



ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

Committee on Environment and Development

First session
2-4 December 2009
Bangkok

**TRENDS AND PROGRESS IN THE FIELD OF ENVIRONMENT
AND DEVELOPMENT**

(Item 5 (a) of the provisional agenda)

**INTEGRATION OF ENVIRONMENTAL SUSTAINABILITY
IN DEVELOPMENT POLICY**

Note by the secretariat

SUMMARY

The present document reviews progress made in the region in integrating environmental sustainability in development policy since the fifth Ministerial Conference on Environment and Development in Asia and the Pacific, in terms of both national policy integration and institutional development and in regional cooperation. It also identifies priorities, emerging challenges and opportunities related to the integration of environmental sustainability into development policy. The document analyses the relevance of integrating environmental sustainability into development policy in the light of recent crises (e.g. food, fuel, financial) and emerging challenges, such as climate change, and energy and water security. The document highlights the potential of a comprehensive and systematic integration of environmental sustainability into development policy and the adoption of green growth in delivering economic and social benefits, including those highlighted by the recent United Nations Green Economy Initiative. With linkages to livelihoods, employment, and equitable and sustainable access to services, green growth has the potential to foster social inclusiveness. Moreover, by ensuring that pressures are within certain limits and by strengthening positive linkages between social, economic and ecological systems, green growth can increase the resilience of countries to external shocks, such as those associated with recent crises and emerging threats. Strengthened regional cooperation is required in order to tap into these potentials.

The Committee may wish to deliberate on these issues and provide the secretariat with guidance on the direction of its future work.

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Introduction

1. In March 2005, before the current financial crisis hit, the economic outlook in the region seemed relatively bright. It had been outpacing any other region in terms of GDP growth for the previous seven years, with developing economies growing at an annual average of 7 per cent. This trend also reflected the overall exceptional economic performance of the region over previous decades, driven mainly by export-led growth strategies.

2. The region was, however, still faced with tremendous developmental challenges, being home to two thirds of the world's poor and with millions lacking access to basic services and millions more susceptible to diseases and high maternal mortality rates, among other problems. The need for increased economic growth to overcome these challenges raised yet another, more fundamental challenge: could the natural resource base of the region support the consequential levels of production and consumption in an indefinite manner? Actually, the region was already living beyond its carrying capacity and its ecological footprint was already higher than its biocapacity, running an ecological deficit of 0.5 hectares per capita, compared to an average of 0.3 for the rest of the world.¹ It was clear that the region could not afford to follow the conventional development path of “grow first, clean up later”, and a different way of attaining the required development goals had to be found.

3. It is against this backdrop that ministers from across the region, gathered for the fifth Ministerial Conference on Environment and Development in Asia and the Pacific, opted to pursue a different development path. They realized the urgent need to integrate environmental sustainability into development strategies and adopted the concept of environmentally sustainable economic growth, or green growth, as the strategy for the region to attain sustainable development.

¹ World Wildlife Fund, *Asia-Pacific Living Planet Report 2005*.

4. Today, as the region stumbles from one crisis to the next (e.g. fuel, food, financial), and realizes that environmental threats pose key development challenges (e.g. climate change and water and energy security), the case for integrating environmental sustainability into development strategies appears stronger than ever.

5. The most recent financial crisis has led many Governments to respond in an unprecedented manner and to explicitly link the environment to economic development for the first time. A good number of national stimulus packages in response to the crisis include green strategies. Underlying these strategies is the recognition that many of the crises are, at least partly, attributable to inbuilt unsustainable consumption and production patterns. There is also increased recognition that environmental sustainability and economic growth are not incompatible and that investing in environmental sustainability can bring about benefits not only for the environment, but also for the economy and for employment.²

6. These are encouraging signals, but much more needs to be done in order to achieve the required shift towards sustainable production and consumption patterns. There is a need to incorporate long-term sustainable development principles in short-term interventions and to ensure a more comprehensive and systematic integration of environmental sustainability in socio-economic development strategies. At the same time, there is a need to identify those policies that promote social inclusiveness and are pro-poor.

7. Just as Asia and the Pacific first realized the need to change current development patterns and adopted green growth as its development strategy at the fifth Ministerial Conference—anticipating a line of thinking that is quickly gaining ground around the world—the region now has the opportunity to provide leadership in the global transition towards more environmentally sustainable and socially inclusive development.

8. As per its mandate, the Committee on Environment and Development is expected to review and analyse regional trends, identify priorities and emerging issues, and promote regional dialogue in relation to the integration of environmental sustainability in development policy; policies and strategies for the use of sustainable planning and the use of water resources; and regional cooperation for enhanced energy security and the sustainable use of energy resources.³ The first session of the Committee provides a timely opportunity for member States to review and analyse trends, identify priorities and emerging issues, and promote regional dialogue concerning the integration of environmental sustainability in development policy, in preparation for the sixty-sixth session of the Commission and for the sixth Ministerial Conference on Environment and Development in Asia and the Pacific.

9. The present document reviews progress made in the region in integrating environmental sustainability in development policy since the fifth Ministerial Conference, in terms of both national policy integration and institutional development and in regional cooperation. It also identifies priorities and emerging challenges and opportunities related to the integration of environmental sustainability into development policy and presents issues for consideration by the Committee. The Committee may also wish to provide the secretariat with guidance on the direction of its future work.

