

CHAPTER 9

Towards a sustainable Asia

Sustainable development: A popular catchphrase, but difficult to operationalise

In the last quarter century, Asia has lost half of its forest cover and a third of its agricultural land has been degraded. Asia's rivers contain three to four times more pollutants than the world average. Of the world's 15 most polluted cities, 13 are in Asia. Current trends project that 2.4 billion Asians will suffer from water stress by 2025, almost double the 1995 figure. Today, at least one in three Asians still has no access to safe drinking water, and one in two has no access to sanitation services. At least one-third of a billion tons of solid waste across Asia remains uncollected each year. At the same time, millions of tons of hazardous wastes are placed untreated in dumpsites, threatening groundwater and local food supplies.

These are only some of the indicators of the attack that is underway on Asia's environment. While rapid economic growth has created dynamism and wealth, Asia has at the same time become dirtier, less ecologically diverse, and more environmentally vulnerable. Unless urgent, concerted and sustained action is taken on a large scale, Asia will be unable to avoid a social, economic and political crisis of catastrophic proportions over the medium-term.

Sustainable development should, therefore, be the central policy principle for Asia 2005 and beyond. Yet, the concept of sustainable development remains very complex and fluid. It often requires significant trade-offs between the economy and the environment, a reality that is compounded by methodological problems and the absence of a single mechanism to take full account of long-term economic costs and benefits (Chapter 1). Sustainable development is, indeed, a concept that is not easy to operationalise and monitor, although attempts to achieve this have been and continue to be made in both developed and developing countries. The approaches that are available (e.g., full cost accounting, policy mix analysis and multi-stakeholder processes) are not free of defects and careful consideration is always needed in applying them to individual countries, localities and situations. There is no "one-fit-for-all" solution.

Recapitulating where Asia stands in the pursuit of sustainable development

Driven by buoyant economic development and continuous population growth, Asia is exerting exponential pressures on its natural resources and the environment. The rapid economic growth that Asia has achieved is inherently unstable due to its high level of resource inefficiency and dependence on a geometric rate of growth in fossil fuel consumption (Chapter 2). A business-as-usual scenario will mean that Asia can neither attain the current level of production and consumption observed in developed countries nor sustain the economic and social gains made over the past three decades.

Measured against this situation, Asian responses to date have been entirely inadequate, although many important steps have been taken and a number of essential foundations for further actions established. For example, a number of initiatives have been launched at the regional level and these are helping to facilitate the establishment of a common agenda and to forge consensus on at least some policy goals for sustainable development (Chapter 2). Several sub-regional collaborative forums have made advances through concrete and institutionalised mechanisms to address challenges such as acid deposition and dust and sand storms in Northeast Asia, haze control in Southeast Asia and trans-boundary air pollution control in South Asia (Chapter 2). At the national level, several countries have been working to develop a more coherent policy

mix, combining regulatory measures, the framework approach, market-based measures, procedural and information measures.

This White Paper has examined specific sectors in some detail. Chapter 3 has looked at forestry and forestry-related issues. The greatest challenge to forestry in Asia is to formulate and implement the policies and practices necessary to ensure that forest resources are used judiciously in a manner that promotes both local and national development. The first step is to reverse widespread and uncontrolled loss of natural forest cover and quality. In this setting, the policy instruments and practices for sustainable forest management that have emerged over the past two decades are recognised as critical. Among the policy instrument approaches explored and summarised in Chapter 3 are plantation forestry, certification, livelihoods and community forestry. Plantations are becoming a central element of forestry in many countries, and if properly managed, can reduce pressure on natural forests and provide an important source of revenue. Certification schemes for both planted and natural forests are being pursued as a means of encouraging and rewarding good forest management. Many countries have set aside protected forest areas, though melding livelihood needs with forest conservation remains a difficult challenge. Community forestry methods are receiving increasing attention throughout most of the region. While facing its own set of peculiar challenges, community forestry can offer improved prospects for sustainable forest management. The increasing trade in illegal timber and wood products is a disturbing trend that ultimately will have to be dealt with at the regional and/or international levels.

