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Economic and Social Commission for Asia and the Pacific

Committee on Environment and Development

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Bangkok, 22-24 February 2012 Item 6 (a) of the provisional agenda **Trends and progress in the field of environment and development: Emerging and persistent issues in environmental sustainability**

Emerging and persistent issues in environmental sustainability

Note by the secretariat

Summary

Countries in the Asian and Pacific region continue to face conflicts between the supply and demand of dwindling environmental and natural resources because of planned and implemented economic growth trajectories. The environmental sustainability of these countries is also inter-linked with the patterns of consumption and production of fuels and energy, and with persistent and recurrent socio-economic challenges, such as poverty reduction, food security, health care and welfare, access to services, equitable mobility, and disaster vulnerability. As a result, a number of policies and practices are emerging at the national level to address these challenges in an integrated and inclusive manner.

Presenting an overview of the latest analyses of these broad implications, and of emerging trends in national policies and practices, including the application of green growth approaches, the present document provides the basis for member States to exchange relevant information and national experiences and outlines possible directions for future regional cooperation in promoting synergy between environmental sustainability, economic development and poverty reduction activities.

The Committee may wish to review the present document and provide the secretariat with guidance regarding the issues raised.

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I. Introduction

1. While Asian and Pacific countries continue to face the challenges of environmental sustainability, there is a growing recognition of the socioeconomic challenges that accompany such sustainability. These challenges include poverty reduction, food security, health and welfare, access to services, equitable mobility, consumption and production patterns and disaster risk reduction. A number of policies and practices are emerging from national efforts to address these challenges in an integrated and inclusive manner.

2. The Sixth Ministerial Conference on Environment and Development in Asia and the Pacific, held in Astana from 27 September to 2 October 2010, adopted a Ministerial Declaration intended, among other things, to create the socio-economic environment needed to foster and promote a sustainable development path. To that end, the Conference adopted the Regional Implementation Plan for Sustainable Development in Asia and the Pacific, 2011-2015, which identified "Harmonizing rapid economic growth, employment generation and environmental sustainability" as a priority programme area. This will enable the ESCAP secretariat to further assist member countries in the implementation of the programme (see E/ESCAP/67/8).

3. The present document gives an overview of the implications of the environmental and socio-economic interaction and of the emerging trend in enabling socio-economic policies and practices adopted at the national level, including the above-mentioned green growth approach. The document thus provides the basis not only for exchanging relevant information and national experiences, but also for defining the future direction of regional cooperation.

II. Trend in environmental sustainability

4. The Sixth Ministerial Conference on Environment and Development in Asia and the Pacific reiterated the concern over resource depletion and deteriorating environmental sustainability. The Ministerial Declaration adopted by the Conference particularly highlighted the fact that unsustainable consumption and production patterns increase pressure on carrying capacity, which, in turn, degrades the quality of life by: (a) increasing the ecological footprint due to sectoral growth in transport, waste and chemical use; and (b) threatening air, water, land and biodiversity in ecosystems. The Declaration also highlighted the increasing risk of climate change due to higher temperatures and the frequency and intensity of extreme weather events.

5. It also recognized additional burdens from dwindling water and food resources, and from climate change-induced natural disasters for the vulnerable and least developed countries of Asia and the Pacific.

6. The trend has continued over the past year. While steadily recovering from the financial crisis, with most economies in the region proving to be relatively resilient to the financial instability, high food prices, and energy and commodity price volatility plaguing the rest of the globe, persistent inequalities, intensifying natural disasters, and climate and environmental change still overshadow the regional outlook. In addition, there is a growing concern over the region's ever globalizing economy vis-à-vis resource constraints.

7. Figure 1 shows the correlation between the FAO food price index and the Brent crude oil price for the seven-year period from January 2004 to January 2011. Rising food and energy prices, in particular, are having dire effects on the poor and reversing hard-won development gains. ESCAP estimates that up to 42 million additional people across Asia and the Pacific will slide back into poverty in 2011 in addition to the 19 million already affected in 2010. In the worst-case scenario, achieving the Millennium Development Goals, for many least developed countries, would be postponed by up to a half a decade.