² Steve Bernard, Shyamantha Asokan, Helen Warrell and Jeremy Lemer, "The greenest bail-out?", *The Financial Times*, 2 March 2009, accessed from www.ft.com/cms/s/0/cc207678-0738-11de-9294-000077b07658.html on 28 September 2009.

³ See Commission resolution 64/1 of 30 April 2008, annex I, paras. II.8 (a)-(c) and annex II, para. 4.

I. PROGRESS IN THE INTEGRATION OF ENVIRONMENTAL SUSTAINABILITY IN DEVELOPMENT POLICY SINCE THE FIFTH MINISTERIAL CONFERENCE ON ENVIRONMENT AND DEVELOPMENT IN ASIA AND THE PACIFIC

10. Since the fifth Ministerial Conference on Environment and Development in Asia and the Pacific, there has been encouraging progress in the integration of environmental sustainability in development policy and the adoption of green growth by member States, with a number of countries actively pursuing these goals at the national level and through regional initiatives. The region is also leading efforts in redefining infrastructure development patterns in an integrated and eco-efficient manner.

A. Initiatives at the national level

11. This section reports on selected initiatives by member States in the integration of environmental sustainability in development policy and the adoption of green growth, with a view to providing examples of action taken in the region since the Ministerial Conference. As such, this review does not aim to be comprehensive or exhaustive. Member States are encouraged to share with the Committee information about policies, programmes and initiatives they have adopted which are relevant to this agenda item.

12. The Government of Cambodia has set up a national green growth secretariat under the auspices of the Ministry of Environment, as well as an inter-ministerial green growth working group. The establishment of this institutional mechanism by the Deputy Prime Minister reflects the need for a cross-sectoral approach and inter-ministerial collaboration for the adoption of green growth in all sectors of the economy. Through these institutional arrangements, and with technical assistance from ESCAP, the Government is developing a national green growth road map, which is expected to be adopted by the end of the year. Priority areas of the road map include sustainable agriculture, sustainable forestry, sustainable water resource management, sustainable transport, waste management and a scheme to promote eco-villages.

13. Recognizing national conditions and reality, the Government of China has attached great importance to sustainable economic growth, with resource-saving and environmental protection as basic national policies. The Government has made efforts to boost the circular economy, green economy and environmental protection sectors, and it is continuing to make adjustments to industrial structure, improve energy efficiency and develop clean and renewable energy to actively pursue a low-carbon economy. The Government has passed a number of pieces of framework legislation and regulations, and it has adopted programmes and initiatives to support these policy objectives. An overview of some of these actions is provided in the box below. As a result, for example, energy consumption per unit of gross domestic product (GDP) fell by 10.1 per cent, while sulphur dioxide and chemical oxygen demand emissions decreased by 8.95 per cent and 6.61 per cent, respectively, from 2005 to 2008, during the first three years of the Eleventh Five-Year Plan.

Box. Selected actions taken by the Government of China to integrate environmental sustainability in development policy

The Government has passed a number of pieces of framework legislation, such as the Circular Economy Promotion Law, the Renewable Energy Law, the Energy Conservation Law, the Water Pollution Control Act, the Environmental Impact Assessment Law, the Solid Waste Pollution Prevention and Control Law and the Cleaner Production Promotion Law.

The Government has also adopted a number of policies aimed at:

- Promoting change in the pattern of economic development and economic structural adjustment, and the conservation of energy resources.
- Establishing binding targets for energy consumption per unit of GDP into the Eleventh Five-Year Plan.
- Increasing capital investment for new and renewable energy development in areas such as hydropower, solar, biogas and other low-carbon energy sources in rural areas.
- Furthering price and fiscal budget reforms in support of energy resource conservation.
- Establishing a mandatory system for government procurement of energy-saving products.

Key programmes and initiatives linked to these policy objectives include:

- Investment for 10 key energy-saving, circular economy and industrial pollution control projects and for environmental technology demonstration projects.
- Huimin Project to provide fiscal subsidies for efficient energy-saving products in 10 categories, including air conditioners, refrigerators, television sets and washing machines.
- Double subsidies for car trade-ins to replace outdated or heavily polluting vehicles.
- Golden Sun Project to support the industrialization of domestic photovoltaic power generation and large-scale development to provide financial assistance for non-photovoltaic power generation demonstration projects.
- Improvement of the renewable energy pricing policy to make electricity generated from renewable energy resources more competitive, and promotion of water pricing reform.

14. The Government of India has taken several steps to lower the energy intensity of the economy, especially in energy-intensive industries, such as cement, steel, fertilizer and aluminium. As a result, the energy intensity of GDP decreased by 36 per cent between 1972 and 2003. In view of emerging challenges, such as rapid urbanization, the Government is also promoting energy-efficient public transport and green buildings. Moreover, it is promoting renewable energies, including wind, as well as a national solar energy programme.

15. 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 thirty-year conflict for independence centres on environmental sustainability. The Green Economic Development and Investment Strategy for Aceh, or Aceh Green, integrates environmental sustainability via renewable energy and land-use management,

community development, commerce and conservation. Economic development strategies will focus on clean energy, sustainable land use as a basis for the production of a number of commodities, sustainable fisheries, reforestation and avoided deforestation. A policy on payment for ecosystem services will support efforts to provide incentives for sustainable land management.