Chapter 4 has looked at water as an increasingly endangered commodity in the 21st century that poses particular and immediate risks for Asia. Water availability in Asia over the next several years will become more uneven and erratic while water quality degradation and deficient sanitation will accelerate. There are concepts and instruments for integrated water resource management (IWRM) that can provide at least partial responses to this situation and can help to foster a shift to more sustainable water management, and these are examined in Chapter 4.

Chapter 5 examined issues of climate change, the challenges it poses for Asia and policy responses that have emerged or that are suggested. Even though there is no Asian country besides Japan that currently has GHG emission reduction obligations under the Kyoto Protocol, Asia will need to find common ground and a much more closely integrated policy framework in order to address the needs for climate change mitigation and adaptation. However, as discussed in Chapter 5, climate policies remain on the margins of other sectoral policies in many Asian countries and while the Kyoto Protocol provides an international policy framework conducive to realising the common interests of Annex 1 and non-Annex 1 countries, it fails to cultivate the full potential of boosting renewable energy development, the CDM and adaptation measures. The urgent challenge for Asian countries is to regard Kyoto as a first step only (that was its original intention) and to build an international regime for climate change after the first Kyoto Protocol commitment period. The political dynamics and uncertainty that surround this issue are analysed in Chapter 5.

Asia is experiencing a rate and intensity of urbanisation that is of historical precedent and the environmental aspects (e.g., solid waste generation per capita, air quality, high concentrations of poverty) of this pose vast risks to human security and well-being. Chapter 6 examined this situation with particular attention to management policy challenges and the policy responses that are available. The chapter looked into successful policy responses that may offer prototypes for more widespread application (e.g., the Build-Operate-Transfer (BOT) public-private partnerships in funding urban infrastructure, different configurations of community partnership and inter-city learning that may enable Asian cities to learn from one another and to promote collaboration for successful urban environmental management.

Chapter 7 looked at the current emerging role of Asian business as a facilitator and participant in sustainable development. It reviewed a range of corporate environmental responsibility initiatives by multinational corporations and contrasts these with the generally limited number and scope of initiatives undertaken by the Asian business sector in environmental management systems (EMS), environmental reporting, and green funds/socially responsible investment (SRI). The chapter also examined the difficulties and barriers associated with the greening of supply chains, including those associated with Asia's small and medium enterprises. Newly emerging trends of business involvement in the market for environmental goods and services were also noted.

Chapter 8 explored questions and issues in human resources development and education against the needs and challenges of sustainable development in Asia. It provided an overview of the major thrusts and challenges of ongoing efforts in the field of education, awareness-raising and training, and environmental education and catalogues a number of significant accomplishments through initiatives at individual, group, community and local levels. This chapter indicated the vast gaps that remain if tangible and sustainable gains are to be realised at the societal level.

Pathways towards a sustainable Asia: Conclusions and recommendations

Conclusion 1: Massive and immediate actions are required at all levels throughout Asia – the need for change is urgent

Taken as a whole, Asia is committing ecological suicide. The environmental capital in Asia is already scarce and it is being eroded further by an increasing population and rapid economic growth. Further decline of the environmental capital risks not merely a reversing of the economic gains made over the past three decades, but the more general undermining of the welfare of Asian's citizens and a social and political collapse. This is widely recognised by policy-makers in the region, but the actions and responses thus far are wholly inadequate to the needs of the situation and the magnitude of the challenge. The Ministerial Conference on Environment and Development (MCED) for Asia and the Pacific every five years represents, at best, a very modest step in the right direction. The stark and foreboding realities of Asia's overall development trajectory call for an inter-governmental summit at the highest levels, such as the meetings that led to the establishment of the United Nations in 1946 and ASEAN in 1967. Shared regional policies and practices to promote renewable energy and resource efficiency are required immediately as an incentive to innovation and the emergence of relevant technologies.

