



Economic and Social Council

Distr.: General
15 July 2010

Original: English

Economic and Social Commission for Asia and the Pacific

Ministerial Conference on Environment and Development in Asia and the Pacific

Sixth session

Astana, 27 September-2 October 2010

Item 3(a) of the provisional agenda

**Review of implementation: The recommendations of the
fifth Ministerial Conference on Environment and
Development in Asia and the Pacific (2005)**

Progress in the implementation of the recommendations of the fifth Ministerial Conference on Environment and Development in Asia and the Pacific (2005)

Note by the secretariat

Summary

The present document reviews progress made in the region in the implementation of the recommendations of the fifth Ministerial Conference on Environment and Development in Asia and the Pacific, in terms of both national policy integration and institutional development, as well as regional cooperation. It also identifies opportunities for system and policy changes to assist Asian and Pacific countries facing immense challenges in sustaining previous levels of economic growth while natural resources dwindle. The document gives a snapshot of the way in which countries in the region are dealing with the growing demand for energy, water and other natural resources, the recent concurrent crises (food, fuel, financial), and climate change, which threatens poverty reduction gains and hinders efforts to address the unmet needs of millions of people. The document highlights the potential for a comprehensive and systematic integration of environmental sustainability in development policy and provides examples of how some countries in the region have already turned the current financial and economic crisis into an opportunity for green growth by incorporating green elements into their economic stimulus packages. While many initiatives are under way, it is clear that there is no “one-size-fits-all” approach, and that countries will need to tailor green growth to their own priorities. The document argues for investing in natural capital, clean energy and ecological efficiency for promoting pro-poor green growth, which forms the basis for sustainable and inclusive development.

The Conference may wish to discuss the issues and challenges highlighted and provide guidance on follow-up action.

Contents

	Page
Introduction.....	2
I. Progress in implementation.....	2
A. Initiatives at the national level.....	3
B. Initiatives at the regional and global levels.....	9
II. Challenges and opportunities.....	10
III. Gaps.....	12
IV. The way forward.....	13
V. Issues for consideration.....	16

Annexes

Thematic cluster: energy, water, food and agriculture, urban settlements and infrastructure.....	17
Progress towards implementation.....	19

Introduction

1. The present document reviews the progress made in the Asian and Pacific region in integrating environmental sustainability in development policy, which is the key focus of two of the main outcome documents of the fifth Ministerial Conference on Environment and Development in Asia and the Pacific (March 2005): the Ministerial Declaration on Environment and Development in Asia and the Pacific, 2005; and the Regional Implementation Plan for Sustainable Development in Asia and the Pacific, 2006-2010. For a summary of progress in the implementation of the Seoul Initiative on Environmentally Sustainable Economic Growth or “Green Growth”, see E/ESCAP/MCED(6)/3.

2. In view of the complex processes and challenges that the Asian and Pacific region has needed to deal with for the last five years, and the interlinked policy responses across all sectors, the focus of the present document is mainly on regional and national policy integration, and institutional development across main areas for the promotion of environmentally sustainable economic growth. The document has six sections including introduction, progress in implementation, challenges and opportunities, gaps, the way forward and issues for consideration. It is intended to stimulate deliberations at the sixth Ministerial Conference on the above issues, and on the policy directions that member States may wish to take.

I. Progress in implementation

3. Since the fifth Ministerial Conference, three crises have hit the Asian and Pacific region. The food-fuel-financial crises, known as the “Triple Fs,” compounded by climate change, continue to haunt society, inflicting a heavy human cost. In addition, Asian and Pacific countries are facing immense challenges in sustaining previous levels of economic growth as natural resources dwindle. Demand for energy, water and other natural resources is expected to

continue to grow rapidly. Yet, the basic needs of millions of people remain unmet. Countries in the Asian and Pacific region can no longer hope to “grow first and clean up later” and increasingly recognize that environmental sustainability and economic growth are not incompatible. Investing in environmental sustainability can bring about benefits not only to the environment, but also to the economy, for instance, to generate employment.¹ In response to the crisis, a good number of national stimulus packages and “green” strategies have been launched in the region and investments in natural capital have been promoted for the creation of green jobs. Strategic development has also been initiated in key sectors, such as urban and rural infrastructure and agriculture.² While many initiatives are under way, it is clear that there is no “one-size-fits-all” approach, and that countries will need to tailor green growth to their own priorities.

4. Pursuing green growth means more than just integrating environmental sustainability into current development patterns. It demands significant improvements in the resource efficiency of production and consumption as well as enhanced labour productivity through investment in human capital. The invisible structure of the economy needs to become more eco-efficient. In addition to addressing these fundamental challenges, actions are needed to build competitiveness and socio-economic resilience to climate change, resource scarcities, as well as risks and uncertainties.

5. Several countries in the Asian and Pacific region have already turned the current financial and economic crisis into an opportunity for green growth by incorporating green elements into their economic stimulus packages and undertaking appropriate initiatives towards that end.

A. Initiatives at the national level

1. Integrated policy development

(a) National sustainable development strategies

6. Following their commitment to the recommendations of the World Summit on Sustainable Development, many countries in the region have placed the formulation and implementation of national sustainable development strategies and policy documents on sustainable development high on their political agendas. About 15 countries³ have recently finalized their national strategies for sustainable development, which also address environmental sustainability in various sectors and feature the application of green growth policies. Other countries enacted various policy documents, such as the Green Vision 21 in the Republic of Korea, Vision 2020 in Malaysia, the Green Plan or National Environment Action Plan or National Agenda 21 in Singapore, and the Agenda 21 and National Programme of Actions on Sustainable Development in China, to create synergy between environmental sustainability and development policies. Notably, in its 11th Five-Year Plan for National Economic and Social Development, China identifies the

¹ *Financial Times*, “Which country has the greenest bail-out?” (March 2009), see <http://www.ft.com/cms/s/0/cc207678-0738-11de-9294-000077b07658.html>.