16. The Republic of Korea recently adopted a national vision and strategy for low-carbon green growth. It also adopted a three-pronged strategy to promote green industry: first, through regulatory measures for energy conservation and the promotion of renewable energies, including tightening energy efficiency standards and imposing a renewable energy portfolio standard on electricity providers; second, through the promotion of investment in green energy technologies as a growth engine, including investing in energy-efficient technologies and in new energy technology; and third, through the transformation of traditional industries, such as the automotive, shipbuilding, steel and semiconductor industries, including developing green products, such as hybrid cars and low-electricity semiconductors.

17. The Government of Malaysia has identified three main areas for adopting green growth that would enable synergies to be created between economic and environmental objectives, namely: (a) decoupling GDP growth from energy consumption through energy efficiency and increased productivity; (b) promoting knowledge and innovation industries; and (c) developing renewable energy for energy security. Policies in these areas would also aim to reduce poverty, for example by promoting renewable energy for rural development.⁴

18. The Government of the Philippines identified green growth as the solution for overcoming the two main challenges currently faced: the financial crisis and climate change.⁵ In order to create the necessary enabling environment, the Government has passed 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 in geothermal energy, the Government is seeking to increase their share. Moreover, it has adopted a green procurement programme and is promoting green businesses. The Philippines has also taken active steps to promote green growth at the regional level by convening the International Conference on Green Industry in Asia, which was held in Manila from 9 to 11 September 2009.

19. Other countries are also integrating elements of a green growth approach in their development policies. Kazakhstan, for example, has included elements of the green growth approach in the National Sustainable Development Strategy approved by its national assembly in January 2007, and Thailand is preparing a budgetary reform that would include a green tax to support public transport, among other things.

20. In response to the recent financial crisis, Governments in the region have issued economic stimulus packages to try to cushion the impact of the crisis on the real economy and on society. They include typical measures, such as those geared towards increasing consumer spending, creating employment or investing in infrastructure. For the first time, however, a number of these strategies include green aspects, with investments channelled towards such sectors as renewable energies, energy efficiency, sustainable transport, waste management and recycling. An overview of the green aspects of selected economic stimulus packages is provided in table 1.

⁴ Mat Aron Deraman, Senior Under-Secretary of Science, Technology and Innovation, Malaysia, statement delivered at the East Asia Climate Forum, Seoul, 29 May 2009.

⁵ 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.

Table 1. Green components of selected national stimulus packages

	Australia	China	Japan	Republic of Korea
Total green stimulus for announced period (Billions of United States dollars)	5.8	51	12	36.28
Share of green components in total package (Percentage)	21.48	8.7	1.62	81
Share of green stimulus in GDP (Percentage)	0.73	1.18	0.28	3
Total green jobs expected to be created	160 000	1 500 000	1 000 000	960 000
Total amount of green tax cuts (Billions of United States dollars)			3.1	10.17
Total investments in green infrastructure (Billions of United States dollars)	5.8	30.07		24.21

Source: Based on International Labour Organization fact sheets compiled from different sources.

21. Although the nature and depth of the green components of the stimulus packages adopted by each country vary, the fact that green aspects are explicitly included indicates that two important needs have been recognized: first, the need to integrate environmental sustainability into economic policy, and second, the need to link short-term economic growth objectives with long-term sustainable development goals. This hints at a change in the mindset of many government policymakers around the region, which is very encouraging. Much more will need to be done, however, in order to achieve the necessary shift towards a green and low-carbon economy. In particular, there is a need for a more comprehensive and systematic integration of environmental sustainability in socio-economic development strategies.

B. Initiatives at the regional and global levels

22. The Seoul Initiative on Environmentally Sustainable Economic Growth (Green Growth) was launched by the Republic of Korea at the fifth Ministerial Conference on Environment and Development in Asia and the Pacific in 2005 to address major policy issues for green growth highlighted in the Regional Implementation Plan for Sustainable Development in Asia and the Pacific 2006-2010, which was adopted at the Conference. The initiative provides a regional cooperation framework for green growth, focusing on policy consultations, capacity-building and networking. The Seoul Initiative Network on Green Growth, the members of which are countries in the Asia-Pacific region, facilitates the implementation of the Seoul Initiative and its activities, which are centred around three components: (a) a yearly policy consultation forum; (b) a capacity-building programme; and (c) the implementation of pilot projects.

23. Since its inception, the Seoul Initiative has convened four policy forums, which have enabled member countries to discuss key emerging issues and priorities related to the environment and development, namely: (a) sustainable infrastructure; (b) the application of economic instruments; (c) sustainable consumption and production for climate change action; and (d) the promotion of green industry. The

Seoul Initiative has also built the capacities of member countries through its Leadership Training Programme, which has trained more than 100 policymakers from 30 countries. Lastly, the Initiative has launched seven pilot projects in six countries of the region to test the implementation of a number of green growth policy options in developing countries and provide lessons learned and models for replication.

24. The North East Asian Subregional Programme for Environmental Cooperation (NEASPEC) was launched in 1993 as a comprehensive intergovernmental subregional cooperation mechanism to address environmental challenges in this subregion. The programme has been instrumental in promoting regional cooperation to address specific environmental challenges, such as transboundary air pollution and nature conservation. It has changed the focus of its activities to reflect emerging issues and priorities. 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.