Conclusion 2: Continued high economic growth rates are imperative for Asia to tackle the vicious cycle of poverty and environmental degradation

Although the debates about economic growth versus the environment are old, they continue to exert considerable influence on policy discussions and policy choices. Within the global environmental movement is a school of thought that is strongly eco-centric and bio-centric and that prioritises ecological concerns and opposes economic growth. Such thinking is totally unrealistic, especially for Asia. In Asia, there are 700 million poor in more than 20 countries who have an income of less than US\$1 per day. Without significant and sustained economic growth, they and their children will continue to be trapped in a vicious cycle of poverty. Thus, while economic growth remains an unequivocal imperative for Asia, it becomes equally imperative that this be combined with strategies, policies and measures to secure environmental sustainability. This White Paper acknowledges throughout that achieving the combination is a daunting challenge. Equally, the paper has eschewed glib talk of endless 'win-win' scenarios that is sadly a defining characteristic of much of the public discourse and which serves mainly to divert attention away from the difficult choices, trade-offs and opportunity cost judgments that are required. It has become essential for

Asia to establish the intellectual and institutional framework required to identify clearly those difficult choices, trade-offs and opportunity costs. This framework does not exist at the moment and establishing it should be a matter of highest priority, for it is only through such an approach that it will be possible to combine the twin imperatives of economic growth and environmental sustainability.

Conclusion 3: There is no panacea for effective environmental management – it requires sophisticated control and trade-offs

It follows from the second conclusion that there is no panacea for the promotion of sustainable development. What is important is to make this fact explicit. Sustainable development will take various forms in individual countries according to their local conditions. In this world of rapid globalisation, there are a few dominant policy directions, such as the prevalence of market mechanisms, the spread of democracy, and smaller governments. But these broad policy directions will prove beneficial and enduring only to the extent that they take adequate account of local political, cultural, economic, social and environmental conditions. There will be no uniform market mechanisms and no uniform democracy, although the underlying basic principles may be maintained. Likewise, there will be no uniform sustainable development. Sustainable development in Asia will be achieved only through multiple and diverse approaches adapted to individual circumstances, to the needs for security, poverty reduction, disaster prevention and the democratic wishes of different communities and reflect rich cultures, economic and social characteristics, and environmental endowments.

Recommendation 1: Policy goals and objectives must be accompanied by effective policy instruments to produce actual impacts. In the past, Asian countries have developed many master plans and action plans underpinned by specific legislation mainly in response to international initiatives. This trend still continues. For example, many Asian countries are in the process of formulating national implementation plans for the Stockholm Convention on chemicals (Chapter 2). Also, some Asian countries have started to develop basic policy documents on the Decade of Education for Sustainable Development (ESD) (Chapter 8). The same trend has been observed in the private sector as well. Although various voluntary measures, such as ISO 14000, have been developed and are being applied in many parts of Asia, Asian perspectives have not been fully incorporated (Chapter 7). Asia should be more proactive in its participation in and launching of global initiatives for sustainable development.

Recommendation 2: Environmental policies should be integrated into sectoral policies because environmental issues are inherently related to many other sectoral activities. Forest management, for example, is closely related to land use policy, land tenure, agriculture and watershed management (Chapter 3). Without policy integration, sustainable development cannot be promoted. However, the idea of policy integration itself is elusive and understood differently according to the circumstances. Although policy integration is considered still marginal as far as climate change issues are considered (Chapter 5), substantial integration has been taking place in many sectors. For example, fresh water management has now moved into integrated management by incorporating fully environmental implications (Chapter 4), which can be contrasted with the original narrow focus on water pollution. Likewise, the forest sector fully incorporates environmental factors. This is accepted by many consumers now who prefer environmentally-certified woods (Chapter 3). In this case, more participatory and transparent policy formulation is considered necessary and involves a wide range of stakeholders. Extensive rumination is required to devise policies that further promote meaningful integration.

Recommendation 3: A policy mix must be developed and applied in response to the changing surrounding conditions. As environmental matters become complex, many stakeholders are involved in the policy formulation and implementation. To be effective in responding to such changing situations, policy-makers

must consider not only regulatory measures, in which the government plays the dominant role, but also the programme approach, market-based measures, information and procedural measures, in which many stakeholders work together to achieve common goals. Already this has happened in various countries in Asia. Environmental impact assessment is now the norm rather than the exception and the use of economic instruments has become more and more popular (Chapter 2). Chapter 6 underscored the usefulness of voluntary agreements, for instance, in promoting air pollution control and GHG emission reductions that are already successful in Europe and are replicable in Asia. Although caution must be taken when introducing a policy mix that does not incur unnecessary complications, governments should provide a broad policy framework to promote the use of various policy instruments.

