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Nairobi, 21–24 February 2011  
Item 4 (a) of the provisional agenda\*  
**Policy issues: state of the environment**

**Progress report on the implementation of decision 25/8 on waste  
management**

**Report of the Executive Director**

*Summary*

The present report has been prepared pursuant to paragraph 11 of Governing Council decision 25/8, requesting the Executive Director to report on progress in the implementation of the decision to the Governing Council at its twenty-sixth session. The report contains a brief compilation of the work undertaken by the United Nations Environment Programme (UNEP), including successful examples in the field of waste management. An overview is also given of the work by international organizations, Governments and members of the industry and business sector to enable developing countries actively to pursue integrated waste management.

\* UNEP/GC.26/1.

## I. Suggested action by the Governing Council

1. The Governing Council may wish to consider the adoption of a decision along the lines suggested below:

*The Governing Council,*

*Recalling* the Johannesburg Plan of Implementation of the World Summit on Sustainable Development<sup>1</sup> and internationally agreed development goals, including the Millennium Development Goals,

*Recalling also* its decision 25/8 on waste management of 20 February 2009,

*Confirming* that waste management is a serious challenge, especially for developing countries, and stressing the need for international organizations to undertake enhanced, more focused and coordinated actions to fill current gaps in the support given to efforts by developing countries,

*Having considered* the report of the Executive Director on waste management<sup>2</sup> and the need for further implementation of its recommendations, including on the role of the International Environmental Technology Centre,

1. *Requests* the Executive Director to provide further assistance to developing countries in their efforts to strengthen national implementation of an integrated waste management approach through the programme of work and budget;

2. *Also requests* the Executive Director to support Governments in enhancing access to energy in rural areas through the conversion of waste agricultural biomass into energy, as reflected in the programme of work and budget;

3. *Urges* the Executive Director to provide more intensive capacity-building and technology-demonstration projects, in particular in urban areas, to promote the “3Rs” (reduce, reuse and recycle) approach in developing countries;

4. *Requests* the Executive Director further to enhance cooperation with all relevant United Nations bodies, including the Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and other international institutions for the better implementation of the present decision, including by making better use of the International Environmental Technology Centre and its accumulated knowledge and know-how in the area of waste management and by avoiding the possible duplication of activities;

5. *Requests* the Executive Director to scale up the work in the field of greenhouse-gas mitigation by converting waste to energy through the development of guidance materials and capacity-building;

6. *Calls upon* Governments and other relevant stakeholders to support the initiative by the United Nations Environment Programme to set up a global partnership on waste management, by providing additional resources and taking the lead in partnerships in their respective core areas related to waste management;

7. *Invites* Governments and relevant organizations to provide additional resources for the implementation of the present decision;

8. *Requests* the Executive Director to report on progress in the implementation of the present decision to the Governing Council at its twenty-seventh session.

## II. Progress of the work

### A. Introduction

2. The present report has been prepared pursuant to paragraph 11 of Governing Council decision 25/8 of 20 February 2009, requesting the Executive Director to report on progress in the implementation of the decision to the Governing Council at its twenty-sixth session. The rapid increase in the volume and types of solid waste and hazardous waste generation mainly due to

1 *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August–4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

2 UNEP/GC.26/8.

economic growth, urbanization, industrialization and the lack of both physical and institutional infrastructures represent a growing problem to both national and local governments, and also to municipal authorities in their endeavours to ensure the effective and sustainable management of waste. The considerable efforts made by many Governments, international and national organizations and agencies in tackling waste-related problems notwithstanding, major gaps remain to be filled in this area.

3. In line with the Plan of Implementation of the World Summit for Sustainable Development, the Marrakech Process, the International Panel for Sustainable Resource Management and requests made at the eighteenth session of the Commission on Sustainable Development, UNEP, in collaboration with partners, intensified and strengthened its activities in the field of waste management focusing on actual delivery at the national and local levels and on the scientific understanding of synergies between resource augmentation and waste management to decouple waste generation and environmental impacts from economic growth and the promotion of tools such as waste prevention, the three-Rs (reduce, reuse and recycle) approach and cleaner production at the international level. In support of the Bali Strategic Plan for Technology Support and Capacity-building, UNEP activities focused on capacity-building and provided support for technology identification, assessment and implementation at the national and local levels.

4. The report is organized in the sequence of the operative paragraphs of Governing Council decision 25/8 and enumerates various actions taken in response to the decision. The report, which was prepared in consultation with relevant United Nations bodies and other organizations, also suggests possible future areas of work. A draft copy of the report was circulated and feedback and other information were sought, including through personal interaction wherever possible. In developing the report, the Secretariat of the Basel Convention, an important global framework for hazardous and other wastes, provided inputs on its activities.