² These sectors constitute 60 per cent of the working population in the region.

³ Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan in Central Asia; Bangladesh, Bhutan, Pakistan, Maldives and Sri Lanka in South Asia; Cambodia, the Lao People’s Democratic Republic, Myanmar, Thailand, and Viet Nam in South-East Asia; and Mongolia in North-East Asia, with assistance from the UNEP Regional Resource Centre for Asia and the Pacific (see <http://www.rrcap.unep.org/nsds/brief/Cambodia%20brief.pdf>).

binding target of a 20 per cent reduction in energy consumption per unit of GDP and a 10 per cent reduction in total discharges of major pollutants during the period 2006-2010, on the basis of 2005 levels. Up to the end of 2009, the energy consumption per unit of GDP had decreased by 14.38 per cent, and it is expected that, by the end of 2010, chemical oxygen demand (COD) discharge and sulphur dioxide (SO₂) emission reduction targets will be achieved.

(b) Green growth application strategies

7. A number of countries in the region have taken the lead in developing green growth policy documents, strategies and roadmaps. The Republic of Korea has taken firm steps to green its economic growth and investments with the launch of a Green New Deal stimulus strategy in January 2009. Later that year, a green growth national strategy and five-year plan was presented, which addressed issues of climate change, energy security and quality of life through the prism of major investment in green sectors.

8. In early 2009, Cambodia became the first among the least developed countries in the Asian and Pacific region to establish its green growth strategy when it formed a national green growth secretariat and inter-ministerial green growth working group for the development of a national green growth road map. The road map, approved at a ministerial round table in February 2010, presented a blueprint for addressing persistent challenges in key sectors through an integrated green growth approach and proposed 40 cross-ministerial projects for further implementation.

9. Kazakhstan incorporated a number of green growth policy tools into its National Sustainable Development Strategy in 2008. Some of these policies were incorporated in the Strategy 2030, “Zasyt Damu” (see E/ESCAP/MCED(6)/10). A national report on the application of green growth policy tools in strategic planning and management was developed as a collaborative effort of an inter-ministerial working group led by the Cabinet of the President in 2010. Its recommendations will be incorporated into the low carbon development strategy which is also under development.

10. Such countries as Malaysia, Indonesia, the Philippines and Thailand have been promoting green innovation and green technologies, development and application of green and carbon taxes, and green business as strategies for improving the environmental sustainability of their economic growth. Indonesia and the Philippines have started the process of incorporating eco-efficiency dimensions into their national development plans. Sri Lanka launched a National Action Plan for Haritha Lanka Programme, which focuses on improving the eco- and resource efficiency of natural resources, including land and water, as well as greening cities and industries, and preserving natural ecosystems and their services. The Pacific subregion is currently developing a green growth partnership, with such countries as Fiji taking the lead in promoting green growth as an engine for creating green jobs and Samoa stimulating green business opportunities in poor rural communities from renewable energy sources.

2. Sustainable infrastructure

11. Eco-efficient approaches to infrastructure development have already been introduced in the region. The eco-city approach to urban development has been advocated by visionary local governments as having the potential to improve the quality of life and growth significantly, adding value to property, creating employment opportunities and increasing socio-economic benefits for all. Bhutan, China, Indonesia, Malaysia, Mongolia, Nepal, the Philippines and Viet Nam

established country teams to promote eco-efficient water infrastructure development. Specific eco-efficiency measures on river rehabilitation and storm-water management are in the process of being adopted in Nepal, the Philippines and Viet Nam. ESCAP has already identified and helped disseminate numerous good practices, including the Water Sensitive Urban Design in Australia, the Wastewater Reclamation and Reuse Practice for Agriculture and the Taehwa River Development in the Republic of Korea, and the Singapore Active, Beautiful and Clean (ABC) Waters Programme. In India, the Prime Minister's Rural Roads Scheme, funded entirely by the central Government, was launched with the objective of boosting rural connectivity.

12. Many countries have adopted innovative community-based approaches to addressing housing and energy needs and among the success factors are autonomy for local governments, clear performance-tracking systems, involvement of local communities and good customer service. Several rural electrification projects have been based on a decentralized renewable energy supply, such as the establishment of rural electric cooperatives (Bangladesh, Cambodia, Samoa) and allocating rural electrification to a department of the national distribution company (Thailand). Another successful example of community participation is the Pro-Poor Public-Private Partnership project in Cinta Mekar, Indonesia, where a small-scale hydropower facility was set up to provide electricity for all. The project incorporated community participation, awareness creation, education and income generation for social development.⁴

3. Sustainable consumption and production

13. With increased industrialization, conditions and incentives for cleaner, more environmentally sustainable production processes are provided by both evolving regulatory frameworks and increasing the prices of raw materials, such as energy and water, to further green growth objectives. Policies promoting energy-efficient products (eco-labelling), cleaner production (3R, waste-for-energy), and informed investment (information disclosure) have picked up speed in the region.

(a) Eco-labelling

14. Eco-labelling creates a basis for informed consumer choice and promotes products which are either manufactured by environmentally sound processes or can be used in environmentally sound ways, or generally, over their entire life cycle, impose fewer burdens on the environment. Some eco-labelling schemes in the region include (i) Lao Organic; (ii) JAS – Japan Agricultural Organic Standard; (iii) India Organic – National Program for Organic Production; (iv) EcoLeaf Japan; (v) Fairtrade; (vi) Korean Ecolabel; (vii) Thai Green Label; (viii) EcoMark Japan; (ix) Green-e; (x) Green Mark; (xi) Forest Garden Products; (xii) Singapore Green Label Scheme; (xiii) Ecomark India; (xiv) Organic Food China; (xv) Ekolabel Indonesia; (xvi) Green Choice: Philippines; (xvii) Hong Kong Eco-label, and (xviii) Eco-mark Viet Nam.