Recommendation 4: The need for such a policy mix, however, does not negate the fact that regulatory measures continue to be vital in the promotion of environmental management. Strong government intervention in the domain of environmental management is indispensable, particularly when there is a need to generate clear policy impacts immediately. Chapter 6 underlined that the governments must continue to play an important role in implementing regulatory measures. Regulatory measures can be quite effective when they are introduced by local governments because the specific conditions that each company faces may be better reflected in the regulation. Also, it is important to point out the fact that regulatory measures are effective in facilitating technology development. The case of emission controls of automobiles (Chapter 6) illustrates the correlation between regulatory measures and technology development.

Recommendation 5: The conduct of business and industry in Asia will determine whether or not economic growth and environmental sustainability can be jointly achieved. This will happen only if market mechanisms are aligned to the production of environmentally-sound goods and services. Green procurement is already prevalent in Europe. Thus far in Asia, only Japan has adopted a green procurement act, but green purchase networks, or coalitions of consumers and producers, are now gaining momentum elsewhere in the region, including the Republic of Korea, the Taiwan Province of China and Thailand (Chapter 2). Voluntary eco-labelling programmes and consumer networks have been forging new markets for green products and services and enlarging existing markets. Such markets are beginning to include recyclable materials, biomass and other renewable energy. China's wind power concession approach and tendering system for developing mega-wind farms shows an interesting example of government intervention in creating market mechanisms for renewable energy development (Chapter 5). The impacts of China's Renewable Energy Law that will enter into force in 2006 warrants close monitoring to assess its impacts on developing market mechanisms. More generally, an Asian business for sustainable development framework should be constructed with reference to the following factors:

- a. There are positive relationships between environmental regulation and technological innovation. Regulation is essential as a stimulus for those who are making slow progress.
- b. Regulation will be increasingly required as an enabling framework which needs to encourage change, rather than act as a rigid system of rules and procedures.
- c. Early signals by governments about new regulation, flexible instruments and credible long-term objectives can promote the development and adoption of new technologies.
- d. Businesses and policy-makers must be made more aware that corporate environmental management offers opportunities as well as difficulties.
- e. Political intervention should not provide only economic incentives but should promote information exchange and learning among businesses. Such intervention needs to address explicitly the costs and benefits of environmental gains and to seek appropriate policy instruments to address the needs of "losers."

- f. The often cited adage by industry that we should leave choices to consumers as the ultimate arbiters of consumer preference is flawed. The evidence indicates the need for incentives to support green consumerism.
- g. Environmental policy has to look at the opportunities and barriers for greening production and consumption and identify points for strategic intervention.

Recommendation 6: The architecture of the future climate change control regime beyond the first Kyoto Protocol commitment period of 2008–2012 is still subject to inter-governmental negotiations. As Asian countries will have a great deal at stake in this issue in terms of GHG emission reductions, conserving/developing carbon sinks and adapting to climate change, they should assume a very proactive role. Their goal should be to champion a global climate change control regime conducive to much greater gains in rolling back carbon emissions and in generating the international political will required for sustainable development (Chapter 5).

Recommendation 7: Building and supporting institutional arrangements for policy implementation remain vital tasks for Asian countries. Policies that reflect noble philosophical principles carry no meaning if they are not implemented. Loopholes and discretionary enforcement of policies create suspicion among stakeholders and undermine the very foundation of policy implementation. Across Asia, there is an urgent need to strengthen the institutional capabilities that are prerequisite to effective policy implementation. This may be particularly true with the forestry sector. The proportion of illegally harvested timber is still substantial and it is claimed that a lack of accountability and transparency in forestry management and administration is culpable (Chapter 3). On the other hand, it is important to note that the institutionalisation of community-based forest management has been yielding positive results in promoting sustainable forest management. In the same vein, recent developments in river basin organisations underline the benefits that can flow from stakeholder participation in integrated river water and basin management (Chapter 4).

