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ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC  
in collaboration with  
United Nations Department of Economic and Social Affairs  
United Nations Environment Programme  
United Nations Centre for Regional Development  
Asian Development Bank

**ADVANCED UNEDITED VERSION**

**REPORT OF THE REGIONAL IMPLEMENTATION MEETING FOR ASIA AND  
THE PACIFIC AHEAD OF THE EIGHTEENTH SESSION OF THE COMMISSION ON  
SUSTAINABLE DEVELOPMENT**

**30 November-1 December 2009, Bangkok, Thailand**

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## **I. OUTLINES OF THE ASIA-PACIFIC REGIONAL IMPLEMENTATION MEETING**

1. The Asia-Pacific Regional Implementation Meeting reviewed the regional progress in the implementation of the outcomes of the World Summit on Sustainable Development and partnerships for further implementation of the Johannesburg Plan of Implementation in the thematic areas of transport, chemicals, waste management, mining, 10-year framework of programmes on sustainable consumption and production patterns, and cross-cutting issues, interlinkages, and synergies.
2. The Meeting expressed appreciation for the documents produced by the meeting secretariat, which included thematic reports on transport, chemicals, waste management, mining, 10-year framework of programmes on sustainable consumption and production patterns, and cross-cutting issues, inter-linkages, and synergies, developed jointly by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the United Nations Department of Economic Affairs (DESA), United Nations Environment Programme (UNEP), United Nations Centre for Regional Development (UNCRD) and Asian Development Bank.
3. On the basis of the documentation mentioned above, the Meeting successfully reviewed the Asian and Pacific regional concerns in the thematic cluster for the 18th and 19th sessions of the Commission for Sustainable Development (CSD). The highlights of the discussion were captured in the Chairperson's Summary, attached as an annex to the present report. The Meeting requested the secretariat to transmit the contents of present report to the CSD at its 18th session, in the appropriate form.

## **II. ORGANIZATION OF THE SESSION**

### **A. Opening, duration and organization**

4. The Asia-Pacific Regional Implementation Meeting was held in Bangkok, Thailand, on 30 November and 1 December 2009 in collaboration with the Department for Economic and Social Affairs (DESA), United Nations Environment Programme (UNEP), United Nations Centre for Regional Development (UNCRD), and the Asian Development Bank (ADB).
5. In his welcoming address, the Deputy Executive Secretary of ESCAP, Mr Shigeru Mochida expressed confidence that the Meeting, with the joint efforts of all the delegates and co-organizers, would make a great contribution to the preparations for the eighteenth session of the CSD and show the commitment of the Asian and Pacific region to playing a key role in achieving sustainable development. He explained that the rapid economic growth in Asia-Pacific had come at a significant environmental and social cost, and since more growth for poverty alleviation was necessary it was emphasized that future growth will have to happen within the limits of the environmental carrying capacity. It was stressed however that inspiration could be found in local approaches to sustainable development. Finally, it was emphasized that the linkages between the themes of this year's cluster could be found in sustainable consumption and production patterns and that cross-cutting issues were important to be discussed.
6. In his opening remarks, Mr. Ralph Wahnschafft, Senior Economic Affairs Officer of DESA, gave an overview of the CSD process and informed participants on the inter-governmental consultative process of the CSD, in particular with regards to the fourth cycle (CSD-18 and CSD-19 in 2010-2011). The presentation highlighted the various innovations proposed to be introduced in this cycle, including: (i) integrated ministerial dialogue with heads of governing bodies of UN system organizations; (ii) integrated session on cross-regional perspectives; (iii) introduction of *youtube* channel; (iv) capacity-building seminars one on each of the five themes; (v) eventual extension of

high-level segment to four days; (vi) advocacy and outreach activities; and (vii) proposed appointment of Goodwill Ambassador.

7. Mr. Eduard Menez, Minister, Permanent Mission of Philippines to the United Nations, Philippines, briefed the participants of the discussion of the recent meeting of the CSD Bureau held in Guatemala. Mr. Menez highlighted, amongst others, the Bureau's willingness to involve not only environmental ministries, but also other relevant ministers in the CSD session, considering the cross-cutting nature of the thematic cluster. While Mr. Menez reminded countries to submit national reports on the selected CSD themes to contribute to the SG's Report, if they have not done so, he called for suggestions for nomination of appoint a goodwill ambassador for sustainable development, as well as internationally renowned experts who would be able to serve as panelists for thematic debates in the forthcoming CSD sessions.

8. Subsequently, Mr. Matthew Gubb, Senior Officer of UNEP Chemicals stated that UNEP recognizes the importance of CSD process and is pleased to collaborate with the Commissions and with ESCAP in particular. Mr. Gubb reiterated the importance of sustainable (SCP) as overall link connecting the themes of the thematic cluster and emphasised the importance of linking UNEP's Green Economy efforts with the Asia-Pacific Green Growth Approach. He elaborated that the themes of CSD 18-19 are environmentally, socially, and economically significant and told participants that the imminent climate change negotiations in Copenhagen show the thematic cluster should be seen also in light of their contribution to global warming. Finally, he reminded participants that the RIM should explore not only problems but also solutions within the thematic cluster.

9. Additionally, Mr. Masakazu Ichimura, Chief of Environment and Development Policy Section, Environment and Development Division of ESCAP outlined the discussion process as well as the expected outcome of this particular meeting.

## **B. Attendance**

10. The session was attended by the following members of ESCAP: Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, China, Fiji, India, Indonesia, Japan, Kazakhstan, Lao People's Democratic Republic, Mongolia, Pakistan, Philippines, Russian Federation, Thailand, United States, and Viet Nam.

11. The following United Nations bodies and specialized agencies were represented: United Nations Convention to Combat Desertification (UNCCD), United Nations Centre for Regional Development (UNCRD), United Nations Department for Economic and Social Affairs (DESA), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Educational Scientific and Cultural Organization, (UNESCO) United Nations Population Fund (UNFPA), and the United Nations Industrial Development Organization (UNIDO).

12. The following intergovernmental organizations, non-governmental organizations and other entities also attended: Asian Development Bank (ADB), Australian Government Overseas Aid Program (AusAid), European Union (EU), International Federation for Agricultural Producers (IFAP), Indigenous Peoples' International Centre on Policy Research and Education, Institute for Global Environmental Strategies (IGES), Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN), Global Youth Action, Women for Europe for a Common Future, ICLEI Local Governments for Sustainability, ANPED – Northern Alliance for Sustainability, Asia Pacific Roundtable for Sustainable Consumption and Production (APRSCP), Baha'i International Community, Consumers International, Environment Action Association, International Green Purchasing Network (IGPN), Regional Helpdesk on Sustainable Consumption and Production in Asia and the Pacific, World Federation of Engineering Organisations, and World Society for the Protection of Animals (WSPA).

## **C. Election of officers**

13. The Meeting elected the following as members of the Bureau: Chairperson, H.E. Mr. Dana Adyana Kartakusuma, Assistant Minister for Technology and Sustainable Development, State Ministry of the Environment, Indonesia; Vice-Chairpersons: Mr. Abdul Wassay Haqiqi, Senior Advisor, Ministry of Economy, Afghanistan; Mr. Manoranjan Hota, Director, Ministry of Environment and Forests, India; Ms. Khishigjargal Kharkuu, Planning Officer, Ministry of Nature Environment & Tourism, Mongolia; Mr. Keshwa Nand Reddy, Chief Economist – Sectoral Regional Ministry of National Planning, Fiji; Ms. Keobang A Keola, Director General of the Greater Mekong Subregion, Water Resources and Environment Administration, Prime Minister's office, Lao PDR; and Rapporteur: Mr. Eduardo Menez, Minister, Permanent Mission of Philippines to the United Nations, Philippines.