5. The report does not include work performed by bilateral development agencies, nor the activities of non-governmental organizations. The information provided generally refers to the situations in developing countries and may not apply to developed countries. Since special management systems for nuclear wastes, space wastes and wastes linked to chemical weapons have been set up and are strictly controlled by Governments, these types of waste also fall outside the scope of the report. As part of its programme of work for the period 2010–2011, on harmful substances and hazardous waste, UNEP is cooperating with the International Atomic Energy Agency and other agencies, developing basic standards for the proper management and reduced release to the environment of radiation used for civilian, non-energy purposes.

## **B. Progress of work in accordance with operative paragraphs of the decision**

### **1. Paragraph 1**

6. In paragraph 1 of decision 25/8, the Governing Council/Global Ministerial Environment Forum requested the Executive Director to provide further assistance to developing countries in their efforts to strengthen national implementation of an integrated waste management approach through the programme of work and budget.

#### **(a) Demonstration projects**

7. The International Environmental Technology Centre of the UNEP Division of Technology, Industry and Economics completed demonstration projects on the development of an integrated solid-waste management plan in Wuxi New District in China, Pune in India, Maseru in Lesotho, and Matale in Sri Lanka. This has started catching the attention of other national and city governments. In response to requests from such governments, the International Environmental Technology Centre completed similar projects on the development of integrated solid-waste management plans for Novo Hamburgo, Brazil; Nairobi; and Bahir Dar, Ethiopia.

8. Integrated solid-waste management plans cover all the waste sources, including municipal and industrial, and all the stages of the waste management chain, including waste minimization, waste segregation for reuse and recycling, collection and transportation, sorting for material recovery, treatment and energy recovery and final disposal. In line with the Bali Strategic Plan, during the implementation of each activity, emphasis was placed on building the capacity of respective municipalities, local and national government departments and local partners to enhance the replication of such projects.

9. The work carried out by the International Environmental Technology Centre, although limited, has already confirmed the applicability of integrated solid-waste management and revealed the great opportunities that it offers for resource recovery and the consequent economic and environmental gains. For example, in Maseru it has been demonstrated that, of the 210,000 tons per annum of waste that is estimated to be generated by 2020, implementing the actions defined in the integrated solid-waste management plan could result in:

- (a) Avoiding 40,000 tons of waste through waste-reduction measures;
- (b) Reusing (as animal feed or composting) another 45,000 tons;
- (c) Recycling 55,000 tons.

Accordingly, the real waste that will have to be disposed of in landfills will be only 70,000 tons or just 30 per cent of the total. Currently, landfilling costs about \$6.50 per ton, thus, the reduction in landfilling quantity alone will give an economic benefit of some \$900,000 per year.

10. In Matala, presently 7,000 tons per year of waste is being disposed of in landfills. With the implementation of schemes defined in the integrated solid-waste management plan, this can be cut down to about 4,000 tons per year and the balance can be recycled and recovered.

11. The community sorting centres scheme proposed at Pune, if implemented in even half of all households, could provide jobs to 2,500 ragpickers, providing them with an average earning of \$75 per month. Furthermore, recycling 50 per cent of the city's dry waste (such as paper, plastic, metal, glass, etc.) will cut greenhouse-gas emissions by 40,000 tons of carbon-dioxide equivalent per year.

12. The integrated solid-waste management approach developed by the International Environmental Technology Centre will enable local governments, and the entities with which they work, to tackle waste management issues by looking at waste as a resource, and linking it to larger three-R processes and resource efficiency strategies. Requests for support from UNEP have been received from local governments in other countries as diverse as Ethiopia, Sri Lanka and Thailand and further projects in these countries have been undertaken. The implementation of integrated solid-waste management plans can be strengthened by providing additional financial support to municipalities. Such support from national Governments, and also from institutions such as development banks, would be very welcome.

**(b) Integrated waste management: normative work**

13. The knowledge and experience gained from these projects are being used to strengthen their normative function. Guidelines for policymakers and waste management practitioners have been developed to enable them to develop integrated solid-waste management plans. The package consists of four guidelines, on, first, quantification and characterization of waste; second, assessment of current waste management system and identification of gaps in the system; third, target-setting for integrated solid-waste management and the identification of stakeholders' concerns; and fourth, development of an integrated solid-waste management plan with appropriate policies and technologies, including an implementation strategy and monitoring and feedback system.

14. The guidelines are freely downloadable from the International Environmental Technology Centre website.<sup>3</sup> Apart from training at the local level in conjunction with integrated solid-waste management projects, the Centre also embarked upon delivering regional training programmes. The first regional training programme on integrated solid-waste management for Africa was held in Mauritius in March 2009, where 21 participants from 12 countries and three UNEP officials were trained. The second regional training programme for Asia and the Pacific was held in Osaka, Japan, in October 2009 and attended by participants from 11 countries and also by two United Nations officials, while seven external organizations sent their representatives and provided information on their activities.