Recommendation 8: The increased involvement of local stakeholders through appropriate institutional arrangements is considered desirable for enhancing the effectiveness of activities and compliance in all natural resource management issues (Chapter 3). While stakeholder involvement in the implementation phase has progressed steadily, their involvement in public dialogue and decision-making processes remains relatively limited and is still not widely institutionalised. In the past many attempts have been made to develop national Agenda 21s involving many stakeholders. A national multi-stakeholder dialogue process was called for in connection with the development of national master plans for ESD (Chapter 8). With the exception of a few countries, the effects of such a policy dialogue in Asia have not proved durable. It is vital, having learned from past experiences, to develop a scheme that will optimise the representation of various stakeholders in policy dialogues and the formulation processes in emerging policy issues.

Recommendation 9: Institutions and mechanisms at regional and sub-regional levels must be further strengthened, given the fact that Asian trans-boundary environmental problems will increase with time. In the public sector, regional/sub-regional collaboration might well start with collective data collection, analysis and monitoring arrangements. These might develop into financing pilot projects and subsequently facilitating the implementation of common policies (Chapter 2). Inter-city cooperation would flourish if there were an effective institutional set-up that facilitated information exchange and dialogue and had a sound financial basis (Chapter 6).

Recommendation 10: Human resource development is essential for the effective promotion of sustainable development. The need for human resource development encompasses wide-ranging stakeholders, includ-

ing government officials, the private sector, NGOs, scientific communities and local communities. A range of approaches to education and training through schooling, the media and capacity development linked to specific policies appear to be cost-effective and these merit serious and sustained attention (Chapter 8). Such capacity-building can be linked to policy formulation, monitoring, enforcement, information sharing, and partnership building.

Recommendation 11: Despite the difficulties in measuring the impacts of human resources development, further efforts must be made to promote an outcome-oriented approach in human resources development that can be measured against certain benchmarks on behavioural change and institutional development (Chapter 8).

Recommendation 12: Finance always emerges as a difficult public policy matter. Yet, various schemes have been developed to overcome financial challenges. Although caution and prudence are also required, public-private partnerships (PPP) and community-based initiatives have been increasingly adopted as a means of ensuring the financing required to deliver environmental goods and services. Such arrangements are increasingly evident in water supply (Chapter 4), solid waste and sewage management (Chapter 6). Since the level of funding differs from one project to another, and commitments from stakeholders are different, there is no single funding formula that instantly converts problems into opportunities. The continuous collaboration of stakeholders concerned is the basis for making partnerships successful. Governments, research communities and international aid agencies can bolster the replication of successful partnership arrangements through capacity-building that can include the preparation of handbooks and the undertaking of training.

Recommendation 13: Socially responsible investment (SRI), including the use of pension funds, should be further promoted in Asia as the current portfolio is still limited (Chapter 7). It will be essential to explore ways for influencing individual and institutional investors to shift their investment into more environmentally-focussed or sustainable development-oriented projects and fund management. Again, these issues are interwoven with green market development, consumers' awareness-raising and international network development.

Recommendation 14: Asia must make the best use of the opportunities provided under the Kyoto Protocol for climate change mitigation. The clean development mechanism (CDM) has been promoted as a way to enable developed and developing countries to collaborate to reduce GHG emissions and conserve/develop carbon sinks/reservoirs. By combining carbon sequestration with other socio-economic benefits, the CDM can contribute to the promotion of sustainable development in developing countries and the enticement of investment (Chapter 5). CDM activities, however, remain hampered by the weak state of policy guidance for the application of the CDM. Much clearer policy guidance is required and should be accorded a high priority by Asian countries.

Recommendation 15: Many technologies for renewable energy are already available, but they have not yet reached localities where renewable energy sources could be best explored and applied. Policies and mechanisms conducive to knowledge dissemination and technology transfer are clearly required. Such policies typically involve the protection of intellectual property rights and the creation of markets for such technologies. With respect to the latter point, international investment schemes, such as the CDM, have great potential to expand the use of environmentally-sound technologies for enhancing energy efficiency and reducing GHG emissions (Chapter 5). Careful application of biotechnology may also bring about multiple benefits to local communities and investors for promoting sustainable use of natural and genetic resources.

Recommendation 16: Simple technologies can make a significant difference in some sectors. Rain har-

vesting and biogas digesters are examples (Chapter 4). Catalytic financial and technical intervention by the government or intermediaries can multiply the impacts, although the financial requirements of such technologies are not high. Stakeholders must assess the potential of technological interventions in tackling environmental challenges and explore ways for introducing such simple technologies.