(b) Cleaner production

15. Cleaner production has been supported in a number of countries in the region and has been promoted in countries such as Australia, Cambodia, China,

⁴ ESCAP, *Lighting up Lives: Pro-Poor Public Private Partnerships (Energy component, Indonesia)* (Bangkok, ESCAP, 2004).

India, Japan, Kazakhstan, Malaysia, the Philippines, the Russian Federation, the Republic of Korea and Viet Nam. China is leading the region by example with its resource-saving, circular and eco-industrial parks policies and investments to promote resource and energy efficiency. Various programmes on sustainable waste management, such as the reuse and recycling of wastes throughout the production, circulation and consumption processes,⁵ have been successful in reducing consumption of resources. Investments in renewable energy production have increased to 10 per cent of the energy mix. Similar steps have been undertaken in India, in energy-intensive industries, such as cement, steel, fertilizer and aluminium. India has also promoted renewable energy, energy-efficient public transport and green buildings. Programmes for innovation, efficiency and development of local renewable energy production facilities are being undertaken in Thailand, Indonesia and Malaysia. In September 2009, Viet Nam adopted its National Strategy on Cleaner Production in industries till 2020 and activities are underway to implement this strategy. A steering committee has been established and a Cleaner Production office was set up in the Ministry of Industry and Trade. Training and awareness-raising activities have been actively conducted. The targets for 2015 are for 50 per cent of industries to have knowledge of cleaner production and 25 per cent of industries to be able to implement the strategy. The targets for 2020 are 90 per cent and 50 per cent, respectively.

16. Small island developing States are looking into using renewable sources for energy production to decouple their economy from dependence on expensive fossil fuels. Prominent among these is the Government of the Maldives, which has used its emission reduction targets in a tourism promotion strategy targeted at the environmentally conscious tourist.

17. In terms of water efficiency, China plans to reduce to 125 cubic metres the amount of water used for each 10,000 yuan of GDP by 2020.⁶ In India, the National Water Mission set a goal of improving water-use efficiency by 20 per cent through pricing and other measures.

18. Material efficiency is also being promoted to reduce overall material use and waste and emissions. Japan has been a leader in the region in reducing material use. It has established and operationalized a fundamental law and plan for establishing a sound material cycle society by reducing, reusing and recycling materials. Many other countries in the region have established policies for reducing material use and waste. There has been tremendous uptake of 3R (reduce, reuse and recycle) policy objectives in Viet Nam (a national 3R strategy), the Philippines (national 3R policies) and Pakistan (2005 national environmental policy). Other countries that have adopted measures to promote efficiency in waste and recycling are Malaysia (National Strategic Plan for Solid Waste Management, 2005), China (Circular Economy Promotion Law, 2008) and New Zealand (Waste Minimisation Act, 2008).

(c) Information disclosure

19. One of the most important tools for creating an informed and conscientious investor is the disclosure of information to the public and the media on the environmental performance of companies. Such practices are spreading in the

⁵ F. Sheng, "A green economy: conceptual issues", 2010 (unpublished).

⁶ Jason Subler and Li Jiansheng, "China vows to squeeze 60 per cent more out of its water", Reuters, 15 February 2009, accessed from www.reuters.com/article/environmentNews/idUSTRE51E0BB20090215 on 19 July 2009.

region, with particular success in Indonesia, where various industries have been rated as good or bad on the basis of their environmental performance, which has, in turn, influenced the price of their stock.

20. Currently, companies are disclosing their social and environmental programmes, on their websites, in their annual reports or in separate sustainability reports. A recent study by the International Finance Corporation in six countries—India, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam—reveal that sustainability reporting by firms has multiplied and considerably improved in the last five years. Likewise, corporate social responsibility is developing at an unprecedented pace in China, resulting in 18 reports published in 2006 alone.

(d) Regulatory and market-based instruments

21. Many countries in the region have also responded to the emerging challenges in both cross-sectoral and thematic issues by promoting regulatory and market-based instruments (annex I) and by reshaping their legislation and standards. Occasionally, new legislation offers modalities for enhancing public participation and information disclosure as well as promoting environmental information and awareness-raising.

22. Command and control measures, which rely on regulatory instruments, such as legislation and standards, are still widely used in the region, particularly for pollution control, charges for which fall into four categories: (a) effluent charges, based on the quantity and toxicity of the discharges; (b) user fees, for wastewater treatment plants or public collection of wastes; (c) product charges, whereby cleaner products receive favourable taxation treatment or subsidies; and (d) administrative charges, such as payments for registration or licensing.

23. In view of rising environmental litigation and disputes, environmental courts have been established. For example, in China, the Government has established 11 pilot environmental courts. Since 1998, Indonesia has trained 20 per cent of its judges in environmental law. In January 2008, the Philippine Supreme Court designated 117 municipal and regional trial courts as environmental courts. The Supreme Courts of India and Thailand are also well known for judicial activism. Another significant development has been the creation of environmental police forces and green customs. Viet Nam, for example, has created environmental police agencies in 30 provinces and cities. Kunming, capital of Yunnan Province of China, has also set up an environmental police force, initially with 60 officers. The Republic of Korea pioneered the Green Customs Initiative in order to prevent illegal trade in environmentally sensitive commodities, such as ozone-depleting substances, toxic chemicals, hazardous wastes and endangered species.

4. Green business and green technology

24. The countries of the region are also taking advantage of green business and technology, with investments being channelled towards low carbon power generation (renewable energy, carbon capture and storage), energy efficiency (buildings, vehicles, rail and power grids), water supply and waste management. China, for example, is investing in 100 new high-speed trains, expansion of the rail network to 120,000 km by 2020, and faster links between all of the country's major cities. In early 2010, China became the global leader in the production of renewable energy technology, a position achieved through significant policy and investment support for this sector. Development and provision of renewable

energy in many other countries of the region is a good initiative, as it provides a pro-poor business opportunity.