15. All the training materials for integrated solid-waste management are available on the International Environmental Technology Centre website.<sup>4</sup> The National Centre of Solid Waste Management under the Chinese Ministry of Environmental Protection has requested permission from UNEP to translate these manuals into Chinese and work on that translation is under way. The A2Z Institute from India also requested permission from UNEP to use these manuals in its training and capacity-building courses. The materials have been used in a Master's degree course at the University of Cape Town, South Africa.

<sup>3</sup> [www.unep.or.jp/ietc/SPC/publications.asp](http://www.unep.or.jp/ietc/SPC/publications.asp).

<sup>4</sup> [www.unep.or.jp/ietc/spc/news-oct09.asp](http://www.unep.or.jp/ietc/spc/news-oct09.asp).

## 2. Paragraph 2

16. In paragraph 2 of decision 25/8, the Council/Forum requested the Executive Director to support the implementation of the actions envisaged in the Bali Declaration on Waste Management for Human Health and Livelihood within the mandate of UNEP, and within available resources as reflected in the programme of work and budget. UNEP has undertaken various activities as indicated under section 1 (a) above (paragraphs 7–12) and sections 4 and 5 below (paragraphs 28–38).

17. Beyond UNEP, the issue of waste is gaining priority across the United Nations system, as indicated in the report from various intergovernmental organizations referred to below. The United Nations is working very closely with Governments and stakeholders to develop and implement policies and actions on waste management. African ministers of health and environment, at their meeting on the implementation of the Libreville Declaration on Health and Environment in Africa, held in Luanda on 26 November 2010, placed vector control and the management of chemicals (in particular, pesticides) and wastes, including biomedical, electronic and electrical wastes, among their top priorities for the years to come.

18. On 21 May 2010, at its sixty-third session, the World Health Assembly adopted resolution WHA63.25 on the improvement of health through safe and environmentally sound waste management. The resolution welcomes the Bali Declaration on Waste Management for Human Health and Livelihood, urges member States to apply the health impact assessment as one of the key tools to assess the health aspects of waste management and requests the Director-General of the World Health Organization (WHO) to work together with UNEP and the Secretariat of the Basel Convention to strengthen the implementation of the Bali Declaration. The adoption of this resolution, along with the adoption of Governing Council decision 25/8, were brought to the attention of all parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal by the President of the ninth meeting of the Conference of the Parties.

19. An interactive dialogue on the adverse effects of the movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights was held during the fourteenth session of the Human Rights Council, on 8 June 2010. The purposes of the dialogue were to examine the impact of the movement and dumping of toxic and dangerous products and wastes on human rights, to discuss the current trends, good practices, challenges and possible solutions in this area and to mainstream a human-rights-based approach in the work of relevant intergovernmental organizations.

20. A thematic working group on solid and hazardous waste was established in 2008 under the Regional Forum on Environment and Health in 14 South-East and East Asian countries. The working group was created with the three-fold aim of ensuring environmentally sound solid and hazardous waste management practices, prioritizing municipal and medical waste management issues and providing useful information. The working group has held two meetings to date and has developed a workplan. It has also produced two reports, on health-care waste and municipal waste, in which it records its finding of a lack of initiatives and concerted action to ensure the proper separation of health-care waste in the cities of many developing countries. While most hospitals and health centres now have a policy on health-care waste management, a large volume of medical and other hospital wastes are still disposed of together with municipal wastes or are burnt in the open.

21. Under the Strategic Approach to International Chemicals Management there are plans to develop a strategy for strengthening the engagement of the health sector, in particular for e-waste management. A statement on hazardous substances within the life cycle of electrical and electronic products was agreed on by country representatives during the second Asia-Pacific regional meeting on the Strategic Approach, held in Beijing on 23 and 24 November 2009.<sup>5</sup>

22. The Third International WHO Conference on Children's Health and the Environment, convened by WHO in Busan, Republic of Korea, from 7 to 10 June 2010, featured the issue of waste and children's health as one of its thematic areas.

23. WHO is implementing a project to demonstrate and promote best techniques and practices for reducing health-care waste in order to minimize or eliminate releases of persistent organic pollutants and mercury to the environment in Argentina, India, Latvia, Lebanon, the Philippines, Senegal and Viet Nam. The Libreville Declaration on Health and Environment in Africa, adopted by African ministers of health and environment at their first inter-ministerial meeting, held in Libreville on 28 and 29 August 2008, requests countries to develop and establish health and environment strategic alliances as the basis for national plans of joint action. A number of documents, guidelines and policy

papers have been developed to that end. In addition, a global initiative to substitute mercury-based medical devices with safer, affordable and accurate alternatives has been launched.

### 3. Paragraph 3

24. In paragraph 3 of decision 25/8, the Council/Forum invited international organizations and Governments and members of the industry and business sector to provide resources and technical assistance to developing countries, including creating a conducive environment for facilitating investment in waste management, to enable them to pursue actively integrated waste management.