#### **D. Agenda**

14. The Meeting adopted the following agenda, as contained in document EDD/2009/RIM.18/1

1. Opening of the Meeting.
2. Election of officers
3. Adoption of the agenda.
4. Review of progress, constraints and policy challenges with regard to the implementation of international, regional and national commitments:
5. Cross-cutting issues, interlinkages and synergies
6. Adoption of the Report.
7. Closing of the meeting.

15. The Meeting was also associated with the following side events:

- Workshop on strengthening capacity for participation of regionally based major groups in the CSD-18/19, facilitated by Northern Alliance for Sustainability (ANPED)
- Multiple MEA approach to combating illegal trade in ODS and hazardous waste, organized by UNEP Compliance Assistance Programme
- Waste management policies and NGOs in the Republic of Korea, organized by Environment Action Association, Women Organizing for Change in Agriculture and Natural Resource, Global Youth Action.

#### **E. Acknowledgements**

16. The Meeting noted with appreciation the collaboration of the United Nations bodies and agencies including ESCAP, United Nations Environment Programme, United Nations Department of Economic and Social Affairs, in organizing the Meeting. The Meeting also expressed appreciation for the additional contributions of the United Nations Centre for Regional Development, the Asian Development Bank, and the National Institute of Advanced Industrial Science and Technology (AIST), Japan, in the preparation of thematic background papers.

#### **F. Adoption of the report of the Meeting**

17. The Meeting adopted the present report on 1 December 2009.

## ANNEX I

### CHAIRPERSON'S SUMMARY

#### I. THE ASIAN AND PACIFIC DEVELOPMENT CONTEXT

1. The Asian and Pacific region is at a crossroads. Policy and investment decisions made today, whether in response to cross-sectoral issues or thematic clusters, such as transport, chemicals, waste management, mining, 10-year framework of programmes on sustainable consumption and production patterns, will lock countries into development patterns for decades to come. The key is to facilitate economic development, which would decouple resource use, whether of minerals or chemicals, from the growth of GDP; promote sustainable consumption and production patterns and sustainable transport; and provide access to employment and basic needs while minimizing congestion, waste, pollution and energy use.
2. Considering development and sustainability in the Asia-Pacific region, whether in terms of cross-sectoral issues or in a thematic context, there is a need to build a resilient interrelated socio-economic and ecological system that could respond to the shocks that recently affected the regional and global economy as a result of the financial, fuel and food crises. Developing such an integrated system will require focusing on three elements: (a) staying within limits; (b) building the resilience of the integrated system; and (c) responding to system linkages.
3. The notion of limits or thresholds is an important concept in sustainability. Resource use or eco-efficiency, which is the basic ingredient of both green growth and SCP (the overarching theme of the thematic cluster under discussion) is therefore integral to maintaining pressures within limits and promoting system resilience and, consequently, promoting sustainability. Participants observed that concerns for ecological harmony and sustainability are deeply rooted in the region, as exemplified by Gross National Happiness Index in Bhutan, Sufficiency Economy in Thailand, Low Carbon Green Growth strategy in the Republic of Korea, Harmonious Society in China.
4. 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 component system on the others. ESCAP has therefore identified the eco-efficiency of growth as a key component in meeting future needs while remaining within environmental carrying capacity.
5. The policies and actions required for developing resilient socio-economic systems should therefore help to resolve problems related to both cross-sectoral and thematic issues and should receive greater attention in national, regional and international dialogue. There is a need to recognize the linkages between the social, economic and ecological systems. Currently, investments in the hardware needed for sustainable development are well promoted by policy makers, while investments in the software—meaning the changes in the behaviour, governance, engagement and empowerment of multiple stakeholders—have not been sufficiently addressed. A stronger voice on cross-cutting and thematic issues is needed.
6. Finally, in the midst of the multiple crises, when traditional development models are being questioned and the world is looking for new paths and new leaders, the Asia-Pacific region has the opportunity to shape not only its future, but that of the entire world. The need for enhanced financial provisions and environmentally sound technology transfer, regional cooperation for sharing of good practices was also expressed. The region could also develop a common set of standards, norms and development approaches—one that encompasses eco-efficiency principles, policies and strategies and integrates all dimensions of sustainable development—economic, social and environmental—in an inclusive and balanced way.

#### II. GENERAL COMMENTS ON THE THEMATIC REPORTS

7. Participants expressed their appreciation over the development of the comprehensive thematic and synthesis reports and praised their usefulness in facilitating the regional discussion in the CSD process. It was however pointed out that, due to the broad coverage of each of the five thematic areas, as well as their complex inter-linkages, the current RIM process may be insufficient to comprehensively cover all relevant aspects and priority areas for collective regional actions.

8. In order to ensure broad and detailed information base for the CSD review process, the meeting encouraged all Governments to also submit national reports to the CSD secretariat.

### **III. Review of Issues related to thematic areas**

#### **a. Transport**

##### *Progress and achievements*

9. Considerable progress has been made in regional integration and connectivity. The benefits from improved transport, however, have mainly affected populations in coastal areas in Asia, particularly near seaports. There remains therefore a substantial transport task in reaching large populations in deeper hinterlands and rural areas as well as landlocked countries to encourage inclusive prosperity.

10. The density and quality of roads has increased over the last years, but much more needs to be done to extend adequate transport services in rural areas, including in developing feeder roads. Efficient access to markets, especially for transporting agricultural goods, is imperative for making rural economies viable. It can promote access to consumers for locally produced agricultural and other goods. Transport plays a crucial role for poverty alleviation by facilitating access to employment to low-income groups and increasing time that they can allocate to income generating activities. In rural areas the distance to schools and the quality of the roads is a major determinant in education completion rates, whereas proximity to a hospital is a significant explanatory variable in infant and child mortality, as well as maternal mortality.

11. The provision of quality transport services is intimately linked to economic performance and social equity. A socially sustainable transport system means it must support the mobility and access needs of society's most vulnerable groups, including low-income families, women, the elderly and persons with physical disabilities. In particular, sustainable transport and gender should go hand in hand. Increased mobility is crucial for women to participate in economic development. Many countries are prioritizing public transportation, and some good examples of universal access can be observed across the region. Some countries, such as the Philippines, are in the process of developing national environmentally sustainable transport strategies. At the same time, much more needs to be done in the region in order to develop socially-inclusive transport systems.

12. Air quality levels in Asia have improved in some Asian cities in recent years, primarily thanks to successes in phasing out lead gasoline, phasing out two-stroke engines in motorcycles, and improved vehicle emission and fuel quality standards. In spite of progress, air pollution levels in Asian cities are still above WHO guideline values, resulting in an estimated half a million premature deaths every year. Particulate matter is the main pollutant of concern, with ozone becoming increasingly problematic.

13. Transport is among the main sectors in total energy consumption in Asia-Pacific and is the largest consumer of petroleum. This has important implications for energy security of the region, as the majority of countries are net energy importing countries and particularly affected by volatile oil prices. Some countries have achieved progress in improving fuel efficiency and vehicle emission standards. Japan, for example, has been able to achieve 50 per cent improvement in fuel efficiency in the last 20 years thanks to its "top runner standards" approach.