25. Other relevant regional initiatives aimed at promoting the integration of environmental sustainability in development policy in a comprehensive manner have been launched by a number of member States since the Ministerial Conference. Many of these initiatives focus on climate change and on the required transitions towards a green and low-carbon economy, such as those presented in table 2. While it is not possible to provide a comprehensive overview of all initiatives in the present document, member States are encouraged to share with the Committee information about regional initiatives they are pursuing which are relevant to this agenda item.

26. While national and regional initiatives to integrate environmental sustainability into development policy in Asia and the Pacific are multiplying, the strategy adopted by the region is seen as the way forward for the rest of the world as well. The current financial and economic crisis has exposed the imbalances on which the global economy had been running, including ecological imbalances, and has led many policymakers and business leaders and civil society to call for a rethinking of current development patterns and a shift towards a more environmentally sustainable and socially inclusive global economic regime. As a result, a number of global initiatives aimed at promoting new, greener development paradigms have been proposed.

27. The United Nations, with the Department of Economic and Social Affairs and the United Nations Environment Programme (UNEP) in the lead, has proposed a Global Green New Deal, calling on the world's leaders to promote a massive redirection of investment away from unsustainable production and consumption patterns into job-creating programmes that restore the natural systems underpinning the global economy.

28. In this connection, UNEP has also launched the Green Economy Initiative, which aims to promote a green industrial revolution that can support income generation, employment and poverty reduction. The initiative focuses on six key areas, namely: (a) ecosystems; (b) clean and efficient technology; (c) renewable energy; (d) biodiversity-based products; (e) chemical and waste management and mitigation technologies; and (f) green cities.

Table 2. Selected regional initiatives launched by member States

Initiative	Country	Key features
Clean Asia Initiative	Japan	<ul style="list-style-type: none"> • Achieve a low-carbon, low-pollution society • Establish a sound material-cycle society in Asia • Adapt to climate change and achieve a society in harmony with nature • Promote environmentalism in the marketplace • Establish fundamental partnerships
Cool Earth Partnership	Japan	<p>Improved Access to Clean Energy</p> <ul style="list-style-type: none"> • Measures to promote economic development through the use of clean energy in developing countries with insufficient access to energy supply <p>Climate Change Mitigation</p> <ul style="list-style-type: none"> • Measures to reduce greenhouse gas emissions <p>Climate Change Adaptation</p> <ul style="list-style-type: none"> • Measures to assist developing countries vulnerable to climate change in implementing adaptive measures
East Asia Climate Partnership	Republic of Korea	<p>Create synergies between climate action and the economy</p> <p>Focus areas: Energy and water resources</p> <ul style="list-style-type: none"> • Promote the exchange of policies, information and capacity-building • Pave the way for collaborative research and studies • Introduce new technologies

29. The Organization for Economic Cooperation and Development (OECD) recently adopted a Declaration on Green Growth at its annual Council meeting at the ministerial level, held in June 2009. The focus of the meeting was on the current financial and economic crisis and on policy responses to restore financial stability and ensure sustained long-term growth. In this connection, green growth was judged to be a relevant approach that has the potential to bridge the short-term response to the crisis and to contribute to long-term sustainable development, and it would address urgent challenges, including the fight against climate change and environmental degradation, the enhancement of energy security, and the creation of new engines for economic growth.⁶

II. RELEVANCE OF INTEGRATING ENVIRONMENTAL SUSTAINABILITY INTO DEVELOPMENT POLICY FOR ADDRESSING KEY DEVELOPMENT CHALLENGES IN ASIA AND THE PACIFIC

30. The increasing number of actions taken by member States in the region and the echo they have received at the global level highlight the growing relevance of integrating environmental sustainability into development policy for addressing today's development challenges, as well as those of tomorrow. Recent crises have highlighted the ecological and social imbalances of current economic growth patterns and reiterated the case for shifting to environmentally sustainable economic growth. Equalizing 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 holistic and integrated approaches to increase the resilience of socio-economic systems. In order to do this, countries in the region need to focus on environmentally sustainable and socially inclusive policies and actions.

Poverty reduction

31. High economic growth rates in recent years have allowed millions across the region to be lifted out of poverty: the percentage of the population living on less than \$1.25 a day has decreased from 41.7 in 1990 to 24.5 in 2005. Poverty remains, however, one of the principal persistent challenges in the region. As stated above, the Asia-Pacific region's rapid economic growth was achieved by externalizing environmental costs. Similarly, costs related to protecting labour and providing housing and social security were also externalized. Thus, while absolute poverty has declined, relative poverty and disparities have increased. About 40 per cent of the region's urban population, for example, lives in slums and squatter settlements, without adequate housing or basic infrastructure and services. Given these trends, future economic growth needs to be sustained if poverty is to be eradicated; it needs to be environmentally sustainable, so as to level ecological imbalances; and it needs to be inclusive, so as to level inequalities.