Recommendation 17: Information measures were highlighted as one of the essential components of the policy mix required for sustainable development (Chapter 1). Information enables policy-makers and stakeholders to make sound decisions and promote behavioural changes. In this respect, Asian countries should support the wider application of, for instance, forest/timber certificates (Chapter 3), eco-labelling and environmental reporting (Chapter 7).

Recommendation 18: The number of environmental reports by private companies is still limited in Asia and the release of such reports should be extended beyond the shareholders to the public domain (Chapter 7). Consequent changes in behaviour of informed consumers and financial institutions should influence operations of private companies to be more compatible with the objectives of environmental management and sustainable development.

Recommendation 19: Governments should play a role in providing a salient policy framework for facilitating information measures. Proper modalities should be developed to monitor and ensure that the information is credible and provided in accordance with standards. The Freedom of Information Act (FOIA) has been promoted in other regions, but has not been widely adopted in Asia. Paragraph 128 of the Johannesburg Plan of Implementation calls for the ensurance of access to environmental information, judicial and administrative proceedings. Asia does not have a regional policy framework like the Aarhus Convention (Chapter 2).

Recommendation 20: Policy ingenuity, supported by participatory policy dialogues and planning, will be essential if Asia is to improve the conditions of its exploding population of ghetto dwellers (projected to reach 100 million by 2020). In this regard, concrete options are presented in Chapter 4 and 6 for the provision of water supply and access to sanitation.

Recommendation 21: In order to halve the number of poor by 2015, rural development is imperative as two-thirds of the poor reside in rural areas. Granting local people access to natural resources, such as forest, cropland and pastureland, under certain conditions, suggests a prospective solution to promote participatory sustainable natural resource management (Chapter 3). Legislative reforms and capacity development activities are essential to allow the local people to improve their livelihood with better access to, and increased use of natural resources in their communities.

Recommendation 22: The CDM and adaptation measures promoted in the context of climate change mitigation should be linked to the improvement of poor people's livelihood. Agroforestry, coupled with watershed management, for example, could generate multiple benefits, such as income-generating opportunities, while at the same time, conserving carbon sinks/reservoirs. Adaptation measures could be made useful, if properly designed, to strengthen the preparedness for droughts, floods and other natural disasters, and for reducing the vulnerability of communities to extreme climate conditions.

Recommendation 23: As the global economy evolves to be more interdependent with the increasing import-export volumes, trade-related environmental measures assume increasing importance. For instance, Asian countries must develop and implement national implementation plans for the Rotterdam Convention to control the trade of hazardous chemicals. At the same time, Asian countries must be vigilant on the con-

trol of trade in hazardous waste under the Basel Convention as the volume in trade of recyclable materials has been increasing in some countries (Chapter 2). Trade-related measures must be reinforced in a way that is compatible with the objectives of environmental management and sustainable development.

Recommendation 24: Illegal timber harvesting can be curbed through codes, standards and restrictions that are entirely compatible with the WTO rules. In this respect, voluntary timber import licensing schemes between European countries and Asian timber exporting countries deserve close attention to see if they can successfully reduce Asia's illegal timber trade (Chapter 3).

Towards a sustainable Asia

Achieving a sustainable Asia is essential to all of humankind and for the natural environment it inhabits. Yet today, Asia finds itself more on a course towards human and ecological collapse than to sustainability. To reverse this will require a renewed and intensified collective effort across Asia as a whole, beginning with the recognition that Asia's prospects for longer-term economic growth, social development and political stability depend directly on strategies, policies and actions for achieving environmental sustainability.

IGES is an international strategic studies institute that aims to contribute directly to the formulation of strategies and policies that will build a sustainable Asia in the 21st century. This IGES publication is a modest, first attempt to summarise and present the recent work and efforts of IGES. This is very much a work in progress. Many of the recommendations contained in this document have limitations and are initial steps only, but it is hoped that this first publication may contribute to the promotion of honest and constructive discourse on the future of the region and alternative choices available to its citizens. IGES will continue to produce similar publications on a regular basis and in the process further refinements will be made.