25. The Republic of Korea is investing in research and development in green industries, such as light-emitting diodes, solar batteries and hybrid cars, with the aim of raising its international market share to 8 per cent. In July 2009, the Republic of Korea announced a further US\$ 85 billion investment over five years (2 per cent of their GDP) in green industries and technologies.

26. The Government of the Philippines identified green growth as the solution for meeting the challenges created by the financial crisis and climate change.⁷ In that regard, an enabling environment has been created through the passage of a number of landmark laws, including the recent Renewable Energy Act. Renewables already account for 33 per cent of the energy supply, but with the country's great potential for geothermal energy, the Government is seeking to increase the share. The country has also adopted a green procurement programme and is promoting green businesses. In order to promote green growth at the regional level, an International Conference on Green Industry in Asia was convened in Manila in September 2009.

5. Payment for environmental services

27. Payment for environmental services is also becoming popular in the region. The new holistic strategy adopted by the Province of Aceh, Indonesia, to rebuild its economy in the aftermath of the December 2004 tsunami and the 30-year conflict for independence envisages cost recovery for environmental services. This green economic strategy integrates environmental sustainability via renewable energy and land-use management, community development, commerce and conservation. A policy on payment for ecosystem services will support efforts to provide incentives for sustainable land management.

28. On recovering payment for the conservation of ecosystems services by promoting ecotourism in urban settlements, one of the leading examples in the region is Suncheon City, Republic of Korea, which has turned its undeveloped tidal ecosystem into a source of competitive advantage. Since its restoration, the wetland in Suncheon Bay has enabled the city to emerge as a centre of ecotourism, attracting more than 2.3 million visitors, creating 6,400 jobs and providing other economic benefits valued at some US\$ 100 million to its citizens. Suncheon Bay is one of the five largest coastal wetlands in the world and is the first from the Republic of Korea to be registered by the Ramsar Convention. Another example of achieving big gains through investment in ecosystem services is in Viet Nam, where a national policy on payment for ecosystems services has been approved and will be issued by the end of this year. An investment of US\$ 1 million to plant nearly 12,000 hectares of mangroves is projected to save US\$ 7 million per year in coastal infrastructure maintenance costs. Also, since 2008, payment for forest environmental services in two provinces has been piloted for two years and will be replicated nationwide from 2011.

⁷ Jose L. Atienza, Jr., Secretary of the Department of Environment and Natural Resources, Philippines, keynote message delivered at the International Conference on Green Industry in Asia, Manila, 9-11 September 2009.

B. Initiatives at the regional and global levels

29. At the regional and international levels, a number of initiatives have been undertaken by international organizations, including the United Nations. These initiatives have helped achieve progress by: (a) developing regional programmes and implementation mechanisms with regional, subregional and national ownership; (b) implementing projects and programmes at the regional, national and local levels to develop and/or improve tools and methodologies; (d) evaluating progress, exchanging information and experience, promoting cooperation and coordination; and (e) securing and incorporating multi-stakeholder inputs on the greening of economies and the promotion of sustainability.

30. These initiatives have resulted in networking, capacity-building, dissemination of best practices, training, and policy reform, in addition to promoting the establishment of cleaner production centres, undertaking joint programmes by the private sector and non-governmental organizations and formulating a coalition of non-governmental organizations and community-based organizations.

31. Since 2005, the secretariat of ESCAP has been assisting countries in the region through policy dialogues and forums, capacity development, training of trainers and leadership programmes for the development and application of green growth policy tools. ESCAP has also been implementing a number of pilot projects, using both its own platform for regional cooperation and supporting the implementation of the Seoul Initiative Network on Green Growth (SINGG). SINGG was launched at the fifth Ministerial Conference on Environment and Development in Asia and the Pacific in 2005 as a mechanism for implementing the Seoul Initiative and comprises countries in Asia and the Pacific as its members. Key emerging issues and priorities in relation to environment, development and green growth application, namely the application of economic instruments, sustainable infrastructure, sustainable consumption and production for climate change action, and the promotion of green industry, have been tackled at regional forums. More than 300 policymakers from 35 countries in the region have benefited from both the Green Growth Capacity Development Programme and the Leadership Training Programme. Ten pilot projects in ten countries have been launched to test the implementation of green growth policy tools and mechanisms in developing countries in the region and provide lessons and models for replication.

32. The Asian and Pacific Green Growth approach has resonated well in other parts of the world, and UNEP was first to launch, in October 2008, the Green Economy Initiative (GEI) as a global initiative supported by other United Nations initiatives. All these aim at providing convincing macroeconomic evidence for significantly increasing investment in the environment as a means for sustainable economic growth, decent job creation, and poverty reduction, while also reducing greenhouse gas emissions, extracting and using fewer natural resources and creating less waste. GEI activities include advisory services to countries and regions, as well as the production of considerable research products, such as the *Green Economy Report*, the *Economics of Ecosystems and Biodiversity* series of reports, and the *Green Jobs* report. GEI has also engaged in partnerships to promote and implement green economy strategies.

33. Social and professional networks and partnerships for the promotion of improved environmental performance for a low carbon sustainable development path include the Asia-Pacific Forum on Environment and Development, the Low

Carbon Society Research Network, the Asian Environmental Compliance and Enforcement Network, the Asia-Pacific Sustainable Development Planning Network; the ASEAN Wildlife Enforcement Network; the Coral Triangle Initiative; the Clean Air Initiative–Asia; Partnerships in Environmental Management for the Seas of East Asia (PEMSEA); Coordinating Body on the Seas of East Asia (COBSEA); the Baku Initiative on Energy Efficiency and Conservation; and the Asia-Pacific Water Forum. The Trans-Asian Railway aims to connect people through sustainable transport networks. Other relevant regional initiatives launched by member States since the fifth Ministerial Conference also support a green and low-carbon economy, such as the Clean Asia Initiative and the Cool Earth Partnership of Japan, and the East Asia Climate Partnership of the Republic of Korea.