32. Integrating environmental sustainability into development policy is clearly necessary to achieve the second objective. However, given the interlinkages between the economic, social and ecological systems, strategies that are centred on environmental sustainability have the potential to contribute to achieving the other two objectives as well. Green growth was proposed as a strategy for sustaining economic growth without compromising environmental sustainability; in other words, for achieving the first two aforementioned objectives. With clear linkages to

⁶ See OECD document C/MIN(2009)5/ADD1/FINAL, para. 1, available online at [http://www.oilis.oecd.org/oilis/2009doc.nsf/linkto/C-MIN\(2009\)5-ADD1-FINAL](http://www.oilis.oecd.org/oilis/2009doc.nsf/linkto/C-MIN(2009)5-ADD1-FINAL).

employment, livelihoods and improved access to services, it also has the potential to promote poverty reduction. As recognized through the inclusion of green aspects in the stimulus packages issued to tackle the financial crisis, investing in environmental sustainability can generate growth and employment.

33. Infrastructure development is one of the priority areas for the Asia-Pacific region, which must invest massively in infrastructure in the coming years, including extending access to services to an increasing population. Infrastructure systems are central to economic and social development; at the same time, they have 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 up consumption and production patterns that last for decades. The need to integrate environmental sustainability into infrastructure development in the region is clear. The construction of sustainable infrastructure systems can promote socio-economic development through the creation of green jobs. The history of infrastructure development in Asia, which has not always been pro-poor (e.g. it has led to massive evictions of the poor from their settlements), reminds us of the importance of infrastructure development being both green and pro-poor.

34. Addressing climate change also has the potential to generate green jobs, both in adaptation (e.g. coastal zone management, flood protection, soil conservation, agroforestry and irrigation) and in mitigation (e.g. low-carbon energy sources, waste management, green buildings and construction, and sustainable transport). 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.

35. Governments 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. While more and better employment and income opportunities can be generated by promoting green jobs, both job gains and losses are expected to occur, particularly in energy-intensive sectors.

36. In this regard, green tax and budget reform can be a useful tool to promote 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 must be accurately targeted and implemented gradually to avoid having a negative effect on low-income groups.

37. Not all green growth policies, though, 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. Some approaches to sustainable mobility, however, may focus more on making public and mass transit attractive, useful and accessible to the middle classes who would otherwise drive cars than improving the access or affordability of urban transport for the poor. As a result, the poor would not be able to afford some of these systems.

38. Providing basic environmental infrastructure and services to the poor, particularly by upgrading slums using green approaches, not only reduces waste and ground, air and water pollution; it also improves health conditions and can even convert waste to energy. Urban greening not only contributes to better environmental

quality and climate change mitigation, it can 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.

Water and food security

39. Water security encompasses the environmentally and socio-economically sustainable management of water resources to ensure sustainable access to water both to cover basic human needs and for productive uses, including livelihood creation. The concept of water security includes protection from negative impacts associated with water, including floods and droughts, and other water-related disasters. The prevailing patterns of socio-economic growth may temporarily satisfy some water needs, but they do not contribute to long-term water security.

40. The recent food crisis revealed how fast-paced growth during the past three decades has relied heavily on industrial activities while neglecting agriculture. Low and stagnant agricultural productivity, a lack of irrigation infrastructure and the poor delivery of basic services are some of the manifestations of agricultural neglect, but also some of its causes, which results in a vicious circle.

41. Recent ESCAP research points to an impending threat to food security in the region, highlighting two dimensions of the problem: there is a need to ensure both that sufficient food is produced and that everyone has access to it.⁷ The research shows the urgency for Governments in the region to adopt sustainable agriculture practices. Business as usual—continuing with chemically cultivated and irrigation- and energy-intensive monocultures—would mean short-term profits for the few and long-term costs for the many. On the other hand, a new, long-term commitment to ecologically balanced, socially just and economically equitable agriculture would ensure food security for all.

42. These arguments are further reinforced by research carried out by the Food and Agriculture Organization of the United Nations (FAO) and the International Water Management Institute (IWMI) that warned about chronic food shortages and likely social unrest in Asia if water management did not improve. Asia's food demand 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 small warning compared to what lies ahead. In order to meet growing food needs, IWMI and FAO predict that an increase in arable land, irrigated areas and water withdrawals will be needed to increase agricultural production. According to their estimates, farmers will need to divert between 10 and 57 per cent more water to agriculture in South Asia by 2050 and between 16 and 70 per cent in East Asia. With new agricultural land in short supply, the solution would be to intensify irrigation methods, modernizing the infrastructure built in the 1970s and 1980s. Without water productivity gains, the worst case scenarios will likely materialize.⁸

⁷ ESCAP, *Sustainable Agriculture and Food Security in Asia and the Pacific* (2009) (United Nations publication, Sales No. E.09.II.F.12).

⁸ 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.)

43. Undoubtedly, the pressures on water resources will be very high. To add to these emerging threats, the impact of climate change is likely to further exacerbate the problem. Extreme weather conditions can lead to floods or drought, high rainfall variability and saltwater intrusion, especially if sea level rise predictions materialize. All of these conditions contribute to the further depletion of already limited water resources.

44. Moreover, other phenomena such as sand and dust storms, which create great health and economic losses across subregions in Asia, can also exacerbate negative impacts on food security. This has been a pressing issue in North-East Asia and is emerging as a threat in South and West Asia, as has been witnessed recently in the Islamic Republic of Iran, where agricultural and horticultural production have been negatively affected and stores and offices shut down during the sandstorms that have hit the country in the past few months. In this connection, the 2007 Asia-Pacific Regional Implementation Meeting for the sixteenth session of the Commission on Sustainable Development highlighted the need for a shift from intensive agriculture to eco-efficient agriculture with a view to maintaining high agricultural yield while reducing resource inputs and ecological externalities.