14. The transport sector is also the second largest contributor to global CO<sub>2</sub> emissions with 23 per cent of total emissions, and the fastest growing source in developing countries. Countries are

taking steps to reduce the emissions of CO<sub>2</sub>, for example by promoting public transportation, shifting towards lower carbon intensive modes such as rail, and through fuel efficiency. Such measures have allowed emissions from the transport sector in Japan, for example, to already decrease from a peak in 2001. In other countries, such as Bangladesh, where the carbon intensity of the transport sector is already relatively low, the priority is to maintain low intensities while expanding access.

### *Challenges and constraints*

15. The lack of access and mobility in rural areas stifles the realization of true sustainable development. Incomplete freight infrastructure limits market reach for local products. Rapid motorization in the region has led to a number of problems, such as congestion, air pollution, greenhouse gas emissions and transport-related injuries and fatalities. Low-income residents also often receive the brunt of the negative impacts of motorization, despite the fact that many of the poor do not own motorized transport themselves.

16. Among the most critical obstacles to sustainable transport are: (i) inadequate institutional and governance structures; (ii) lack of sufficient information for national and local policymakers; (iii) insufficient baseline data on existing mode shares, user needs, air quality and other critical factors; (iv) insufficient human resources to address the issues; (v) inadequate funding resources; (vi) lack of access to suitable technologies; (vii) sole focus on a few major cities and the ignoring of sustainable transport actions in secondary and smaller cities as well as in rural areas; (viii) lack of vehicle emission standards. The importance of broad-based public participation in transport infrastructure development processes was also noted.

17. Adaptation to climate change is expected to be a major challenge for the region in coming years, as transportation infrastructure stands to be severely affected by the impacts of climate, such as sea level rise and more extreme weather events. Asia-Pacific is already the region of the world most affected by natural disasters, and lack of adequate transportation greatly hampers relief efforts.

### *Policy options / Way forward*

18. Addressing the complexity of sustainability challenges in the transport sector requires the development of integrated transport strategies. An integrated approach should include, among others, land-use planning, the planning of non-motorized and public transport options in both urban and rural areas, infrastructure for intermodal freight systems, business models for financially viable operations and maintenance, communications and outreach messages to influence behavioural patterns, and clean technologies to achieve energy efficiency and low emissions.

19. Participants noted with concern that access to basic rural transportation and services was still lacking in many areas, in particular in least developed countries of the region, hampering the effectiveness of poverty eradication efforts. Greater international technical and financial support is urgently needed.

20. International efforts to address global climate change should provide opportunities to realizing transport systems that also deliver economic, social and environmental benefits. Focusing on co-benefits can help achieve win-win solutions to developing climate change mitigation strategies. Given the need to expand access to efficient and affordable transportation in the region, especially in rural areas, policies in this regard should not focus on reducing transport, but rather on reversing the growth of GHG emission from the sector, including through appropriate technologies. Public transportation should be promoted, for shifting towards lower carbon intensive modes such as rail. Promoting fuel efficiency and introducing fuel economy measures, such as appropriately taxing fossil fuels, can also contribute to a low-carbon development.

21. Private sector collaborations through public-private partnerships (PPPs) have already shown to be effective for many transport projects, and should be regarded for advancing the transport and development agenda. Many technological solutions are already available and are low cost but are not implemented. Partnership with scientific and technological communities can facilitate the

dissemination of this knowledge. Moreover, partnerships with civil society organizations are instrumental to addressing the needs of the most vulnerable groups.

22. Regional and international cooperation should be strengthened in order to advance the transport and development agenda. Regional integration efforts, such as through the Intergovernmental Agreements on the Asian Highway Network and Trans-Asian Railway Network, are instrumental in order to develop sustainable intermodal transport systems that deliver efficient domestic transport services and at the same time provide access to international markets and wider hinterlands. International financing from development banks and bilateral agencies is instrumental to catalysing initial demonstrations as well as in filling financing gaps. Initiatives such as the Ministerial Conference on Global Environment and Energy in Transport (MEET) play an important role for advancing the low-carbon, sustainable transport agenda. The Asian Environmentally Sustainable Transport (EST) initiative, through its regional EST Forum is also playing an instrumental role in promoting and mainstreaming integrated strategies and approaches for achieving sustainable transport in Asia.

## **b. Chemicals**

### *Progress and achievements*

23. Asia and the Pacific, the second major region of production and consumption in the world after Europe, has made progress in the safer management of chemicals.

24. Overall, most countries in Asia and the Pacific are making progress in meeting the needs for improving knowledge, norms and procedures for safer management of chemicals, on basis of a number of international agreements, instruments and programmes, covering the areas such as for strengthening knowledge and information, measures through education, training and awareness-raising activities, instruments and programmes, and introduction of risk reduction programmes.

25. Countries have also improved chemical safety policies in developing systems for emergency preparedness and response to chemical accidents, controlling chemicals use in protected areas, and strengthening liability and compensation schemes in relation to damage to human health and the environment.

26. Most countries have benefited from new knowledge and information through multilateral environmental agreements relating to chemical management and capacity building programmes. Implemented on bilateral and multilateral basis. The progress in implementing Rotterdam Convention, Stockholm Convention, and the Strategic Approach to International Chemicals Management (SAICM) in Asia-Pacific countries was highlighted, amongst others.

27. Initiatives for preventing illegal trafficking of chemicals and hazardous wastes include the ratifying of relevant multilateral environmental agreements such the Montreal Protocol, Basel Convention and Stockholm Convention, and global initiatives such as SAICM.

### *Challenges and constraints*

28. Implementation of existing international policy frameworks for chemicals should be further strengthened including through the provision of the financial resources and capacity building required by developing countries. The implementation of established international policies is uneven in the region and therefore may delay the process of development in some cases. Implementation in Pacific island countries and territories has been slow compared to that in other subregions. The countries also face difficulties in implementation due to the lack of infrastructure required.

29. Despite considerable efforts made during the past decade, many countries lack the capacity for ensuring environmentally-sound chemicals management. National capacity for management is often behind the rapidly growing level of consumption and number of new chemicals

30. Furthermore, it is very imperative to engage the private sector and promote corporate social responsibility over chemical management. The chemical industry continues to evolve, new chemicals

are being developed and risk information on such chemicals is normally not available, or available with limited access to such information.

### ***Policy options / Way forward***

31. For sound chemical management, governments commitments are needed as follows: (1) Integrate chemicals management into national development priorities; (2) develop a sound institutional and programmatic national framework; (3) promote ratification and implementation of relevant existing international conventions; (4) encourage the implementation of existing internationally recognized standards, tools and approaches for environment and health and protection from chemicals, revise legislation and enforce existing regulations; and (5) promote participation of the private sector and non-profit civil society in chemicals management.

32. As most problems in developing countries stem from inappropriate distribution of knowledge and low capacity of human resources, technical assistance should be strengthened to train local personnel to understand impacts of chemicals and assessment methodologies.

33. National Governments and multilateral agencies should establish strong cooperation to support the preparation of required infrastructures, such as laws and regulations, research facilities and databases. The strategies should help in creating reliability of information and aid informed decision-making. Urgent, increased international efforts should be taken to assist needed countries in the development and enforcement of legislation to control the illegal movement of toxic chemicals.

34. As developing countries in the region lack the capability to respond effectively to serious accidents or to monitor long-term environmental effects, preventive policies should be strengthened. Appropriate technologies should be developed with regard to guiding the appropriate resource allocation and investments.

### **c. Waste management**

#### ***Progress and achievements***

35. Several global initiatives have been undertaken to address waste. Among others, Local Agenda 21, MDGs, Basel Convention, Stockholm Convention, Montreal Protocol, the Strategic Approach to International Chemicals Management (SAICM) and Kyoto Protocol cover various aspects of municipal, industrial, hazardous wastes and waste water. In addition several international and bilateral agencies are active in promoting sustainable waste management.