34. Intergovernmental bodies for subregional cooperation, such as the Association of Southeast Asian Nations (ASEAN), the South Asian Association for Regional Cooperation, the North-East Asian Subregional Programme for Environmental Cooperation (NEASPEC) and the South Pacific Regional Environment Programme, are providing mechanisms to address environmental and sustainable development challenges in the subregions. These programmes have been instrumental in addressing specific challenges, such as transboundary air pollution, energy conservation and efficiency, renewable energy and nature conservation. For example, after the fifth Ministerial Conference, NEASPEC opened discussions on decoupling environmental pressures from economic development and launched the Eco-efficiency Partnership in North-East Asia.

35. Learning from the Asian experience, global initiatives aimed at promoting new and greener development paradigms have also been proposed. For example, the United Nations Department of Economic and Social Affairs and the United Nations Environment Programme (UNEP) have initiated the Global Green New Deal, calling on the world's leaders to promote a massive redirection of investment to restore the natural systems underpinning the global economy. The deal also proposes training formal and informal workers for green jobs in such diverse sectors as waste collection and recovery and transport. Member States of the Organization for Economic Cooperation and Development and the European Union have also adopted green growth strategies.

II. Challenges and opportunities

36. This section provides a succinct summary of the challenges and opportunities in the region. For detailed findings, see the report on sustainable development in Asia and the Pacific: trends, challenges, opportunities and policy perspectives (EDD/MCED(6)/1).

37. Gains in economic development have often and seriously undermined the natural and human base for it. In many cases, it has led to irreversible environmental degradation that threatens to erode and reverse development gains.

38. Symptomatic also is the fact that, despite good progress made towards poverty reduction during the past three decades, Asia and the Pacific still has 950 million people living in poverty and 542 million, or two thirds, of the world's hungry people. Rapid economic growth has helped reduce absolute poverty but relative poverty and disparities have increased. About 40 per cent of the region's urban population, for example, live in slums and squatter settlements without adequate housing, basic infrastructure or services, and basic needs are out of reach for many.

39. Among the numerous challenges the region needs to address in a holistic and integrated manner using green growth approaches are climate change impacts (water scarcity in some parts of the region, water-related calamities in others), food security and energy security. Furthermore, the growth in transport, waste, chemical use and urbanization (within 15 years, majority of the region's population will live in urban areas) will increase the ecological footprint in the region under the business-as-usual paradigm, with implications for long-term climate change impacts. Dense urban settlements with expanding slum areas, parts of which may lack basic sanitation, waste or water treatment, create pre-conditions for health threats and pandemic outbreaks.

40. With increasing energy consumption and projected demand, the region's greenhouse gas emissions—which account for almost 48 per cent of global emissions—are expected to increase considerably.⁸ The trade-off between economic growth and ecosystem services is another serious threat to sustainable development in the region. Current lifestyles and growth in the region in terms of urban development, waste generation, chemical use and production and consumption, also pose serious challenges, particularly because the associated costs and risks are spread unfairly. In many instances, cities have become victims of their own success.

41. Despite challenges and threats, the resilience to the global financial, fuel and food crises shown by Asia and the Pacific demonstrates that the region has the capability to convert challenges into opportunities for sustainable development. The region is the largest producer and exporter of renewable energy facilities, with China and India leading. Opportunities for investment in greener jobs and productivity, in human capacity and in enhancing ecosystem services are promising. Moreover, green products, such as those generated by managing and providing ecosystem services, non-timber forest products and organic agriculture, can provide new livelihood opportunities for the poor while improving the quality of the environment.

42. The report of the secretariat on sustainable development in Asia and the Pacific (E/ESCAP/MCED(6)/1) notes that there are other opportunities for policymakers to emphasize green growth and the reorientation of economic and social structures towards sustainability include the following:

- (a) A growing body of policy experience to build on and strengthen institutional and adaptive governance;
- (b) An emerging ability to leverage tools that influence investments;
- (c) Promising technological change and innovation;
- (d) The growing grass-roots and political support for green development;
- (e) Encouraging attitudinal and awareness changes, which now make it feasible economically and politically to talk about the integration of economic and environmental interests and shift the growth trajectories;
- (f) A strong capacity of stakeholders to act as partners;

⁸ According to the United Nations Framework Convention on Climate Change and the International Energy Agency.

- (g) Strengthened regional cooperation and networks;
- (h) The promise of the profits from green growth and sustainable consumption;
- (i) A large projected investment in new infrastructure, which presents a great opportunity to design infrastructure on the principles of sustainability.

III. Gaps

43. The concurrent crises that still haunt the countries of Asia and the Pacific have exposed the limits of current economic growth patterns. In view of its limited carrying capacity, the region cannot hope to follow the conventional development path of “grow first, clean up later” focusing only on maximizing the quantity of growth. However, new partnerships will be required between government, the private sector and the public. Current barriers, such as market failure and existing pricing systems, insufficient use of economic instruments, inadequate knowledge, inadequate research and development, low institutional capacities, overlapping institutional mandates, a low level of environmental expenditure, insufficient greening policies, if harnessed, could create opportunities for new investments and new green growth engines.

44. Fundamental structural system changes are required to facilitate the greening of economic growth through low-carbon development. Some of these changes are meant to address the invisible structure of the economy, such as market prices, regulations, lifestyles and technology, which need to reflect ecological prices. At the same time, physical infrastructure,⁹ such as transportation, energy and water systems, buildings, need to be more eco-efficient. These changes, which can be reflected in ecological prices and physical infrastructure, require governments to take the lead, while also enabling the private sector to seize emerging opportunities, and engaging consumers in changing life-styles without compromising quality of life.