45. Developing countries that are experiencing accelerated industrialization and urbanization are facing more complex and difficult challenges. Meeting the needs of an increasing population will place an additional stress on natural resources. Water is needed not only for drinking, cooking and basic sanitation, but for all economic activities. According to ESCAP research, the rates of withdrawal from internal renewable water resources in many countries in the region has already been running very high during the past three decades, up to 50 per cent in some cases. It is clear that alternative strategies for dealing with competing water needs are required to allow for growth without compromising the sustainability of available resources.

46. Greener solutions must be identified. The development of an eco-efficient water infrastructure with a clear vision of the future is vital for tackling these issues through integrated planning with other infrastructures, such as sewage, energy, transport and disaster preparedness structures. Improved engineering and design knowledge and technology can also play an important role.

47. 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. Rainwater harvesting, adequate distribution, efficient use, proper treatment and recycling are all key elements of the optimal utilization of water resources. Managing water within its natural boundaries and limits will ensure adequate resources for sustainable and inclusive development. Investment in natural water infrastructure by protecting watersheds and aquifers is also an important area of action.

Energy security

48. Energy security has recently received prominent attention from policymakers across the region and the globe, for two main reasons: first, the impact of high and volatile energy prices; and second, concerns about sustainability and, especially, climate change. These two issues are of critical importance for the region, whose export-led growth model, remarkable economic growth and population increase have boosted energy demand and put corresponding strains on the environment.

49. Despite the recent relatively stable energy prices, the region will continue to be subjected to volatile prices of oil and other energy resources. By 2030, the region's energy demand is expected to increase by 50 per cent, while the share of fossil fuel

consumption is expected to remain as high as 82 per cent. Economic vulnerability to volatile energy prices will compromise the efforts of countries to sustain their economic growth. The least developed countries, landlocked developing countries, small island developing States and other fossil fuel-importing countries are most vulnerable. The rising proportion of greenhouse gas emissions from the region's energy consumption exacerbates ecological vulnerability to the impact of climate change. The proportion of the Asia-Pacific region's energy-related CO₂ emissions relative to total world emissions is expected to increase to 55 per cent in 2030 from 45 per cent in 2005.

50. To pursue energy security, the countries of the region will need to ensure that energy supplies are available, sufficient, affordable and sustainable. ESCAP research suggests that 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, two main challenges arise: first, there is a need to reduce the energy intensity of the economies in the region and to decouple economic growth from energy consumption; second, energy consumption must be decoupled from environmental impacts by shifting towards more environmentally friendly energy sources.⁹

51. Decreasing the energy intensity of the economies in the region will require increasing energy efficiency. One estimate is that energy efficiency can decrease energy consumption by up to 25 per cent by 2020 and by up to 40 per cent by 2050 worldwide. Every dollar invested in demand-side management of electricity can save more than \$2 of investment in the power sector, and almost \$3 in developing countries, where efficiency is much lower. Improving energy efficiency is, however, a necessary but insufficient condition for reducing energy intensity. As evidenced by the Jevons paradox, increases in resource efficiency may lead to an increase (rather than a decrease) in the rate of consumption of that resource. For energy security, the region cannot simply continue to focus on sustaining an increased energy supply. It must introduce enhanced demand-side management to control and manage energy demand and encourage more efficient energy consumption, for example in residential and commercial buildings and the industrial sector.

52. At the same time, there is a need to consider the ecological and social implications of energy policies. Across the Asia-Pacific region, some 1.7 billion people rely heavily on traditional biomass for cooking and heating and an estimated more than 900 million people in rural areas lack access to modern energy services. The vast majority of these people are often using primitive and inefficient technologies. For many, this combination barely allows for the basic human needs of nutrition, warmth and light to be fulfilled, let alone providing the possibility of harnessing energy for productive uses. This has enormous indirect socio-economic costs: degrading the environment, spreading disease, increasing child mortality rates and weakening social services. It also restricts opportunities for women, who have to gather and use traditional fuels. All of these consequences have major implications for the Millennium Development Goals. Without better access to energy services, many of them will be missed, particularly for the rural development agenda in the region.

53. The adverse impact of economic and ecological vulnerability could have profound implications for social inclusiveness, as the burden is being unevenly distributed among and within countries in the region. Furthermore, traditional

⁹ ESCAP, *Energy Security and Sustainable Development in Asia and the Pacific* (2007) (United Nations publication, Sales No. E.08.II.F.13).

biomass fuel use greatly impacts the rural environment, leading to unsustainable levels of biomass harvesting, the denudation of vegetative cover and the acceleration of deforestation, land and soil degradation, the silting of water resources and flooding, and disturbances to the area's ecological balance. The effect of such local impacts on the rural poor would be further compounded by the anticipated impact of climate change resulting from increasing levels of global fossil fuel use and greenhouse gas emissions, which would severely affect the poor who live off the land and are the most exposed to nature's vagaries.

54. Thus, the Asia-Pacific region cannot afford to continue its current energy paradigm with an unsustainable energy-economy nexus. The region urgently needs to break away from the current vicious cycle by shifting towards a new sustainable energy paradigm. This calls for: (a) a focus on poverty and livelihood issues, including income-generating activities related to the productive use of energy in rural areas with adequate access to financing; and (b) a focus on reducing greenhouse gases by promoting low-carbon technologies.