FAO food price index and Brent crude oil price, January 2004 to January 2011

Figure 1

8. While food security is becoming a major challenge for the sustainable development of the region, approximately one third of the food produced in the world is lost or wasted during the production, distribution and consumption phases. The disposal of food wastes also causes serious environmental problems to which the poor are especially vulnerable. These problems include malodors, the contamination of surface and ground water and air pollution caused by incineration. These, in turn, can create social problems as well, such as health risks for the poor through the scavenging of food waste.

9. Environmental and socio-economic interactions are also significant in the energy sector. Lack of access to modern and clean energy inhibits key aspects of human welfare and development. Despite advances in electricity grid coverage, four out of five people live in rural areas of South Asia. In South-East Asia, a vast majority of the poor, living on less than \$1 per day, continue to rely on traditional biomass, wood, agricultural residues and dung, for cooking and heating. In extreme cases, urban poor have been known to use a pile of rubbish plastic bags and papers for cooking, causing serious indoor air pollution and increasing the risk of respiratory disease. Increased poverty, on the other hand, will intensify the dependence on traditional biomass in a quest for cheap fuels. The concept of a vicious cycle was presented in the 2008 theme study *Energy Security and Sustainable Development in Asia and the Pacific*¹ (see figure 2).

Figure 2 Vicious cycle of poverty and energy



Source: Energy Security and Sustainable Development in Asia and the Pacific (United Nations publication, Sales No. E.08.II.F.13).

10. The State of the Environment in Asia and the Pacific 2000 report highlighted a cycle of poverty and environmental pollution/degradation in developing countries (see figure 3). The interaction set off a downward spiral of ecological deterioration that threatens the physical security, the economic well-being and the health of many of the region's poorest people.²

¹ United Nations publication, Sales No. E.08.II.F.13.

² United Nations. *State of the Environment in Asia and the Pacific 2000.*



Figure 3 Cycle of poverty and environmental degradation in developing countries

11. In other sectors, the degradation of ecosystems has forged a particularly dynamic and complex cycle involving poverty. While people receive substantial benefits from ecosystems for provisioning services (energy, water, food, timber and fibre for both urban and rural households), cultural services (sense of place or tourism) and regulating services (mitigation of floods, storm surges and climate moderation), overexploiting and modifying provisioning services can raise livelihood vulnerability and reduce the supply of ecosystem-regulating services, such as erosion control and landslide regulation. Such overexploitation may be conducted for short-term economic benefits to alleviate poverty, but often results in the irreversible loss of long-term benefits, thus exacerbating poverty. Deforestation and land use changes may be associated with scaled encroachment and displacement of remote communities, which also create a serious risk of loss of livelihood and increased poverty.

12. In many economies, the largest share of economic output and employment belongs to agriculture, as many people work in subsistence agriculture, relying primarily on meagre assets, agricultural land, small-scale livestock raising and cash crops, and common natural resources such as fish and non-timber forest products. For this reason, the greatest impact of disasters on livelihoods is often felt through damage and losses in the agricultural land, livestock, and rural and small-scale enterprises as well as loss of employment. The impact is also significant in health, education, psychosocial and gender aspects of both urban and rural societies.

13. For several years, concerns over climate change, together with shortfalls in energy supplies, encouraged agricultural production for fuel rather than food. This further limited the availability of land for food production. On the other hand, there is evidence of linkages between the potential impact of climate change and the frequency and severity of hydro-meteorological disasters, such as floods, drought, extreme temperatures, typhoons, hurricanes and wildfires. Such disasters not only cause immediate economic damage and loss of life, but they also have a deep and lasting impact on human development. Disaster losses are often linked with, or exacerbated by, poverty and vulnerabilities of the poor that stem from socio-economic and environmental imbalances. In turn, disasters may push people into, and hinder their ability to rise out of, poverty. This is partly due to the fact that people who are constantly exposed to such threats and income

shocks are more likely to stay poor and vulnerable, setting in motion yet another detrimental cycle that can be extremely difficult to break.³