45. Another major gap that needs to be addressed is the provision of an enabling policy framework for internalizing social and environmental costs into private and public choices through a combination of policy levers, incentives and disincentives. Pollution taxes and charges have been part of the command and control approach for many years; yet, they suffer from enforcement problems and low levels of charges (making it cheaper, for example, to pollute and pay a fine). Weak policies, low institutional capacities and overlapping institutional mandates are also problems. In addition, the low level of environmental expenditure, knowledge gaps, inadequate research and development and a lack of consumer traditions also pose significant shortcomings.

46. Other policy (regulatory, incentive-based, social and institutional) gaps include:

- (a) The lack of a conducive environment for business and industry to strive for continual improvements towards resource efficiency, employee well-being, and the least possible use of resources and toxic materials, ultimately striving for zero waste and carbon neutrality for the companies and their supply chains;

⁹ As of 2008, infrastructure investment needs are estimated at approaching US\$ 8 trillion for Asian Development Bank member countries for the period 2010-2020.

(b) A lack of rigorous demand for, and supply of, sustainable products and services in the market;

(c) Sustainable use and management of natural resources is not mainstreamed in the decision-making process of governments, the private sector and civil society organizations;

(d) Limited social development through sustainable investment in people and communities as highlighted in the Global Green New Deal;

(e) A failure to couple economic development with the creation of decent jobs and an increase in welfare;

(f) A lack of sustainable public procurement policies and measures;

(g) Limited awareness of the impact of consumption choices;

(h) Limited development of institutional capacity through knowledge management, technology transfer, education, training and awareness-raising;

(i) The limited participation of major groups, particularly women, local authorities, the private sector and local communities in planning, decision-making and implementation.

IV. The way forward

47. Considering Asia and the Pacific's development and sustainability, whether in terms of overall development or sectoral development, there is a need to build a resilient interrelated socio-economic and ecological system that can respond to shocks such as those that recently affected the regional and global economies in terms of finance, fuel and food. Developing such a system will require resilient and adaptive governance focusing on three elements: (a) staying within limits; (b) building system resilience; and (c) responding to required linkages between the elements of the system. Keeping in view these important factors, the fifth Ministerial Conference on Environment and Development in Asia and the Pacific adopted green growth as the strategy for the region to sustain economic growth, which is required to attain development goals without compromising the environment.

48. The countries of the region are striving towards achieving green growth goals and are committed to eradicating poverty and improving the social well-being of their growing populations by creating the necessary institutional, policy and economic tools and mechanisms. However, the challenges are too great to overcome within a short period of time and with the meagre resources and insufficient technology they possess. Years of neglecting the ecological dimensions of economic growth have placed critical strains on the environment. Recent crises have highlighted the social and ecological imbalances of conventional economic growth patterns. Successfully tackling key development challenges in the region will require correcting these imbalances.

49. Dealing with these imbalances will prove to be critical for the region if it is to meet key persistent and emerging challenges, such as poverty reduction, water, energy and food security, and climate change. These challenges are not isolated, but rather closely interlinked. Addressing them will require recognizing these linkages and adopting inclusive, holistic and integrated approaches to increase the resilience of socio-economic systems. Extending affordable services to rapidly

growing urban populations while ensuring that rural areas are not left behind, accelerating industrialization while pursuing a second green revolution to meet the food demand of present and future generations, and reversing the negative impact of human activities on the global climate while adapting to the changes that are already happening, require a shift to a different development paradigm. It demands putting people and the environment at the heart of economic growth strategies.

50. Infrastructure development is one of the priority areas for Asia and the Pacific, which must invest massively in the coming years, including extending access to services to a growing population. Infrastructure development, however, has important and long-term environmental impacts. Building infrastructure not only disrupts the local ecosystem and often requires the intensive use of physical resources and energy, it also sets consumption and production patterns that last for decades. Further, the history of infrastructure development in the region has not always been pro-poor, for example, it has led to massive evictions of the poor from their settlements. Therefore, it is important that infrastructure development be made both green and pro-poor.

51. Governments would need to design stronger labour market policies to address skills shortages and meet the rising demand for green jobs. Policy coherence on green jobs can help to support green growth objectives. Intervention is necessary to ensure that green jobs are pro-poor and that employment productivity, gender equity and job quality are maintained over the long term.

52. Green tax and budget reform can be useful tools in correcting market distortions and pricing systems and also in promoting more equitable and sustainable development. Governments can channel revenue from increased green taxation measures into sustainable infrastructure projects to extend essential services to the poor. Taxes and subsidies, however, must be accurately targeted and implemented gradually to avoid having a negative effect on low-income groups.

53. Not all green growth policies are automatically pro-poor. In fact, special attention should be paid to ensuring that green growth policies benefit the poor. As the poor already live low-carbon lifestyles, they may often be forgotten in green growth approaches. Prioritizing mass transit and public transit systems, as well as non-motorized private individual transport, has the potential to benefit the poor.

54. Food demand in the region is expected to double by 2050, and, unless productivity is boosted, the region will need to rely on imports to meet a large part of that demand. Given the increasing volatility of international markets, this would impose a huge and politically untenable cost on the economies of the region. In this respect, the food crisis experienced in 2008 may be only a warning compared to what lies ahead. With new agricultural land and water in short supply, the solution would be to intensify irrigation methods and modernize the old infrastructures. Without water productivity gains, the worst case scenarios will likely materialize.¹⁰

55. The development of an eco-efficient water infrastructure with a clear vision of the future is vital for tackling water security issues through integrated

¹⁰ Food and Agriculture Organization of the United Nations, International Water Management Institute and Asia-Pacific Water Forum, *Revitalizing Asia's Irrigation: To Sustainably Meet Tomorrow's Food Needs* (2009). (The figures depend on whether optimistic or pessimistic assumptions are made.)

planning with other infrastructures, such as sewage, energy, transport and disaster preparedness structures. Improved engineering and design knowledge and technology would play an important role. In order to optimize system changes, water cycle intervention is needed. Through technology and inclusive planning, water could be managed in an integrated manner following its natural cycle.