Climate change

55. Climate change has been widely recognized as the greatest development challenge of our era. Addressing it will require a shift to low-carbon development paths and a systematic integration of adaptation measures into development policy, as well as concerted action from all countries, developed and developing alike. It is clear, though, that climate action should not compromise prospects for economic growth, which are vital for the eradication of poverty and the achievement of other development goals. Climate action will need to take into account the energy needs of developing countries, including the energy required to sustain economic growth and industrialization, bridge the gaps in development across the region and provide services to a rapidly increasing urban population, as elaborated in document E/ESCAP/CED/2. Shifting to a low-carbon and high-growth development pattern is therefore necessary to meet development and climate change challenges.

56. Attaining low-carbon high growth is not only necessary, but also feasible. Green growth aims to lower 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.¹⁰ Therefore, green growth can provide an effective strategy for supporting the contribution of developing countries to the post-2012 climate change framework.

57. These arguments are reinforced by recent research carried out by the United Nations, which identifies options for moving forward in shifting towards a low-carbon development pattern without compromising economic growth.¹¹ The research argues that the technologies that would allow developing countries to make the switch to a sustainable development path (e.g. low-energy buildings, new drought-resistant crop strains and more advanced primary renewables) already exist. Enabling developing countries to adopt these technologies, however, will require strong international support. It will require raising investment levels and channelling resources towards lowering the carbon content of economic activity and building resilience with respect to unavoidable climate changes. To realize scale economies

¹⁰ FCCC/CP/2007/6/Add.1, decision 1/CP.13, para. 1(b)(ii).

¹¹ United Nations Department of Economic and Social Affairs, *World Economic and Social Survey 2009: Promoting Development, Saving the Planet* (2009) (United Nations publication, Sales No. E.09.II.C.1).

and the benefits of technological learning, it is argued that large upfront investments will need to be made, particularly by the public sector, in new energy infrastructure and in complementary research and development to bring down costs. These efforts will be hampered, though, by constraints on domestic resource mobilization and the limited ability of many developing countries to raise capital in international markets, particularly bond markets. If investment spending is to go towards ensuring cleaner growth pathways, it will require international support by means of a global investment programme.

58. A share of the required financing for low-carbon development projects can be generated through carbon financing. The clean development mechanism of the Kyoto Protocol has provided useful results, but it will need to be scaled up substantially in order to have an impact. This will require reforming current modalities and devising an improved mechanism for the post-2012 regime. With the rise in consumer awareness of the impact on climate change and consequential demand for carbon offsets for products and services, voluntary carbon markets offer additional opportunities for carbon financing, especially for smaller-scale projects.

59. At the same time, there is a need to pursue appropriate policies and actions at the national level, in line with sustainable development objectives. This calls for the integration of climate considerations into development policies. When it comes to addressing climate change, Governments in developing countries are already faced with competing policy priorities. 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 situations must be identified and prioritized.

Resilience

60. The above-mentioned are some of the key threats to development related to environmental sustainability that the Asia-Pacific region is facing. These threats are not isolated; they are closely interlinked, as the food and fuel crises, for example, have shown. Therefore, they require an integrated and holistic response. In order to address these multiple threats, there is a need to develop resilient socio-economic systems—i.e. those that are able to resist and/or bounce back from shocks, such as economic crises, natural disasters or longer-term stresses (for example, changes in water availability) through adaptation that leads to better long-term outcomes.

61. Considering the development and sustainability context of the Asia-Pacific region and the increased threats that interlinked social, economic and ecological systems are likely to encounter in the future, developing resilient socio-economic systems will require focusing on three elements: (a) staying within limits; (b) system resilience; and (c) addressing system linkages.

62. The notion of limits or thresholds is an important concept in sustainability. Environmental pressures must be maintained within their limits to avoid sudden ecological changes that can drastically reduce the flow of ecosystem services, thereby increasing pressures on the social and economic systems. Despite recent economic growth and social progress in Asia and the Pacific, the region's relatively low per capita natural resource endowment will likely amplify the challenge of trying to meet human needs while staying within safe system performance limits.

63. Ensuring that social, economic and ecological systems can adapt (in a positive sense) to a significant disturbance or shock is now equally as important as maintaining pressures within sustainable limits. A socio-economic system can no

longer be considered sustainable if a sudden shock is capable of permanently pushing its functions or feedbacks outside an acceptable range of performance. System resilience is therefore an important criterion for the sustainability of any system, particularly one that faces increased risk.

64. Resilience enables a country or region to cope with the array of shocks that occur over time, including those associated with climate change. The projected rate and magnitude of climate change and its likely impact is far beyond the adaptive capacity of many (especially the poorest) communities in the Asia-Pacific region. These shocks include but are not limited to: decreased air quality in cities, contamination of water supply, flooding, permanent erosion and submersion of land, and disruption of settlement patterns.¹²

65. Social, economic and ecological systems are so intimately connected that they are sustainable only if the relationships between the systems enable the permanent co-evolution of each individual system.¹³ Thus, the nature of the linkages between these systems becomes important in determining the extent to which the whole-system (social, economic and ecological) is sustainable.