25. The World Bank has financed several projects on waste management. According to information from the Bank ([www.worldbank.org](http://www.worldbank.org)), lending to waste management projects amounted to \$100 million in 2008, \$32 million in 2009 and about \$62 million in 2010, for projects directly related to waste management. Many waste management projects have been incorporated as components of other larger projects, such as those in the area of municipal development, water supply, urban development and urban environment.

26. The United Nations Development Programme (UNDP) is carrying out several projects on waste management. In Maldives, UNDP is investing \$417,500 under its environment and energy sector. In Rwanda, it is supporting a consolidated waste management project to the tune of \$50,000. In Lesotho, it is working with the Maseru city council on a public-private partnerships project for waste management.<sup>6</sup>

27. The United Nations Human Settlements Programme (UN-Habitat) has numerous field activities on waste management in Asia and the Pacific, Africa, Latin America and small island developing States. For example, UN-Habitat is implementing an integrated sustainable waste management project in Kisumu, Kenya, in the Lake Victoria region of Africa, at a cost of \$874,500. It is also implementing a project in Diwaniya, Iraq, with a financial component of \$1.98 million. Another project is under implementation in the Kibera slums in Nairobi, at a cost of some \$580,000.<sup>7</sup>

### 4. Paragraph 4

28. In paragraph 4 of decision 25/8, the Council/Forum requested the Executive Director to strengthen support for capacity-building and technology support in the field of waste management, in line with the Bali Strategic Plan for Technology Support and Capacity-building, and further to undertake demonstration and pilot projects on waste management, in cooperation with relevant actors, including the United Nations Industrial Development Organization (UNIDO) and UNDP, and within available resources as reflected in the programme of work and budget.

29. In addition to the work accomplished on integrated waste management described under section 1 above, UNEP has also been working to support developing countries in their management of specific waste streams. Work has been carried out in the following areas: waste electrical and electronic equipment – or e-waste – and its management; converting waste plastics into fuel; and converting waste agricultural biomass into useful materials and energy. Progress in this area is outlined in the following paragraphs.

#### (a) Capacity-building and technology support

30. E-waste is becoming an issue of great importance owing to its increasing quantity, economic value and the hazards posed by unsafe recovery and disposal methods. Electrical materials and e-waste were also identified as an emerging issue under the Strategic Approach to International Chemicals Management, at the second session of the International Conference on Chemicals Management, held in Geneva from 11 to 15 May 2009. The International Environmental Technology Centre has prepared two guidance manuals, one on the inventorization and the other on the management of e-waste.<sup>8</sup> The Sustainable Consumption and Production Branch of the UNEP Division of Technology, Industry and Economics, in partnership with the Solving the E-waste Problem (StEP) initiative, carried out a study and prepared a report entitled “Recycling: from e-waste to resources”, which was launched by the Executive Director of UNEP at the simultaneous extraordinary meetings of the conferences of the parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes

6 <http://undp.org.mv/v2/?lid=72> (Maldives); [http://www.undp.org.rw/List\\_of\\_source\\_funding\\_2008.html](http://www.undp.org.rw/List_of_source_funding_2008.html) (Rwanda); [www.undp.org.ls/energy/Progress%20Report%203Q\\_2007.doc](http://www.undp.org.ls/energy/Progress%20Report%203Q_2007.doc) (Maseru).

7 [www.unhabitat.org/content.asp?cid=7091&catid=514&typeid=13&subMenuId=0](http://www.unhabitat.org/content.asp?cid=7091&catid=514&typeid=13&subMenuId=0) (KISWAMP); [www.unhabitat.org/downloads/docs/7476\\_49758\\_CPD%20Iraq-most%20updated9b.pdf](http://www.unhabitat.org/downloads/docs/7476_49758_CPD%20Iraq-most%20updated9b.pdf) (Iraq); [www.unhabitat.org/content.asp?cid=3220&catid=206&typeid=13&subMenuId=0](http://www.unhabitat.org/content.asp?cid=3220&catid=206&typeid=13&subMenuId=0) (Kenya).

8 [www.unep.or.jp/Ietc/Publications/spc/EWasteManual\\_Vol1.pdf](http://www.unep.or.jp/Ietc/Publications/spc/EWasteManual_Vol1.pdf); [www.unep.or.jp/Ietc/Publications/spc/EWasteManual\\_Vol2.pdf](http://www.unep.or.jp/Ietc/Publications/spc/EWasteManual_Vol2.pdf)

and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants, held in Bali, Indonesia, from 22 to 24 February 2010, in conjunction with the eleventh special session of the UNEP Governing Council/Global Ministerial Environment Forum.