56. To pursue energy security, the countries of the region will need to ensure that energy supplies are available, affordable and sustainable. This will mean undertaking a broad range of measures: conserving energy and increasing energy efficiency; rationalizing pricing and taxation systems; improving energy sector governance; and diversifying energy supplies, in particular by making greater use of alternative and renewable sources. In terms of environmental sustainability, the two main challenges would be to reduce the energy intensity of the economies in the region, while decoupling economic growth from energy consumption, and decoupling energy consumption from environmental impacts by shifting towards more environmentally friendly energy sources.¹¹

57. Urban greening would not only contribute to better environmental quality and climate change mitigation, but it would also generate employment for the poor and even improve food security through urban agriculture and edible landscapes (i.e. using food-producing plants in constructed landscapes). Microfinance schemes that support small-scale projects (e.g. solar-powered recharge stations or biogas systems) can also contribute to creating livelihood opportunities for the poor. Vision, political leadership and willpower are also important in urban development. Several years ago the Shanghai government committed to invest 3 per cent of its GDP in environmental protection, mainly for waste treatment and air pollution control. The effort paid off: the city now advertises environmental quality as one of its features.

58. Attaining low-carbon high growth is not only necessary, but also feasible. Green growth aims at lowering energy, resource and carbon intensities in both production and consumption as an integral way to improve eco-efficiency. This approach directly supports countries in aligning development priorities with action on climate change, and it is in line with the Bali Action Plan, which requests developing countries to undertake nationally appropriate mitigation action in the context of sustainable development.¹² Green growth can provide an effective strategy for supporting the contribution of developing countries to the post-2012 climate change framework. Climate change imperative also calls for the integration of climate considerations into development policies. One option for aligning climate action with development policy is to focus on co-benefits. This refers to the realization of multiple objectives within a strategy that targets the reduction of greenhouse gases. Since many environmental protection measures have socio-economic benefits, policies and actions that can provide win-win solutions must be identified and prioritized.

59. Adaptation poses more complex challenges, particularly in terms of climate-related hazards. Basic disaster management and response planning is a logical first step in long-term adaptation planning that need not to be segregated from basic disaster prevention, management and response efforts. Designing climate-resilient infrastructure will require greater awareness and clear guidelines on “climate-proof” design, which should be integral to basic seismic and meteorological standards. Furthermore, in a time of uncertainty and growing risk, there is a need for adaptive

¹¹ ESCAP, *Energy Security and Sustainable Development in Asia and the Pacific* (2007) (United Nations publication, Sales No. E.08.II.F.13).

¹² FCCC/CP/2007/6/Add.1, decision 1/CP.13, para. 1(b)(ii).

governance and policies that actively work to enhance the adaptive capacity of the most vulnerable, in particular the poor. Adaptive governance and policies are critical in promoting inclusive and sustainable growth and provide the best option for handling both cross-sectoral and thematic issues related to sustainable development.

60. Policies and measures needed for making progress towards the integration of sustainable development into policy development are summed up in annex II. They are necessary for developing resilient socio-economic systems and should therefore receive greater attention in national, regional and international policies and dialogue. Finally, in the middle of the worst economic crises in recent memory, when traditional development models are being questioned, and with the world looking for new paths and new leaders, Asia and the Pacific has the opportunity not only to shape its own future, but also to provide the world with leadership in the transition towards environmentally sustainable and socially inclusive development. It requires the region to develop a common set of standards, norms, conventions and development approaches—one that encompasses green growth and integrates the economic, social and environmental dimensions of sustainable development in a balanced way.

V. Issues for consideration

61. The Conference may wish to review the progress made in implementing the recommendations of the fifth Ministerial Conference on Environment and Development, consider the challenges and opportunities and various options suggested and provide guidance on a future course of action.

Annex I

Thematic cluster: energy, water, food and agriculture, urban settlements and infrastructure