36. To promote the exchange of information and to strengthen the capacities of least developed and developing countries to acquire and disseminate waste treatment technologies, a 3R Knowledge Hub had been created with the assistance of the Government of Japan.

37. While most MSW is handled by local governments, industrial and hazardous waste, health related waste and emerging waste is usually handled by higher levels of government. Local and national governments are facing several challenges in addressing wastes, including a lack of financial resources, availability of suitable technology and land for disposing wastes and increasing transportation costs. Many governments had started taking steps towards ecological solid waste management. Some had passed comprehensive legislation on environmentally sound management of hazardous wastes, solid wastes and waste water. Many countries had incorporated 3Rs in waste management. Implementation strategies of many countries focused on inclusion of the private sector and communities in solid waste management, particularly in 3Rs. The Meeting was informed of country initiatives on waste-to-energy and composting of organic waste for use as manure in agriculture.

#### ***Challenges and constraints***

38. In spite of the progress made, several challenges and constraints remained, as Asia-Pacific region continues rapid growth in terms of waste generation, particularly due to economic growth, urbanization and industrialization, waste generation in MSW, hazardous waste and health waste is expected to continue growing, which represent the persistent nature of many of ongoing challenges faced by the region.

39. Many countries had promulgated laws and regulations, their implementation and enforcement remained a challenge. Moreover, capacity development of national and local government remained to be undertaken. Another key challenge was access to appropriate technologies and finances to address waste management.

40. A key challenge with regards to hazardous waste was the difference in definitions and criteria for hazardous waste between countries. This made it difficult to enforce laws and one of the causes for continuing import and export of hazardous wastes. Moreover, transport, treatment and disposal of nuclear waste remained a challenge in the region.

#### ***Policy options / Way forward***

41. Greater regional cooperation and exchange of information in the formulation of national waste management strategies, innovative approaches and technologies in municipal solid wastes and bio medical waste management were promoted as key areas of continued and future action. Development of guidelines under the COP to Basel Convention and exchange of regulatory information on hazardous waste via the Asia Network activities was also listed as a key area for future regional cooperation

#### **d. Mining**

##### ***Progress and achievements***

42. The Asian and Pacific region is endowed with rich mineral resources, and is a major contributor to global production of most mineral resources. The scale of demand for minerals has increased as regional economies grow, while the kinds of minerals demanded is also changing. Nuclear energy production requiring uranium has been accelerating in recent times, while the production of clean technologies has resulted in increased demand for rare metals including rare earth elements. Large scale mining still poses challenges for local communities, including compromised human and animal health and welfare, and the destruction of natural resources and ecosystems. Mineral resources are found largely in areas which are home to indigenous peoples; benefits are not shared, and environmental impacts are borne largely by these groups. Women, youth and children are also particularly vulnerable.

43. Regional frameworks to support the development of new mining policies have been established by the Association of Southeast Asian Nations (ASEAN) and the Asia-Pacific Economic Cooperation (APEC). Both ASEAN and APEC have made important political declarations on mining.

44. Governments have taken steps to promote responsible mining, including establishing specific policy frameworks to address the sustainability of the mining sector. Among those noted during the RIM were initiatives such as policies, regulations and procedures for rehabilitation planning; conflict resolution management; consultative processes; environmental impact assessment; assessing damage as a basis for improving compliance and monitoring; and small scale mining and analysis of stakeholder interest. Mining had also been prohibited in catchment areas and forest reserves, and higher prices had been established for water use by the mining sector. Country experiences also showed the good potential for coupling responsible private sector investment, strong government regulation and social policies to ensure benefits for local communities. One small island state highlighted that in that country applications for mining concessions had been denied; priority had been given to sustainability considerations over short term economic gain.

45. The extractive industry has taken steps to establish management systems and policy frameworks to comply with global standards and improve reporting. There was also cooperative action to promote

social responsibility and to promote scientific and sustainable mining. However, there is still a gap between expectations regarding sustainability 'standards', and mining operations on the ground.

46. United Nations entities and civil society organisations are also important players in the region. International agencies such as ILO and UNEP have established important initiatives to support sustainable mining.

47. Success stories related to technology innovation include techniques for in-situ leaching, energy efficiency, reducing water requirements and enhanced robotics and other technologies to reduce energy demand and human risks.

48. Despite several areas of progress, the development opportunities presented by the mining sector have not been fully realized, mineral resources are undervalued, benefits are not equitably distributed and the linkages with the wider economy are weak, in many cases. Countries which are heavily dependent on export of commodities are vulnerable to changes in global commodity prices and natural disasters.

49. It is recognized that mining is not sustainable in the long term. A good example of industrial ecology approaches that supported demand management was an Eco Town Program that tried to maximise the economic and environmental opportunities presented by geographical proximity of industrial and urban areas, by using commercial, municipal and industrial waste in industrial applications.

### **Challenges and constraints**

50. Among the challenges facing the mining sector are: efficient resource use, the intensity of energy use, management of toxic substances, ensuring appropriate labour conditions, developing mutually beneficial relationships with local communities and managing financial and technological risks. Challenges related to artisanal gold mining and associated mercury contamination and radioactive waste management issues related to uranium mining still persist.

51. The mining industry is increasingly required to conduct more environmentally and socially responsible and acceptable operations. Increasing public awareness, anti-mining sentiment from some groups, institutional investors' awareness of the links between economic performance, risk and environmental responsibility, and recognition of the rights of indigenous groups as a critical and high-profile issue, are among the factors that provide incentives for increased corporate social responsibility. In addition, the mining is an energy-intensive activity and the role of the sector in mitigating climate change should be better articulated. Integrated water and ecosystem management requires increased attention in areas potentially impacted by mining; mining is water-intensive and often operates in ecologically-sensitive areas such as mountains.

52. Recent trade developments relating to trade in mercury and mercury compounds reflect increasing environmental awareness, a trend that will impact on the regional mining industry. Trade and environmental policies should be mutually supportive, and trade-distorting policies avoided.

53. While mining is an important economic sector, sustainability considerations require that strong consideration should be given to measures to reduce the demand for minerals via demand-side management, including 3R (reduce, reuse, recycle) approaches.

54. While regulatory frameworks and incentives are improving in several countries, lack of implementation capacities reduces their effectiveness. Implementation gaps relating to enforcement of regulations were noted. Implementation shortfalls reflect human capacity shortfalls, as well as financing and technological constraints, as noted in several countries.

### **Policy options / Way forward**

55. An inclusive mining policy is needed to support holistic approaches for meeting the demand for minerals. More policy integration with other sectors is needed, as well as strategic sustainability assessments for mining operations.

56. Enhanced regional cooperation or a possible international convention in the areas of mineral trade, and investment policy to support environmental rehabilitation could be considered. It was suggested that member countries should spend a percentage of mining income on environmental rehabilitation as a way to support sustainable development of the mineral sector. The experiences of regional countries on such investment policy should be shared.
57. Investment based on inclusive and transparent processes should be promoted. This requires greater consultation on indigenous people's issues; the rights of indigenous peoples are particularly at risk in mining operations, and human rights approaches can help establish good practice. Inclusive and transparent process should be supported by policies for free, prior and informed consent and inclusion of women's perspectives in policymaking and planning. Better communication is needed with respect to risk, and as a basis for risk management. Specific conclusions on the question of "what is acceptable mining activity" should be formulated.
58. Increased capacity for environmental impact assessment for developing countries is essential.
59. Corporate social responsibility and ethical approaches such as fair trade in minerals should be promoted.
60. Investments in science and technology are needed in the following areas, *inter-alia*, for clean technology to support environmental impact mitigation, resource use, mining waste management, rehabilitation of abandoned mines, and advanced mining technology, including in new fields such as geomimetics. The role of scientific institutions as a partner with governments should be strengthened in this regard.
61. Demand management should be strengthened through lifecycle assessment and industrial ecology approaches. Recycling is also critical for keeping demand with sustainable limits. Good land use planning should be considered to optimize benefits and help avoid conflict. The prohibition of mining in catchment areas and forest reserves is one example of such planning.
62. While nuclear power is promoted by a number of governments in the region as a viable source of energy, dialogue should be strengthened for discussing important issues such as phasing out uranium mining and other nuclear activities, given the extreme toxicity of the waste from these activities, and the fact that safe handling has proven difficult.