31. Realizing the potential of waste agricultural biomass as a source of materials and energy and hence an important resource, the International Environmental Technology Centre prepared two guidelines on its assessment. Work was also undertaken to prepare a compendium of technologies for the conversion of waste agricultural biomass into a useful resource.<sup>9</sup> Another waste stream, waste plastic, is causing growing concern worldwide, including in developing countries. With the application of appropriate systems and technologies, however, not only can the problem of non-recyclable waste plastics be solved, these wastes can also be converted into fuel. The Government of Japan is funding a project on converting waste plastics into a resource and, in response to that need, the International Environmental Technology Centre has prepared guidelines for the quantification and characterization of waste plastics.<sup>10</sup> A compendium of technologies on converting waste plastics into fuel has also been prepared<sup>11</sup> and all the above manuals, guidelines and compendiums have been successfully used in relevant projects.

32. Additional capacity-building measures have been mounted in this area, including a number of national and regional workshops. Prominent among these were three workshops held in Osaka, Japan: an international expert workshop to discuss and disseminate the compendium of technologies on converting waste plastic into a resource, in June 2009; a regional workshop to discuss the progress in demonstration projects on waste agricultural biomass and to assist partners in the assessment and selection of appropriate technology, in March 2010; and a regional workshop on building capacity in dealing with e-waste and to discuss current challenges, in April 2010. A number of national and local training workshops were also held in Cambodia, India, Nepal, Pakistan, the Philippines, Sri Lanka and Thailand, in conjunction with technology demonstration projects.

33. The e-waste manuals are being put to practical use. Reference is made to them in a tender document for a feasibility study on the management of electronic waste, floated by the Government of Oman. The National Centre of Solid Waste Management under the Chinese Ministry of Environmental Protection is having the manuals translated into Chinese. High praise was expressed for them by participants at the regional workshop on e-waste management, held in July 2010 in Osaka, and requests were made for the preparation of another manual, on take-back systems. Work on this third manual is in progress.

**(b) Demonstration and pilot projects**

34. UNEP has also carried out several demonstration and pilot projects to instil confidence in national and local authorities and to provide an opportunity for hands-on experience. As part of the project on converting waste plastics into fuel, funded by the Government of Japan, assessments of waste plastics have been carried out in six cities in selected countries. Business partnerships will be forged to demonstrate the technologies for this process. The International Environmental Technology Centre has also implemented the project on converting waste agricultural biomass into a resource in four areas, namely: Madhyapur Thimi municipality in Nepal, Sanghar district in Pakistan, Cabaio in the Philippines and Monaragala district in Sri Lanka. The project was carried out in partnership with local institutions. Work on the characterization and quantification of waste agricultural biomass, to generate baseline data, took place in consultation workshops with stakeholders.

35. Work was undertaken on the identification and assessment of suitable technologies for the conversion of waste agricultural biomass into useful energy and material, supported by the compendium of technologies on converting such biomass into a resource. Subsequently, assistance was given to forge business partnerships and technologies have already been installed and demonstrated in Nepal and Sri Lanka. The International Environmental Technology Centre also completed the implementation of an e-waste management project in Phnom Penh, in partnership with the Cambodian Ministry of Environment. Under the project the Centre has developed an e-waste inventory and e-waste management plan, and has also built the capacity of national and local governments. In response to a request from Thailand, the Centre undertook a capacity-building exercise for the implementation of the national strategy on e-waste management.

9 [www.unep.or.jp/Ietc/Publications/spc/WasteAgriculturalBiomassEST\\_Compendium.pdf](http://www.unep.or.jp/Ietc/Publications/spc/WasteAgriculturalBiomassEST_Compendium.pdf).

10 [www.unep.or.jp/Ietc/Publications/spc/WastePlasticsEST\\_AssessmentGuidelines.pdf](http://www.unep.or.jp/Ietc/Publications/spc/WastePlasticsEST_AssessmentGuidelines.pdf).

11 [www.unep.or.jp/Ietc/Publications/spc/WastePlasticsEST\\_Compendium.pdf](http://www.unep.or.jp/Ietc/Publications/spc/WastePlasticsEST_Compendium.pdf).

36. Working with the Economic Commission for Europe, UNEP has contributed to the chapter on waste in the environmental performance review for Bosnia and Herzegovina. UNEP is also involved in a project funded by the Millennium Development Goals Achievement Fund to support 13 municipalities in Eastern Europe in the area of environmental management. Together with UNDP, the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund and the World Tourism Organization, UNEP has been involved in implementing a sustainable rural tourism project in Serbia, with funding from the Achievement Fund. In addition to environmental assessments and studies, UNEP is responsible for capacity-building and training for rural populations on the environmentally sustainable management of tourism. UNEP has also been working with UNDP in the field of waste management. UNDP sought assistance from UNEP on a waste management project in the Republic of Moldova. The integrated solid-waste management project carried out by UNEP in Lesotho was joined by UNDP, which took on the implementation of various modules under the project.