Energy	Water	Food and agriculture	Urban settlements	Infrastructure
<u>Overhaul/System change</u>	<u>Overhaul/System change</u>	<u>Overhaul/System change</u>	<u>Overhaul/System change</u>	<u>Overhaul/System change</u>
<ul style="list-style-type: none"> • Cradle to grave • Life cycle analysis • Smart grid • Curb wastage and transmission losses • Use of EIA and ERM • Demand management • Design green projects 	<ul style="list-style-type: none"> • Demand management • Use of EIA, ERM • Curb wastage and transmission losses • Adapt to climate change • Maintain ecosystem integrity • Design green projects 	<ul style="list-style-type: none"> • Cradle to grave • Life cycle analysis • Demand management • Ecological farming • Adapt to climate change • Agricultural land loss to built environment • Maintain ecosystem integrity 	<ul style="list-style-type: none"> • Smart planning • Land use planning • High density development • Eco-city development • Futuristic vision • Restricting urban sprawl • Cleaner production • Use of EIA and ERM • Green design 	<ul style="list-style-type: none"> • Cradle to grave • Life cycle analysis • Dematerialized development • Clean production • Use of EIA and ERM • Futuristic vision • Preserve ecosystem integrity • Green design
<u>Shift</u>	<u>Shift</u>	<u>Shift</u>	<u>Shift</u>	<u>Shift</u>
<ul style="list-style-type: none"> • Non renewable to renewable • Waste to energy • Decentralized and distributed generation • Cut adverse climate impacts • Curb wasteful subsidies 	<ul style="list-style-type: none"> • R and D • Promote conservation • Water reuse • Enhance affordability • Curb wasteful subsidies 	<ul style="list-style-type: none"> • R and D • Land rehabilitation • Promote IPM • Promote INM • Minimize resource use and eco-impacts • Curb wasteful subsidies 	<ul style="list-style-type: none"> • Eco efficient construction • Ecological restoration • Sustainable renovation • Minimize resource use • Eco impacts 	<ul style="list-style-type: none"> • Eco efficient construction • R and D • Manage and operate sustainably • Modal shift • Minimize resource use • Eco impacts
<u>Improve</u>	<u>Improve</u>	<u>Improve</u>	<u>Improve</u>	<u>Improve</u>
<ul style="list-style-type: none"> • Enhance efficiency • Carbon market initiative • Access and affordability • Regulatory measures • Legislate • Set standards • Accountability • Monitoring • Fiscal measures • Incentives/disincentives • Economic instruments 	<ul style="list-style-type: none"> • Enhance efficiency • Access and affordability • Water quality • Meet MDG targets • Regulatory measures • Legislate • Set standards • Accountability • Monitoring • Fiscal measures • Incentives/disincentives • Economic instruments 	<ul style="list-style-type: none"> • Enhance efficiency • Focus on poor and vulnerable • Meet MDG targets • Regulatory measures • Legislate • Set standards • Accountability • Monitoring • Fiscal measures • Incentives/disincentives • Economic instruments • Institutional Measures 	<ul style="list-style-type: none"> • Enhance efficiency • Shelter and services • Meet MDG targets • Regulatory measures • Legislate • Set standards • Monitoring • Fiscal measures • Economic instruments • Technological measures • Improve resource use efficiency • Switch to cleaner technology 	<ul style="list-style-type: none"> • Enhance efficiency • Meet MDG targets • Regulatory measures • Legislate • Set standards • Monitoring • Fiscal measures • Economic analysis for sustainability • Eco-certification • Technological measures • Improve Eco-efficiency • Treat waste and pollution

Energy	Water	Food and agriculture	Urban settlements	Infrastructure
<ul style="list-style-type: none"> • Institutional Measures • National energy management plan • Capacity-building • Awareness raising • Information disclosure • Community-based programmes • Disseminate best practices 	<ul style="list-style-type: none"> • Institutional measures • Capacity-building • Disasters and climate risk management • Integrated water resources management • Awareness raising • Information disclosure • Community-based programmes • Disseminate best practices 	<ul style="list-style-type: none"> • Decoupling production • National plan on food and agriculture • Capacity-building • Awareness raising • Information disclosure • Community-based programmes • Disseminate best practices 	<ul style="list-style-type: none"> • Institutional measures • Resilient and adaptive governance • Capacity-building • Climate change action • Awareness raising • Disseminate best practices 	<ul style="list-style-type: none"> • Promote innovation • Institutional measures • Develop benchmark for SI • Incorporate externalities into infrastructure planning • Capacity-building • Circular economy • Awareness raising • Disseminate best Practices

Notes

EIA:	environmental impact assessment
ERM:	environmental risk management
R and D:	research and development
IPM:	integrated pest management
INM:	integrated nutrition management
MDG:	Millennium Development Goals
SI:	sustainable infrastructure

Annex II

Progress towards implementation

Areas in which progress was made or needs to be made				
<i>Policies and strategies</i>	<i>Institutional Measures</i>	<i>Regulatory Measures</i>	<i>Fiscal Measures</i>	<i>Technological/Supportive Measures</i>
<ul style="list-style-type: none"> • National Sustainable Development Strategies • Futuristic Vision • National Stimulus packages • Sectoral strategies • Promote growth and ensure equitable outcomes • Reduce and manage risk and uncertainties • Enhance resilience • Inclusive and adaptive governance • Promote sustainable consumption and production • Enhance labour and resource productivity • Meet basic human needs • Advance human well being • Promoting low carbon economy • Enhance ecosystem services • Focus on vulnerable and poor • Meet MDG targets 	<ul style="list-style-type: none"> • Promote multilevel governance • Promote coordination and cooperation • Capacity-building – resilient and adaptive • Multi-stakeholder engagement and partnerships • Institutionalize policy integration • Vigilant risk management practices • Balance multiple interests – conflict resolution • Institutionalize public consultations and debate • Promote and develop networks • Promote and preserve diverse sources of knowledge • Voluntary agreements • Extended producer responsibility • Establish NCPC 	<ul style="list-style-type: none"> • Legislate • Set Standards • Develop regulations • Accountability • Monitoring • Use of EIA, ERM • Land use zoning • Building code • Environmental courts • Environmental Police force • Green custom initiative • Enforcement of compliance 	<ul style="list-style-type: none"> • Green investments • Greening of markets • Investment in human capital • Greening the supply chain • Market-based mechanisms such as CDM • Incentives/disincentives • Economic instruments • Eco-labelling • Green taxes and budget reform • Pollution taxes and charges • Rationalize pricing • Reform of subsidies • Fee to reduce congestion • awards • Incentives for greener lifestyle • Payment for ecosystem services 	<ul style="list-style-type: none"> • Improve eco-efficiency • Life cycle analysis in planning and designing • R and D – promote technological innovation • People centered design of cities and infrastructure • Eco industrial Parks • Ecological farming • Promote renewable energy • Demand management • Dematerialized development • Retrofit buildings • Green consumerism • Green procurement • Promote substitution • Promote recycling • Promote IPM • Promote INM • Improve energy and material efficiency • Switch to cleaner fuels • Awareness raising • Dissemination of information

Notes

MDG:	Millennium Development Goals
NCPC:	National Cleaner Production Centre(s)
EIA:	environmental impact assessment
ERM:	environmental risk management
R and D:	research and development
CDM:	clean development mechanism
IPM:	integrated pest management
INM:	integrated nutrition management