, the DMCs have established legal systems and institutions to oversee environmental protection. However, reviews of environmental performance in the region in late 1990s revealed that the environmental quality would deteriorate further if environmental governance agencies continue to operate in a “business-as-usual” manner. ADB published *Emerging Asia*, a landmark study of economic and environmental prospects for the region, four years ago. *Emerging Asia* concluded that the root cause of the poor state of the environment in the region was a failure of policy and of institutions. With a few notable exceptions, DMCs have failed to make environmental protection a policy priority and put in place policy frameworks and institutional resources that would ensure compliance with stated environmental goals. Experiences of the past decade suggest that this diagnosis is generally valid. When environmental protection systems are substantially strengthened, pollution, land degradation, and other negative environmental processes are reduced, and environmental quality begin to improve. Examples of this protection include Shanghai and Philippines, where communities and local governments work together to improve overall environmental quality.

The pace of policy reform in the region has been slow and uneven. For most of the developing economies in the region, incremental policy reform has been over-ridden by the effects of continuing population and economic growth,

urbanization, and attendant increased production and consumption. The population of Asia is expected to increase by about 700 million over the next 15 years, with approximately 50 percent of the population living in cities by 2020. To support this growing population, DMCs clearly need to make fundamental changes in policy making.

Poverty reduction is the overarching goal of ADB’s development strategy. Environmental policy is crucial in meeting this goal. The poor are often most directly dependent upon forests, fisheries, and other natural resources threatened by depletion and degradation. The poor are also especially vulnerable to lack of access to clean water and inadequate sanitation systems within cities. Of special concern is the finding that poor environmental quality and heavy dependence on limited natural resources is emerging as a major, concrete constraint to future economic growth. Because balanced economic growth is crucial to efforts to reduce poverty within the region over the next two decades, increased attention must be paid to the constraints that depleted and degraded natural resources will place on such growth.

Environmental problems are not confined to national boundaries, as the problems of forest fire, smoke, and haze within Southeast Asia and concerns over international transfer of hazardous wastes demonstrate. Of critical concern over the next decade is the role the Asia and Pacific region will play in addressing greenhouse gas emissions and attendant global warming and climate change. The scientific community has established with growing certainty that the burning of fossil fuels and other human activities are affecting the earth’s atmosphere in ways that will result in substantial global warming. The globally averaged surface temperature of the earth is predicted to increase between 1.4°C and 5.8°C by 2100. Rising sea levels, which are predicted to accompany global warming, will pose particular threats to low-lying areas and islands in the Pacific Ocean and elsewhere. Although OECD countries are currently the largest emitters of greenhouse gas emissions, emission rates are growing more rapidly in the Asia and Pacific region than anywhere else in the world. The region is expected to replace OECD countries as the largest source of greenhouse gas emissions worldwide in about 2015.

The key conclusion of this report is that a new approach is required to integrate the design and implementation of environmental policy within the region. For far too long the blueprints of an alternative development future have gone unimplemented and good ideas have become missed opportunities. Current practice has been to depend upon a stand-alone environmental agency as the institution primarily,

if not entirely, responsible for environmental protection. Even under the best of circumstances, environmental agencies typically lack the authority and influence necessary to place environmental concerns high on the policy agenda, let alone influence rapidly changing patterns of economic development within the region. Environmental concerns must be integrated across sectors and within sectors and mainstreamed into economic development policy. Stand-alone environmental agencies are necessary but not sufficient for ensuring environmental improvement. Powerful economic agencies, such as ministries of finance, industry, and agriculture, must adopt environmental goals and measure performance against these goals. Institutions of science and technology must support technology upgrading and clean production initiatives that yield both economic and environmental performance improvements. Taipei, China and a few other countries have demonstrated how investments in science and technology infrastructure and the development of public-private partnerships in research and technology can substantially accelerate the process of technology upgrade within industrial economies and yield both environmental and economic benefits (Rock 1995). The environmental protection must be considered as a factor in the basic decision making processes of firms, farms, and households, and policy makers must provide the tools through which these parties can respond positively to increased pressures for environmental improvement.