37. UNEP and UNIDO have recently developed a joint programme on resource-efficient and cleaner production in developing economies and economies in transition, with a view to scaling up and expanding the coverage of the technical support services. UNIDO has developed a responsible entrepreneurs achievement programme, to assist small and medium enterprises in their efforts to implement management approaches and operation methods based on corporate social responsibility. UNEP has set up the life-cycle initiative with the Society of Environmental Toxicology and Chemistry to enhance the global consensus of existing and emerging methodologies for life-cycle approaches based on sound science and to facilitate the use of life-cycle approaches by encouraging life-cycle-based decisions at the business, government and public levels about natural resources, materials and key products.

#### **5. Paragraph 5**

38. In paragraph 5 of decision 25/8, the Council/Forum recommended to the Executive Director that he should propose integrated waste management as a key priority area for the United Nations "Delivering as one" initiative; accordingly, UNEP has been developing and implementing integrated waste management strategies and action plans for municipalities in developing countries. It is working towards having integrated waste management recognized as a key priority area under the current "one United Nations" approach. Under the "one United Nations" programme, UNIDO has undertaken capacity-building for waste management in communities in Rwanda.

#### **6. Paragraph 6**

39. In paragraph 6 of decision 25/8, the Council/Forum called upon Governments and other relevant stakeholders to strengthen public-private partnerships in waste management, to provide additional means of assisting developing countries to implement the Basel Convention, including for the construction of the necessary facilities and infrastructure in waste management. A few partnership arrangements already exist. The UNDP Asia-Pacific Regional Centre in Bangkok has developed a public-private partnership for local service delivery. Under this arrangement, capacity-building on integrated solid-waste management and public-private partnerships has been carried out in Bhutan and Nepal. More information is available at <http://regionalcentrebangkok.undp.or.th>. A collaborative working group on solid-waste management for middle and low-income countries has been set up to achieve fundamental improvements in the approach to solid-waste management in such countries, focusing in particular on improved livelihoods and living conditions for the urban poor. More information is available at [www.cwg.net](http://www.cwg.net).

40. UNEP has carried out intensive consultations to establish the Global Partnership on Waste Management. Apart from several side events at important meetings, such as the special event on waste management at the eleventh special session of the UNEP Governing Council/Global Ministerial Environment Forum in Bali, Indonesia, in February 2010; the side event on a global platform on waste management at the eighteenth session of the Commission on Sustainable Development in New York, in May 2010, and a side event on the Global Partnership on Waste Management at the seventh session of the Open-ended Working Group of the Basel Convention in Geneva, in May 2010, two international consultations were held in November 2009 and November 2010.

41. The Global Partnership will be a partnership for international agencies, Governments and civil society, including intergovernmental, public-private and non-governmental forums. It will support the development and implementation of action plans to implement integrated solid-waste management at national and local levels and to overcome immediate environmental, economic and public health challenges caused by the rapid increase of waste. It will also support policy dialogues at the subregional, regional and global levels to exchange experiences and practices. The Global Partnership will facilitate partnerships in various areas, prominent among which are the management of integrated

solid waste, industrial waste, hazardous waste, health-care waste, e-waste; waste agricultural biomass; the implementation of various requirements of multilateral environmental agreements regarding mercury waste management, marine litter and the role of the three-Rs in waste management.

42. The Global Partnership's main functional areas are: policy level dialogues and a policy framework for waste management; financing mechanisms for waste management; technologies for waste management; community participation in waste management; waste management as part of attaining the Millennium Development Goals; environmental education in waste management; waste management for economic development; and waste management and climate change.

43. International and non-governmental organizations have engaged in extensive cooperation at both the international and regional levels. Since 2008, the Chemicals Branch of the UNEP Division of Technology, Industry and Economics has been working closely with the secretariat of the Basel Convention to develop draft technical guidelines for the environmentally sound management of mercury waste. The Chemicals Branch has assisted five countries – Burkina Faso, Cambodia, Chile, Pakistan and the Philippines – in compiling inventories using the mercury inventory toolkit and in preparing national mercury waste management plans. A final results workshop for all participating countries was hosted by Aberdeen University in the United Kingdom of Great Britain and Northern Ireland, to provide technical support for the project. These pilot projects complement a similar project in Latin America managed by the Secretariat of the Basel Convention. In addition, UNEP commissioned a report on the technical and economic criteria for processing mercury-containing tailings, to provide guidance on how to assess the feasibility of reprocessing mine wastes containing mercury.

44. Several partnership areas of the Global Mercury Partnership are concerned with the disposal of products containing mercury and aspects of the management of wastes containing mercury. The waste management partnership area, led by the Government of Japan, has the objective to minimize and, where feasible, eliminate unintentional mercury releases to air, water and land from mercury waste by following a life-cycle approach. Part of the overall approach is to strengthen the capacity of developing countries and countries with economies in transition to deal effectively with mercury waste. A report to the Executive Director from the Partnership Advisory Group of the UNEP Global Mercury Partnership on overall progress during the period from January 2009 to June 2010 is available as document UNEP/GC.26/INF/12.