#### **e. Ten-Year framework of programmes on sustainable consumption and production patterns**

##### ***Progress and achievements***

63. Only seven years ago, in 2002, at the World Summit on Sustainable Development, the world's Governments reaffirmed their commitment to safeguarding the environment for future generations. The United Nations family has been working together to co-implement several action programmes, as well as co-supporting initiatives launched by many Governments.
64. With the vision of achieving environmentally sustainable economic growth in the Asian and Pacific region by promoting effective environmental policies, green growth was proposed at the fifth Ministerial Conference on Environment and Development in Asia and the Pacific 2005 and endorsed by the Economic and Social Commission for Asia and the Pacific at its sixty-first session, which was held in May 2005. It aims to address the major policy issues for green growth highlighted by the Ministerial Declaration of MCED 2005 and the Regional Implementation Plan for Sustainable Development in Asia and the Pacific, 2006-2010.
65. Eco-efficiency and resource efficiency are the backbone of the Green growth approach, which is being applied through a number of regionally promoted policies, such as Green tax and budget reform (GTBR); sustainable infrastructure, sustainable consumption and production, greening of business and markets provide a mechanism and tools to turn protection of the environment into a business, investment in natural capital.

66. Regional green growth policy dialogues and forums have been taking place since 2005. The three regional policy dialogues that have taken place have focused on: (a) green tax and budget reform; (b) public policy and a resource-saving society; and (c) the greening of business and the environment as a business opportunity. Moreover, four meetings of the Seoul Initiative Network on Green Growth (SINGG) have been held to discuss economic instruments, sustainable consumption and production and climate change concerns, with a highlight on the third meeting held in cooperation with the Asia-Pacific Roundtable for SCP in 2008 at Cebu, Philippines.

67. Mobilizing and refocusing the global economy towards investments in clean technologies and natural infrastructure, such as forests and soils, is the best bet for real growth, combating climate change and triggering an employment boom in the twenty-first century.

68. On 22 October 2008, UNEP and leading economists launched the Green Economy Initiative (GEI). GEI, which will initially run for a period of two years, has three key expected results: The Green Economy Report, the Green Jobs Report, and the Economics of Ecosystems and Biodiversity Report. The Green Economy report will provide an overview, analysis and synthesis of how public policy can help markets accelerate the transition towards a green economy.

69. In the Asian and Pacific region, UNEP is currently working with China and the Republic of Korea on the development of national reports on the green economy. Capacity-building activities are also under implementation and discussions with Asian countries on the development of country studies are ongoing.

70. The circular economy adopted by the Government of China in the last five-year plan as the development model for China to follow also puts emphasis on the most efficient use of and recycling of its resources and environmental protection.

71. The 3R initiative was proposed by the Government of Japan, aiming to build a sound material-cycle society through the effective use of resources and materials, and agreed upon as a new initiative of the G8 during the Sea Island Summit in June 2004. The 3R platform is an implementing mechanism for activities in developing countries of the Asia-Pacific region also promoted at the 3R Ministerial Conference hosted by the Government of Japan in April 2005.

72. The ESCAP/UNEP SCP help desk was established in 2006. Its mission is to foster innovative practices of sustainable consumption and production in Asia and the Pacific. The help desk has evolved the SCP role, acted as an information hub, co-organized and hosted meetings, and developed specific partnerships with other agencies on SCP. Since June 2009, the help desk has hosted a regional training of trainers facility for the development and application of green growth policy tools.

73. A number of global and regional initiatives have found fruitful ground for application in the region, such as the joint UNIDO-UNEP Programme on “Resource Efficiency and Cleaner Production in Developing and Transition Countries” for addressing sustainable industrial development through environmental protection, the regional multi-country Programmes ADB (RETA), UNEP (NIEM and GERIAP) for cross fertilization of information and sharing of knowledge. In addition, the “Green Industry for Asia” Conference adopted a Ministerial Declaration for promotion of green growth, green industry, green jobs and sustainable production, in September 2009, in Manila, Philippines.

74. Compared to sustainable consumption, tools and initiatives related to sustainable production are more advanced in most countries. CP tools and initiatives, in particular—including case studies, human capacity, legislation and CP networks—receive a significantly higher rating across the region. This is most likely the result of a concerted international effort to build CP capacity in the region over the last two decades. The national cleaner production centres are playing an important role in this regard. Countries with national cleaner production centres have progressed further in the adoption of CP.

75. In North-East Asia, all countries have various CP programmes and laws that promote resource use efficiency. A circular economy that involves producer responsibility beyond the production stages is also in place in countries in this subregion. NCPC in these countries are engaged in formulation of policies and management methods, development of cleaner technologies, operation of websites that make these data readily accessible to the public and conducting pilot projects on

cleaner production auditing, for example in the pulp and paper making industry, in collaboration with industries in other economies.

76. Majority of the countries in South-East Asia have NCPCs, which are quite active. These centres are spearheading the CP activities in the respective countries, such as accreditation of ISO 9001 and ISO 14001 certificates, conducting awareness-raising seminars, producing CP information and training tools, and disseminating such materials.

77. National roundtables were held in some Asian countries, including China and India, and in cooperation with the Asia-Pacific Roundtable for Sustainable Consumption and Production in the Philippines in 2008. The two Indian national roundtables on SCP in 2006 (Mumbai) and 2007 (New Delhi) were organized by the Society in Action Group (SAG), an all-volunteer Indian NGO involved with SCP since 2003.

78. SAG organized the Marrakech Task Force (MTF) Meeting in New Delhi in February 2009 to further the remit of Marrakech task forces in documenting best practices, to initiate project collaboration and to encourage intraregional and interregional information exchange. The discussion focused on green growth and on sustainable lifestyles/education, tourism, public procurement, buildings, construction and products.

79. As a vision and overriding goal, sustainable consumption and production is easy to embrace as the only acceptable long-term strategy for human survival. Figuring out how to get there is quite difficult.

### ***Challenges and constraints***

80. Despite the region's high poverty level, consumption as measured by ecological footprint exceeds the available bioproductive area per capita in at least 18 countries. The region has been experiencing a high intensity of energy use, leading to various pollution concerns as well. Transportation, for example, has contributed to this; hence, the importance of policies on public transport has been stressed, as well as promotion of clean transport technologies.

81. Other important challenges in the region include the upscaling and mainstreaming of SCP achievements and moreover improving coordination among various stakeholder initiatives to optimize resource consumption and avoid duplication.

82. The gross inequities in the current consumption of resources, both within and among nations, will need to be rectified if humanity is to build the kind of world partnership between North and South that is required to solve global environmental problems. Taking, for instance, steel consumption in Asia from 1994 to 2004 had a discrepancy of about 40 per cent between the subregions with the highest and lowest consumption.