This report proposes a vision of the suggested development trajectory for the Asia and Pacific region under which: (i) consumption is based on services rather than ownership of assets; (ii) ecosystem services are valued and protected; (iii) natural resources and environmental management are decentralized, with stakeholders at the local level and citizens taking a role in management; (iv) precautionary principles are applied to new technologies subject to strategic environmental assessment and public debate; and (v) biodiversity is protected. Under this scenario, new and revitalized public institutions could play a significant role in developing, implementing, and enforcing environmental policies, and identify ways in which contemporaneous development of economic and environmental policies support common objectives, particularly at local and regional levels.

The report identifies three core elements of a new approach to meet the stated vision for the suggested development trajectory in the region. First, the concept of environmental and development policy integration is fundamental to successfully moving forward with policy reforms. This requires infusing environmental objectives

into national and regional economic development plans and processes, and achieving environmental goals through the actions of corresponding public sector development authorities and private sector interests instead of depending exclusively on national environmental (enforcement) agencies. Second, development by design is the guiding instrument for sustainable development. National, subnational, urban, and industrial development require guidance and monitoring in accordance with publicly accepted, integrated environmental and economic development plans. Third, an abiding political will is essential to translate national environmental rhetoric into action if: (i) a minimum level of environmental compliance is to be achieved, (ii) commensurate budgets and human resources are to be provided, and (iii) the subsidies that lead to resource degradation are to be eliminated.

In order to successfully meet environmental and development challenges, this report recommends that policy makers harness the powerful forces of change sweeping through the region and the globe. Governance reform, the rapid rate of technology change, new private financing and investment, and increasing access to information on a global scale present exciting opportunities to shape the pattern of development over the next two decades. The challenge for policy makers is to ensure that policies and institutions are put in place that channel these powerful forces of change to positive ends such as poverty reduction, socio-economic welfare improvements, and environmental quality improvements.

By its nature, this report cannot provide full coverage of all of the environmental issues that are of concern to the DMCs. The report also cannot give due attention to the balance of issues and priorities within individual countries of the region. The goal of this first AEO 2001 publication is to define a framework for response and action, and not to provide a detailed and exhaustive list of specific initiatives. Primary attention is paid to national policy and to the articulation between national policy and international and local initiatives. However, it is important to consider each particular economic, social, and development context. What works in one context may not be the most efficient or effective approach under a different context. One of the reasons that environmental protection has not been more effective in the Asia and Pacific region over the past two decades is the tendency to uncritically adopt models of environmental policy developed under the very different economic and development context of mature industrial economies within OECD countries. Although the basic principles of effective environmental regulation, such as the

need for clear environmental standards that are consistently enforced, are widely shared, the precise tools of implementation may need to vary from one country to another.

ADB is committed and prepared to assist DMCs in facing these new challenges. Ensuring sustainable economic growth, which implies environmental soundness, is one of the core areas of intervention in ADB's long-term strategic framework for 2001 through 2015. ADB's other two core areas include: (i) inclusive social development, which includes investments in social support programs and a policy reform agenda that will promote equity and empowerment; and (ii) improved governance for effective policies and institutions that will support public sector management at all levels, legal and judicial reform, improved public accoun-

tability, and procedures for more effective participation in decision making (including civil society) to promote equitable and inclusive growth.

As the region's capacity to support human activity becomes increasingly stressed, policy makers and leaders within the region will discover that integrated solutions that transcend traditional disciplines and approaches are clearly more effective than parochial solutions that divide regions, institutions, infrastructure, and technology. Applying the principles of policy integration through realizing the five entry points presented in Chapter 4 of this report should set the stage for redirecting the driving forces for environmental change on the path of a new development trajectory in the region.