66. The abovementioned aspects (maintaining pressures within limits, system resilience and focusing on system linkages) are connected and synergistic. Maintaining pressures within limits supports system resilience by creating a gap between operating system pressures and the pressures that will push integrated systems over sustainability thresholds. Thus, in the face of a drought, a socio-economic system that uses water in an efficient way, or uses only a small proportion of the available water resources, will suffer fewer disturbances than a socio-economic system that is highly dependent on hydrological inputs.

67. Resource efficiency is therefore integral to maintaining pressures within limits and promoting system resilience and, consequently, promoting sustainability. Patterns of resource use also define the nature of the linkage between the socio-economic and ecological systems. The linkages between systems also determine whether socio-economic systems can stay within ecological limits and define whole-system resilience by determining how shocks to one system are transmitted to the others.

68. Green growth focuses on decoupling socio-economic development and related human activities from their environmental impact. The implicit goal is to minimize the negative impacts of one system on the others. ESCAP has therefore identified eco-efficiency of growth as a key component in meeting future needs while remaining within environmental carrying capacity.

69. Decoupling negative relationships is important to whole-system stability. However, since social, economic and ecological systems cannot be completely decoupled, building resilience also means increasing the diversity of the relationships between the systems. In other words, numerous yet varied connections between the systems enable the whole-system to better absorb specific shocks and adapt to new conditions.

70. The policies and actions required for developing resilient socio-economic systems should receive greater attention in national, regional and international

¹² Intergovernmental Panel on Climate Change, "Synthesis Report – Summary for Policymakers. Assessment of Working Groups I, II, and III to the Third Assessment Report of the International Panel on Climate Change" (Cambridge University Press, 2007).

¹³ Joachim Spangenberg, "Economic Sustainability of the Economy: Concepts and Indicators", *International Journal of Sustainable Development* (2005) vol. 8, No. 1-2, pp. 47-64.

dialogue. There is a need to recognize the linkages between the social, economic and ecological systems. Investments in the hardware needed for climate adaptation, for example, are widely understood, while investments in the software—meaning the changes in the behaviour, governance, engagement and empowerment of multiple stakeholders—have not been sufficiently addressed. In a time of uncertainty and growing risk, adaptive governance and policies that actively work to enhance the adaptive capacity of the most vulnerable, in particular, are needed. Adaptive governance and policies are critical elements of promoting inclusive and sustainable growth.

III. CONCLUSION

71. Business-as-usual practices have proven to be ineffective in addressing development challenges in the Asia-Pacific region. While high economic growth rates in recent years have lifted millions out of poverty, millions more have yet to benefit from this growth. Average GDP per capita has increased, but so have disparities within and among countries. Moreover, years of neglect of the ecological dimensions of economic growth have led to critical strains on the environment. Recent crises have further highlighted the social and ecological imbalances of conventional economic growth patterns. Successfully tackling key development challenges in the region will require correcting these imbalances. 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 will all require a shift to a different development paradigm. It will require putting people and the environment at the heart of economic growth strategies.

72. Green growth was adopted by ministers from the region at the fifth Ministerial Conference on Environment and Development in Asia and the Pacific as the strategy for the region to sustain economic growth, which is required to attain development goals, without compromising the environment. As it is clearly linked to employment, livelihoods and improved access to services, green growth also has the potential to promote social inclusiveness, thereby addressing all three imperatives for economic growth in the region: to be sustained, inclusive and environmentally sustainable. Investing in environmental sustainability is not only beneficial for the environment; it can also generate growth and employment, as acknowledged by Governments through their inclusion of green aspects in the stimulus packages they issued to tackle the financial and economic crises.

73. The Asia-Pacific region now has a great opportunity to provide further leadership in the global transition towards more environmentally sustainable and socially inclusive development. In the midst of the worst economic crises since the Great Depression, when traditional development models are being questioned and the world is looking for new paths and new leaders, the region has the opportunity to shape not only its own future, but that of the entire world. A stronger and coordinated regional voice on global issues is needed. The region should also develop a common set of standards, norms, conventions and development approaches. This calls for a more balanced multisectoral approach to development decision-making and agenda setting in order to integrate environmental and social aspects into development policy and economic growth strategies. A stronger and coordinated regional voice will require stronger participation by countries with special needs (least developed countries, landlocked developing countries and small island developing States) and a more inclusive partnership for development.

74. The first session of the Committee therefore provides a timely opportunity for member States to review and analyse trends and emerging issues, and to identify priorities for integrating environmental sustainability into development policy, with a view to promoting strengthened regional cooperation and creating a stronger and coordinated regional voice in order to provide global leadership in this area in preparation for the sixty-sixth session of the Commission and the sixth Ministerial Conference on Environment and Development in Asia and the Pacific.

IV. ISSUES FOR CONSIDERATION

75. Delegations may wish to share with the Committee additional information on the progress of their countries in developing and implementing national policies and their participation in regional initiatives related to the integration of environmental sustainability into development policy and the promotion of green growth.

76. Moreover, the Committee may wish to express its views on directions and priority areas for the secretariat to further strengthen regional cooperation towards integrating environmental sustainability into development policy.

77. The Committee may also wish to propose ideas on possible future initiatives that could be used by the secretariat in developing the scope, theme and programmes of the sixth Ministerial Conference on Environment and Development in Asia and the Pacific.

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