14. Transport is one of the most fundamental infrastructures that ensure economic and social development. However, this very infrastructure currently consumes more than 50 per cent of the world's liquid fossil fuels, emits about a quarter of global energy-related carbon dioxide,⁴ and is responsible for air pollution and associated health problems. At the same time, underdeveloped transport presents losses in productivity and competitiveness (for example, through congestion) in urban areas, and significantly impacts social risks, such as reductions in human security (for example, through accidents), connectivity, equitable mobility and universal accessibility. Insufficient provision of public transport, in particular in urban areas, exacerbates all these problems simultaneously.

15. The strong linkages between environmental, social and economic issues are increasingly highlighted by a number of reports on sustainable development in the Asia-Pacific region. The analysis of recent trends revalidates the call of the Sixth Ministerial Conference on Environment and Development in Asia and the Pacific for a shift in the development paradigm towards "inclusive and sustainable growth" patterns, and creates an enabling socio-economic environment to drive the changes needed to foster and promote a sustainable development path.

III. Trend in policy responses

16. In order to respond to the emerging trend, the government and other stakeholders in the Asia-Pacific countries have been initiating policies and programmes that explicitly address environmental sustainability as well as economic and social development in an integrated manner.

17. Especially, taking into account the fact that compared to the rest of the world, Asia and the Pacific uses more than three times the resources to produce one unit of GDP, major policy interventions are required to foster improvement of resource efficiencies and to mitigate the risk of resource constraints together with their possible implications regarding the region's economic and social development. Examples of cases reflecting relevant policies and programmes are presented below.

A. Development strategy

18. The government of Japan has been promoting the 3Rs to create a sustainable society, one that has balance between economy and environment. Japan is shifting from a sole focus on the management of hazardous substances to new phases of greening the entire economy. The 3Rs also aim at promoting technological development, in particular the areas of resource efficiency, waste recovery and recycling, as well as the development of green new products, as one of the country's future growth and employment engines. There have been substantial investments towards the development of energy-efficient home appliances and office equipment, as well as recycling infrastructure.⁵

³ ESCAP and ISDR (2010), Protecting Development Gains, Asia Pacific Disaster Report 2010.

⁴ IEA (2005) CO₂ Emissions from Combustion 1971-2003. OECD/IEA.

⁵ http://www.env.go.jp/recycle/3r/en/index.html http://www.meti.go.jp/policy/recycle/main/English/index.htm

19. China is implementing far-reaching policy measures to increase its resource-efficiency. Initiatives include the 2006 resource-saving society initiative, addressed by the Eleventh five-year plan (2006-2010). This policy direction was elaborated by the 2008 Circular Economy Promotion Law, which guides comprehensive efforts to direct and shape the economic development of China in ways that conserve energy, water and materials, and that protect the environment. The same plan strongly advocated economic development in harmony with environmental and resource sustainability, as well as social wellness for all, including those in the less-developed western part of the country. The move was reaffirmed in the Twelfth five-year plan (2011-2016).⁶

20. Indonesia launched a fiscal stimulus package of \$5.9 billion in February 2009, spanning environmental and resource sustainability, as well as economic and social development. The fund was spent for energy-saving investments, irrigation schemes to foster employment, infrastructure projects, empowerment programmes for people living in rural areas, road construction in villages and municipalities, and the prevention of worker layoffs and the improvement of Indonesian business competitiveness.⁷

B. Pollution and wastes

21. The Government of the Republic of Korea has implemented a wide variety of policies to improve environmental and resource sustainability while enhancing food security. In the early 1990s, the Government started to explore alternative measures that allowed food wastes to be recycled for food production as either compost or animal feed. By 2004, 81.3 per cent of food waste was recycled as livestock feed and compost compared to 45.1 per cent in 2000. The Food Waste Comprehensive Plan was enacted nationwide in 2005, to change the food culture and facilitate food waste minimization and recycling.⁸