45. Public-private partnerships are a priority under the Basel Convention, identified by parties as a means of tackling important challenges and issues associated with the environmentally sound management of wastes and their transboundary movements. By its decision VI/32, adopted at its sixth meeting, held in Geneva from 9 to 13 December 2003, the Conference of the Parties to the Basel Convention adopted the Basel Convention Partnership Programme as part of its 10-year strategic plan, convinced that the active involvement and support of industry and business organizations and non-governmental organizations was necessary to achieve the aims of the Convention. The Partnership Programme to date has included two initiatives in its framework: the Mobile Phone Partnership Initiative and the Partnership for Action on Computing Equipment.

## **7. Paragraph 7**

46. In paragraph 7 of decision 25/8, the Council/Forum recognizes the need for more intensive awareness-raising designed to change the attitude of waste generators, in particular, industrial and municipal waste generators, consumers and the informal sector, with regard to the three-Rs concept, environmentally sound waste management and, where appropriate, the need for final disposal of wastes in the States in which they were generated.

47. The Government of Japan has spearheaded the task of promoting the three-Rs initiative, particularly in Asia and the Pacific. At the meeting of the environment ministers of the Group of Eight, held in Kobe, Japan, in 2008, ministers agreed on the Kobe three-Rs action plan. The plan was further endorsed at the Group of Eight Summit in Toyako, Japan, later in 2008.

48. Under the plan each Group of Eight country will take actions towards three goals: first, the prioritization of three-Rs policies and improvement of resource productivity; second, the establishment of an international sound material-cycle society; and third, collaboration for three-Rs capacity-development in developing countries. Several initiatives have been taken to promote the three-Rs initiative in Asia, including the establishment of a regional three-Rs forum in Asia; facilitating policy dialogues; supporting the development of national three-Rs strategies in Asian countries in collaboration with UNEP and the United Nations Centre for Regional Development; supporting the Regional Forum on Environment and Health, which has a thematic group on solid and hazardous waste; development of an information and knowledge hub and research networks, including

establishing a three-Rs knowledge hub in partnership with the Asian Development Bank, UNEP and the Asian Institute of Technology. A number of high-level meetings and workshops have been organized to raise awareness and secure commitment for implementing the three-Rs initiative.

49. The International Solid Waste Association is also preparing a knowledge base for waste management. The Association has initiated a project on globalization and waste management, designed to identify the implications of globalization on waste management, including in such areas as the global recycling trade and waste trafficking.

50. The UNEP Green Economy Report has a chapter primarily devoted to waste recycling, in which the macroeconomic co-benefits from improved waste management and business opportunities have been identified.

51. Within the context of the International Panel for Sustainable Resource Management, UNEP has set up a working group on global metal flows. The Group aims at contributing to the promotion of the reuse and recycling of metals and the establishment of the international sound material-cycle society by providing scientific and authoritative assessment studies on the global flows of metals. The Panel has finalized two reports on metals: one on metal stocks in society and the other on recycling rates of metals.

## **8. Paragraph 8**

52. In paragraph 8 of decision 25/8, the Council/Forum invited Governments and relevant organizations to provide extrabudgetary resources for the implementation of the decision in supporting UNEP and other entities, including the Secretariat of the Basel Convention, in its programmes and activities.

53. The Government of Japan remains the principal contributor of funding for UNEP work on waste management, with support both in terms of trust fund (for the International Environmental Technology Centre) and project-based funding. Its trust fund contribution for the past four years has amounted to \$1.88 million per year. In addition, the Government is supporting the project on converting waste plastics into fuel with a contribution of some \$1 million over three years. The International Environmental Technology Centre has also received support under the Norwegian contribution to UNEP: thus, approximately \$500,000 was allocated for waste management projects. The Sustainable Consumption and Production Branch of the UNEP Division of Technology, Industry, and Economics has received some \$1 million over the past four years for the operation of the Panel, part of which has been used to support the work on global metal flows.

54. At its ninth meeting, held in Bali from 23 to 27 June 2008, the Conference of the Parties to the Basel Convention decided that a new 10-year period strategic framework for the implementation of the Convention was required so that it would promote the environmentally sound management of wastes and play a decisive role in highlighting the links between waste management, attainment of the Millennium Development Goals and human health and livelihood. The current thinking in the development of this new strategic framework, apart from emphasizing the implementation of the control of transboundary movements of hazardous wastes and ensuring their environmentally sound management (the Convention's core pillars), is to encourage the use of hazardous wastes as a resource in a sustainable way and the importance of articulating the links between wastes and hazardous wastes management with the Millennium Development Goals, climate-change issues, clean water and sanitation.