83. Most countries in the region face institutional challenges: greater political will is needed, the roles of government agencies should be clarified, budget allocations should be optimized (according to recent estimates, government spending on environmental protection amounts to less than 1 per cent of GDP in Asia and the Pacific) and access to justice should be enhanced. The global economy over the next 50 years will need to respond to the challenges of both the inner limit of sustainability (inequality) and the outer limits of sustainability (environmental constraints).

84. There is a need to invest in people who are dedicated and willing to commit themselves to environmental governance. This is a common challenge in Asia and it is perhaps the most urgent—budget can be sourced as economies grow, but skilled personnel can't be bought off the shelf.

85. The trading of secondary materials in the Asia-Pacific region is one concern that entails the development of environmental and legal issues. While importing second-hand materials is an alternative to using raw materials for production, it is also a means of transferring the responsibility of final disposal to lower-income countries that may not have the capacity to manage final disposal in environmentally sound manner.

86. Other important constraints for Asia and the Pacific are energy efficiency, sustainable transport/mobility, integrated waste and water management, lack of financial and economic framework for SCP, need for sustainable procurement, low pickup of sustainable products and services, insufficient education and information on SCP and sustainable lifestyles, insufficient awareness of increased business competitiveness through SCP, challenges in unplanned urban and rural development, poverty alleviation.

***Policy options / Way forward***

87. Strategic SCP programmes, such as green public procurement, can be launched as both regulatory and market-based instruments in many economies, wherein public procurement dominates the entire commodity market. With the public sector taking the lead, it will generate a strong follower effect by the private sector and make responsible purchasing mandatory for all public authorities.

88. Clear sustainability targets with indicators (e.g. resource use intensity, emissions, green public procurement and green products) should be identified at both the national and local levels. Enforced with models and examples, these targets should be properly communicated and identified to the stakeholders.

89. There is a need to translate the policies, programmes and initiatives of the public and private sectors into public and private investments in green technology. The objective is to create momentum for investors and to emphasize to them that investments in green technology are the most viable option for sustainable economic growth in Asia and the Pacific.

90. Although sustainable production patterns are often presented as the most important need for economies in Asia and the Pacific, there is an equal need to promote sustainable consumption patterns. This is relevant both for the individual consumption decisions of citizens and for corporate and public consumption decisions. Some countries like Bhutan with its Gross National Happiness Index, Thailand with the Sufficiency Economy, Republic of Korea with the Low Carbon Green Growth strategy, China with the Harmonious Society have successfully addressed these issues and have taken the lead in setting a positive example in the region.

91. Concrete steps could be taken by developing and implementing a range of economic instruments to ensure sustainable production and consumption patterns and to ensure that ecological consequences of using natural resources are reflected in prices.

92. The need for capacity-building in terms of human capability, technological know-how and leapfrogging options should be prioritized.

93. In view of the similarities in and interdependence of many economies belonging to the same subregion, simplification and benchmarking benefits could be easily harvested through strengthened subregional cooperation in the area of SCP.

94. The root of many of these regional efforts can be traced back to Rio, when sustainable development as an umbrella programme was defined. The evolved SCP concepts still need to be streamlined into the main focus of many economies in the Asia-Pacific region. A comprehensive strategic and policy approach is necessary and urgent to achieve greater resource efficiency. It is also important to integrate industrial firms, networks or chains of firms, eco-industrial parks and regional infrastructure into a broad system to support resource optimization.

95. There is a need to incorporate long-term sustainable development principles into short-term interventions. In this way, infrastructure investment and economic stimulus policies would avoid locking economies into a wasteful consumption pattern in the future.

96. Developing countries constitute the majority of the Asia-Pacific economies, and these countries have a strong civil society and industry to be tapped for the realization of SCP programmes. Governments should encourage and empower them as partners in the promotion and implementation of SCP programmes.

97. Both ESCAP and UNEP IETC have spearheaded data gathering of environmentally sound technologies and indigenous technology documentation. Such knowledge-sharing could be the prime asset of the region. There is a need to expedite the dissemination and operationalization of these strategic initiatives.

98. In this respect, the knowledge and knowhow on SCP practices and tools have been developed and practiced by many organizations such as IGPN, TEI, LCM, who advocate green procurement and ecolabelling in the Asia-Pacific region. However, these have not yet been widely diffused. Information platforms and networks that can support the policy making process on national and regional levels exist but need more promotion.

99. A comprehensive local, national and regional education master-plan to educate the people to be more informed consumers was suggested. Such education should be in forms of formal and complimentary education programme through existing education system under the public sector, campaigns and movement by the civil society and lastly, Corporate Social Responsibility (CSR) practices through private corporations. Such master-plan would be most efficient if based on a participatory approach that would sustain success at local and national levels.

100. Recognizing the role of that livestock plays in poverty reduction, food security and sustainable development, and acknowledging that around one billion of the world's poorest people depend on animals for food, livelihoods and social status, it would be beneficial to consider animal welfare in the formulation of sustainable consumption and development policies.

101. A series of prioritized, horizontal and sectoral programmes on sustainable consumption and production were identified as Asia Pacific's regional input to the 10 Year Framework of Programmes to be discussed at CSD 18 and 19. These appear as Annex III in this report.

#### **IV. CROSS-CUTTING ISSUES**

##### ***Progress and achievements***

102. The principle of oneness of human-kind should be fully recognized as a principle of international collaboration, and ethical, moral and spiritual approaches of sustainable development discussions encouraged. A greater awareness of the interconnectedness of spiritual and material aspects of humanity should be fostered; sustainable development cannot only be discussed from a material point of view – global environmental and financial crises provided evidence that this approach is flawed. Fundamental obstacles to sustainable development nationalism, ignorance of the plight of the less privileged, materialism, gender inequalities, ineffective and inequitable governance structures and corruption.

103. At the national level, numerous actions have been undertaken, ranging from the development and implementation of policies, strategies and plans to the application of legislative, regulatory and fiscal measures (application of economic instruments) and institutional and social measures, such as green procurement, eco-labelling, information disclosure and awareness-raising, and technical measures for cleaner production. These measures have been listed in Annex II, based on the principles of, “avoid, shift and improve”. Avoid and shift measures have been used mainly in developed countries of the region.

104. In response to the call of Agenda 21 and JPOI, many countries have recently developed national strategies for sustainable development. They address sustainable production and consumption as well as issues related to the thematic cluster, such as transport, chemicals, waste management and mining. The formulation and implementation of national sustainable development strategies in various forms reflect the concern of policymakers regarding the incorporation of environmental issues into the national agenda for development.

105. A green growth agenda is being promoted particularly to promote sustainable consumption and production patterns in a number of countries in the region. The majority of countries in the region have also responded to the emerging challenges of achieving sustainable development by reshaping

legislation to make it more suited and responsive to the multidimensional requirements of integrating the environmental and development concerns of the country related to both cross-sectoral and thematic issues.

### *Challenges and constraints*

106. The increasing number of actions taken by member States in the region and the supportive regional and international actions highlight the growing relevance of integrating environmental sustainability into the thematic cluster for addressing the development challenges of today, as well as those of tomorrow. Recent crises have highlighted the ecological and social imbalances of current economic growth patterns are not isolated, but 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 so, countries in the region need to focus on environmentally sustainable and socially inclusive policies and actions.

107. The main challenge in promoting sustainability in the thematic cluster is technical, i.e. to decouple economic growth from environmental degradation while preventing a rebound effect (e.g. increase resource and energy efficiency, dematerialize and move to a sustainable low-carbon economy). The major economic challenge lies in providing an enabling policy framework for the internalization of social and environmental costs to affect private and public choices through a combination of policy levers, incentives, human settlement planning and investments in infrastructure, such as transport and waste management.