22. Bangladesh has enacted a number of laws, regulations, policies, and plans relating to waste management at both the national and local level. In 1995, Waste Concern, a national research organization, initiated a community-based decentralized composting project in Dhaka in an attempt to recover value from the organic portions of waste. Waste Concern set in motion a process for house-to-house collection of solid waste that is then taken to community-based composting plants and turned into organic fertilizer. In 1998, the Ministry of Environment and Forest selected Waste Concern as a sub-implementing agency for the project "Community Based Urban Solid Waste Management in 5 areas of Dhaka City" with support from UNDP. Waste Concern processed about 124,400 tons of organic waste, which resulted in 31,100 tons of compost and generated a profit margin of \$0.01 per kg. In turn, fertilizer companies generated significant profit margins by enriching and selling the compost. The use of organic fertilizers

⁶ http://www.chinacp.org.cn/eng/cppolicystrategy/circular_economy.html http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/circ ularreport.pdf

⁷ ESCAP 2009 and World Bank, Crisis Talk, Emerging markets and the financial crisis, Indonesia's stimulus package, 18 March. 2009.

http://crisistalk.worldbank.org/2009/03/indonesias-stimulus-package.html

⁸ http://www.un.org/esa/dsd/dsd_aofw_ni/ni_pdfs/NationalReports/korea/ WasteManagement.pdf http://www.agnet.org/library/ac/2001b/ http://eng.me.go.kr/content.do?method=moveContent&menuCode=res cit was energy

also benefited farmers by increasing per hectare yield by 30-50 per cent. The projects have generated 986 jobs among the urban poor, especially women, and 494,290 people benefit from a household waste disposal system across the country, and save municipal waste management costs.⁹

23. Waste Concern also enabled the reduction of greenhouse gas emissions by 17,000 tons between 2001 and 2006, and saved 33.12 acres of landfill area. In addition, a Clean Development Mechanism (CDM) project "Composting of Organic Waste in Dhaka"¹⁰ started in 2006 for the collection and composting of 700 tons of organic waste per day, is expected to reduce GHG emissions by 89,259 tCO₂ during its seven-year crediting period. The Certified Emission Reduction (CER) from this project has created a new source of revenue for a composting initiative. The project, which produces 50,000 tons of compost per year, is expected to create 1,000 additional jobs. This approach is being replicated in several slums of Dhaka and other communities throughout the country.

24. In an effort to reduce waste generation and the demand for landfill space, the Environment Protection Department (EDP) of Hong Kong, China, developed the Policy Framework for the Management of Municipal Solid Waste (2005-2014),¹¹ which lays out a plan for waste reduction and recovery in Hong Kong, China, by, among other things, setting a waste recovery target of 50 per cent by 2014. In line with this framework, Hong Kong, China, has developed an EcoPark, which is an industrial park dedicated to recycling. Providing a space for the development of the recycling industry, it facilitates the creation of a circular economy through the promotion of the reuse, recovery and recycling of waste, which will be processed locally. This scheme mitigates waste-related problems, helps spur the local economy and facilitate the creation of green jobs. In early 2011, an EcoPark job fair was organized where more than 120 jobs were offered by the recycling industry.¹²

25. Many countries in the region are aware of these challenges and are taking steps to promote sustainable transport. China, for example, has been actively promoting sustainable transport through a number of measures, including heavy investments in public transport. The City of Guangzhou, for example, launched its Bus Rapid Transit (BRT) system in 2010. It currently carries 26,900 passengers per direction per hour with a daily ridership level of roughly 800,000. The scheme is the first in China to include bicycle parking at the stations and to include direct tunnels between metro and BRT stations. To further support the uptake of non-motorized transport, new bicycle lanes were developed running parallel to the BRT stations as well as a 0010 1.1 • • .• • • . 1 1 т C 1 000

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