108. A lack of explicit policy directions, low institutional capacities, overlapping institutional mandates, a low level of environmental expenditure, knowledge gaps, a lack of technology, inadequate research and development, and a lack of consumer traditions also pose important challenges. Further, constraints include inadequate funding resources and a lack of access to alternate financing options. Other policy (regulatory, incentive-based, social and institutional) challenges include:

- Stimulating demand for and the supply of sustainable products and services in the market, which would involve the creation of new economic activities and decent jobs, within the carrying capacity of ecosystems
- Mainstreaming the sustainable use and management of natural resources, such as minerals and chemicals, in the decision-making process of governments, the private sector and civil society organizations
- Enhancing social development through sustainable investment in people and communities, as highlighted in a Global Green New Deal
- Coupling economic development with the creation of decent jobs and increased welfare
- Adopting sustainable public procurement policies and measures universally
- Raising people's awareness of the impacts of their consumption choices and helping shape their values through information and education to support changes in consumption and production patterns
- Developing institutional capacity through knowledge management, technology transfer, education, training and awareness-raising
- Promoting cooperative frameworks and partnership incentives for actions at all levels and for international and regional cooperation
- Enhancing the participation of major groups, in particular women and local authorities, as well as the private sector and local communities, in planning, decision-making and implementation

- Maintain high growth rate and at the same time ensure environmental sustainability
- Make developed countries meet their commitments as far as common and differentiated responsibilities are concerned
- Devolution of power to local communities for enabling action at local level
- Resolution of issues on conflicting policies
- Absence of quantitative baseline information
- Specific mechanisms to address knowledge gaps as well as information dissemination
- Gender analysis and equitable approaches
- Mechanisms and strategies for scaling up best practices
- Addressing special needs of LDCs and landlocked countries

109. Among cross-sectoral issues, poverty remains one of the principal and persistent challenges in the region. In the past, 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.

#### ***Policy options / Way forward***

110. Taking into account a number of common issues to be addressed in effectively responding to the region's challenge in different thematic areas (e.g. capacity building, technology transfer, financial resources, information gaps, it would be useful to strengthen regional fora to exchange successful practices and discuss mechanisms to replicate and scale up such commendable practices in different thematic areas. Expanding the successful cases of bilateral cooperation into multilateral programmes should be also considered. Usefulness of inter-regional cooperation, including Europe and Asia-Pacific was also highlighted.

111. The integration of environmental sustainability into various development policies, including green growth, offers tremendous opportunities for the region. With clear linkages to employment, livelihoods and improved access to services, it has the potential to reduce poverty by providing economic stimuli and generating employment. For example, promoting sustainable waste management or transport systems can trigger socio-economic development and create green jobs.

112. Similarly, industrial environmental management provides an opportunity to improve industrial energy and resource efficiency for cleaner production. However, it needs to be supported through incentives provided by market-based instruments, such as environmental taxes and user fees, targeted subsidies and eco-labels. In addition, it requires the government to provide the necessary physical and social infrastructure for efficient industrialization. Human resource development (through the cluster approach) would improve industrial efficiency through innovations.

113. The policies and actions required for developing resilient socio-economic systems should therefore help to resolve problems related to both cross-sectoral and thematic issues and should receive greater attention in national, regional and international dialogue. There is a need to recognize the linkages between the social, economic and ecological systems.

114. Careful monitoring of all measures for Sustainable Development across sectors should be taken up by the Governments of the Member States and outcomes evaluated for further modification and improvements to optimize benefits for the people in the region.

#### **V. Additional Observation**

115. The participants underlined the linkage between ongoing climate change negotiations and the current CSD thematic cluster. Taking into account potential impact of any decisions from Copenhagen on the CSD18/19 deliberations, as well as on the subsequent implementation actions at national and international levels, it was suggested that the participants should take appropriate action to transmit the outcome of this RIM Meeting to the forthcoming United Nations Conference on Climate Change to be held in Copenhagen from 7 to 18 December 2009.

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**Annex II: Thematic Cluster on Implementation**

<b>Thematic Cluster for CSD 18 and 19</b>				
<b>Transport</b>	<b>Chemicals</b>	<b>Waste management</b>	<b>Mining</b>	<b>Sustainable Consumption and Production Patterns</b>
<p><b>Avoid*</b></p> <ul style="list-style-type: none"> <li>• Smart planning</li> <li>• Mixed land use</li> <li>• High-density development</li> <li>• Transit-related development</li> </ul>	<p><b>Avoid*</b></p> <ul style="list-style-type: none"> <li>• Cradle to grave</li> <li>• Life cycle analysis</li> <li>• Demand management</li> <li>• Check illegal traffic</li> </ul>	<p><b>Avoid*</b></p> <ul style="list-style-type: none"> <li>• Cradle to grave</li> <li>• Life cycle analysis</li> <li>• Zero emission</li> </ul>	<p><b>Avoid*</b></p> <ul style="list-style-type: none"> <li>• Life cycle analysis</li> <li>• Demand management</li> <li>• Use of environmental impact assessments and environmental risk management</li> </ul>	<p><b>Avoid*</b></p> <ul style="list-style-type: none"> <li>• Cradle to grave</li> <li>• Life cycle analysis</li> <li>• Demand management</li> <li>• Dematerialized development</li> <li>• Clean production</li> </ul>
<p><b>Shift **</b></p> <ul style="list-style-type: none"> <li>• Promote non-motorized transport</li> <li>• Promote mass transit/public transport</li> </ul>	<p><b>Shift **</b></p> <ul style="list-style-type: none"> <li>• R&amp;D</li> <li>• Promote substitution</li> <li>• Promote IPM</li> <li>• Promote INM</li> </ul>	<p><b>Shift **</b></p> <ul style="list-style-type: none"> <li>• Non-degradable to degradable</li> <li>• Waste to energy</li> </ul>	<p><b>Shift **</b></p> <ul style="list-style-type: none"> <li>• R&amp;D</li> <li>• Promote substitution</li> </ul>	<p><b>Shift **</b></p> <ul style="list-style-type: none"> <li>• Green consumerism</li> <li>• Green procurement</li> <li>• R&amp;D</li> </ul>
<p><b>Improve***</b></p> <p>Regulatory measures</p> <ul style="list-style-type: none"> <li>• Legislate</li> <li>• Set standards</li> <li>• Monitoring (vehicle inspections)</li> </ul> <p>Fiscal measures</p> <p>Incentives/disincentives</p> <ul style="list-style-type: none"> <li>• Economic instruments</li> </ul>	<p><b>Improve***</b></p> <p>Regulatory measures</p> <ul style="list-style-type: none"> <li>• Legislate</li> <li>• Set standards</li> <li>• Accountability</li> <li>• Monitoring</li> </ul> <p>Fiscal measures</p> <p>Incentives/disincentives</p> <ul style="list-style-type: none"> <li>• Economic instruments</li> </ul>	<p><b>Improve***</b></p> <ul style="list-style-type: none"> <li>• Reduce</li> <li>• Recycle</li> <li>• Reuse</li> </ul> <p>Regulatory measures</p> <ul style="list-style-type: none"> <li>• Legislate</li> <li>• Set standards</li> <li>• Accountability</li> <li>• Monitoring</li> </ul>	<p><b>Improve***</b></p> <p>Regulatory measures</p> <ul style="list-style-type: none"> <li>• Legislate</li> <li>• Set standards</li> <li>• Accountability</li> <li>• Monitoring</li> </ul> <p>Fiscal measures</p> <p>Incentives/disincentives</p> <ul style="list-style-type: none"> <li>• Economic instruments</li> </ul>	<p><b>Improve***</b></p> <p>Regulatory measures</p> <ul style="list-style-type: none"> <li>• Legislate</li> <li>• Set standards</li> <li>• Monitoring</li> </ul> <p>Fiscal measures</p> <p>Incentives/disincentives</p> <ul style="list-style-type: none"> <li>• Economic instruments</li> </ul>

<p>Technological measures</p> <ul style="list-style-type: none"> <li>• Improve energy efficiency</li> <li>• Switch to cleaner fuels</li> </ul> <p>Institutional measures</p> <ul style="list-style-type: none"> <li>• Environmentally Sustainable Transport Strategies</li> <li>• Capacity-building</li> <li>• Climate change action plans</li> </ul> <p>Supportive</p> <ul style="list-style-type: none"> <li>• Awareness-raising</li> <li>• Disseminate best practices</li> </ul>	<p>Institutional measures</p> <ul style="list-style-type: none"> <li>• National plan of action on chemical management</li> <li>• National centres and plans on occupational health and safety</li> <li>• Emergency planning and response</li> <li>• National Census of POPs</li> <li>• Capacity-building</li> </ul> <p>Supportive</p> <ul style="list-style-type: none"> <li>• Awareness-raising</li> <li>• Information disclosure</li> <li>• Community-based programmes</li> <li>• Disseminate best practices</li> </ul>	<p>Fiscal Measures</p> <p>Incentives/disincentives</p> <ul style="list-style-type: none"> <li>• Economic instruments</li> </ul> <p>Institutional Measures</p> <ul style="list-style-type: none"> <li>• National waste management plan</li> <li>• Capacity-building/ Training</li> </ul> <p>Supportive</p> <ul style="list-style-type: none"> <li>• Capacity-building</li> <li>• Awareness-raising</li> <li>• Information disclosure</li> <li>• Community-based programmes</li> <li>• Disseminate best practices</li> </ul>	<p>Institutional</p> <ul style="list-style-type: none"> <li>• Capacity-building</li> <li>• Mine closure planning</li> </ul> <p>Supportive</p> <ul style="list-style-type: none"> <li>• Awareness-raising</li> <li>• Information disclosure</li> <li>• Conflict resolution</li> <li>• Community-based programmes</li> <li>• Disseminate best practices</li> </ul>	<ul style="list-style-type: none"> <li>• Eco-labelling</li> </ul> <p>Technological measures</p> <ul style="list-style-type: none"> <li>• Improve eco-efficiency</li> <li>• Organic agriculture</li> </ul> <p>Institutional measures</p> <ul style="list-style-type: none"> <li>• NCPC</li> <li>• National SCP plans/programmes</li> <li>• Strategies</li> <li>• Capacity-building</li> <li>• Circular economy</li> </ul> <p>Supportive</p> <ul style="list-style-type: none"> <li>• Awareness-raising</li> <li>• Disseminate best practices</li> </ul>
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\* Steps to avoid problems emerging in various themes

\*\* Measures to address challenges by a shift to appropriate technology or action

\*\*\* Measures and actions to improve situation and action

## ANNEX III

### Mapping tool<sup>1</sup> for the development of programmes in support of national and regional initiatives on sustainable consumption and production

PROGRAMMES	POLICIES AND MEASURES	MEANS OF IMPLEMENTATION, other SUPPORT MECHANISMS	LEAD ACTORS	MEASURES OF SUCCESS	REGION
<b>NON-SECTOR SPECIFIC/CROSSCUTTING</b>					
Green public procurement	-Central and local authorities to develop policies, strategies, regulations, incentives as well as educational programmes - Information on best practices, experience and know-how of Green Procurement to be shared and transferred by all stakeholders around the world	- Cooperation between governments for knowledge and technical transfer - Regular workshops, training programmes and seminars -Dialogue with businesses, NGOs and public sectors to set up green purchasing promoting organisations	Green Purchasing Network; Governments; APRSCP; UNEP; Marrakech Process Task Force on Sustainable Procurement; - Eco labelling organisations	-Number of governments and local authorities developing or implementing green public procurement law or equivalent -Annual government spending on green products and services	Asia Pacific
Fiscal instruments	-Development and application of economic and fiscal instruments to get the prices right	-Capacity building; -Benchmarking of countries -Inclusion of full life cycle costs when considering taxes	Governments; ESCAP; APRSCP	Percentage of total tax revenue from green taxes	Asia Pacific,
Regional programme on resource efficient and cleaner production (RECP)	- Voluntary agreements; - Legislation and enforcement; -Integrated policy approach	-Financing and capacity development support -Training and capacity building of staff -Technological assistance to businesses and other	Governments; UNIDO; UNEP; NCPC's; APRSCP	-Expand number of and strengthen the existing NCPC's in Asia Pacific;	Africa and duplicated in other applicable UN regions

<sup>1</sup> This mapping tool (in its empty form) has been developed by the Marrakech Process on Sustainable Consumption and Production to ensure that regional SCP priorities are presented in a common format and thus facilitate the elaboration of a Ten Years Framework of Programmes on SCP that will be under consideration at CSD 19 in May 2011.

	to industrial and environmental management	organizations		-Number of companies with environmental management systems	
Greening the business and markets	Green investment; Greening the supply chain; Green and eco-efficiency labels, standards, awards	Incentives for green business practices; Economic stimulus; R&D and innovation for greening the business; Awareness raising	Private sector; Chambers of Commerce; Investment Institutions; Governments; Consumers	Raising % of green businesses – renewable energy, eco-efficiency practices – profitable and increase consumer demand	Asia Pacific
<b>THEMES/SECTORS<sup>2</sup></b>					
Waste management					
	- Promotion of 3R approach; -National waste management plans; -Extended producer responsibility; -Charge on waste generation; -Deposit refund system;	-Strengthen human and institutional capacity on sound management of waste; -Dissemination of knowledge and technology in environmentally sound management of waste; - Awareness-raising	-Governments; -UNEP; -UNESCAP; Consumers	-Number of integrated waste management plans in place at both local and national level; Successful 3R initiatives; Waste for energy and composting (sustainable agriculture)	All governance levels in Asia Pacific region

<b>Transport</b>					
	-Sustainable	Awareness-raising on	-Governments	-	Asia

<sup>2</sup> The programmes identified under "Themes/Sectors" should to the extent possible be using the life-cycle perspective. Though all programmes may not address every step of the Life Cycle perspective, it is important to assess the programmes with these steps in mind to facilitate a more systemic approach to SCP patterns.

	transport plans; -Congestion charge; -User fees; -Vehicle/fuel tax; -Subsidies on green fuel/public transport; -Vehicle inspection; -Climate change action plans;	sustainable transport choices and habits; • Disseminate best practices	-Local Governments and communities; Rural communities	Improvement in fuel efficiency; -Switch to cleaner fuels; Energy efficiency of buildings	Pacific
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**Sustainable energy**

	-Enabling policy framework that improves access to reliable and affordable energy;	-Develop human and financial capacity for take up of renewables; -Support development of rural organisations, community-driven cooperatives to enhance investments in renewable	Governments; Financial institutions; -Local Governments; - Urban Governments	Total generation capacity from renewable energy sources	Asia Pacific
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**Sustainable agriculture**

	-Enabling policy framework to encourage sustainable agriculture	-Organic agriculture certification programmes -Capacity building; - R&D and innovation; Financial and economic incentives	Governments; Financial institutions; -Local Governments; - Urban Governments	Total generation capacity from renewable energy sources	Asia Pacific
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