55. A consultative process on financing options for chemicals and wastes was launched by the Executive Director of UNEP in recognition of the need for adequate resources in the field of chemicals and wastes management. The purpose was to analyse the current situation regarding financing for chemicals and wastes management at the national level, including, but not limited to, implementation of party obligations under multilateral environmental agreements related to chemicals and wastes, and to devise strategic, synergistic proposals for improvements. UNEP undertook a preliminary desk study to explore the funding and support needs of developing countries and countries with economies in transition, relevant ways to support compliance with multilateral environment agreements pertaining to chemicals and wastes and capacity-building, including institutional strengthening and technical assistance for promoting sound management of chemicals and wastes in broader terms. At its second meeting, the consultative group provided feedback on the preliminary desk study and requested UNEP to revise it so that it could become a reference document that would form the basis of further discussions on financing options for the chemicals and wastes agenda. The group also requested UNEP to produce a paper on policy options for financing the chemicals and wastes agenda, with a focus on outlining advantageous paths and combinations of options to move this agenda forward.

56. Resource mobilization is a continuous process that includes the development of systematic fund-raising efforts, broadening donor networks, consistent identification of changing donor priorities and providing support to developing countries and countries with economies in transition to engage in the process. The Secretariat of the Basel Convention undertook resource mobilization efforts as part of the process of harnessing synergies between the Basel, Rotterdam and Stockholm conventions, participated in the consultative process on financing the chemicals and wastes agenda led by the Executive Director of UNEP and made special efforts to discuss wastes-related issues with the Global Environment Facility (GEF).

57. In cooperation with the Basel Convention regional and coordinating centres, the Secretariat is involved in the development of projects with co-funding from GEF in the area of the environmentally sound management of polychlorinated biphenyls in West Africa, the Mediterranean and Latin America, and in carrying out national implementation plans for the Stockholm Convention in Africa. The regional and coordinating centres were established to assist parties in less developed countries and countries with economies in transition.

## 9. Paragraph 9

58. In paragraph 9 of decision 25/8, the Council/Forum invited the conferences of the parties to the Basel Convention and other relevant multilateral environmental agreements, UN-Habitat, UNDP and other relevant United Nations bodies, international institutions, forums and processes to consider further actions regarding waste management, taking into account the recommendations and the description of the outcome of cooperation with other bodies contained in the report by the Executive Director, and to inform the Governing Council, through the Executive Director, on the outcome of their consideration. The inputs provided by different organizations are summarized below.

59. Strategy 2020, the long-term strategic framework of the Asian Development Bank, explicitly recognizes the need to improve urban environment to enhance the quality of life and health of poor in developing member countries. Municipal solid waste is a priority area and an integral part of the Bank's urban development initiatives. Under the theme of "Liveable cities" and the "City development initiative for Asia", the Bank is providing assistance to member countries and their municipalities in tackling a range of problems that arise under the influence of rapid urbanization, including improving systems for solid-waste management, reducing urban waste, composting and converting waste to energy and the use of landfills. The Bank has also extended advanced financing to a number of waste management projects under the Clean Development Mechanism through the Asia Pacific Carbon Fund. This facility is being continued beyond the first commitment period of the Kyoto Protocol through another similar initiative – the Future Carbon Fund.

60. The Bank has earmarked \$2 million under a technical assistance initiative financed by the Japan Special Fund, in early 2010, to undertake project development in municipal solid waste in selected cities and to support applied research to identify and overcome policy, technology and financial barriers in application of the three-Rs approach in waste management. The Bank is also supporting a web-based initiative (the three-Rs knowledge hub) in partnership with UNEP and the Asian Institute of Technology in Bangkok.

61. The secretariat of the Basel Convention is cooperating with numerous international and non-governmental organizations, both at the international and regional levels, including with the Chemicals Branch of the UNEP Division of Technology, Industry and Economics, on mercury wastes; the UNEP Global Partnership on Waste Management; and with the UNEP-GEF Unit. The Secretariat also regularly consults and exchanges information with the Secretariat of the Strategic Approach to International Chemicals Management, to ensure the coordination of activities relating to illegal traffic, and to facilitate mutual participation in activities of common and shared relevance. To date three national projects have been funded, in Côte d'Ivoire, Djibouti and Trinidad and Tobago. The Secretariat of the Basel Convention has been actively involved in and cooperated with the International Maritime Organization (IMO) on the issue of ship dismantling and has developed technical guidelines for the environmentally sound management of that process. In addition, the secretariat participated in the negotiations for the legally binding Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships under the auspices of IMO. It has also developed capacity-building activities to assist ship-dismantling countries (predominantly developing countries) in improving environmental and occupational health and safety standards in the industry. When possible, capacity-building activities have been carried out in collaboration with other international organizations and United Nations agencies, including IMO and the International Labour Organization.

62. The activities of UNDP are clustered in three areas: the global coordination of waste management; the sound management of general waste streams; and the sound management of

hazardous waste streams. It is increasing its interaction and participation in global and regional initiatives such as the Global Partnership on Waste Management, the three-Rs forum in Asia and the Commission on Sustainable Development process. Its programmes have been extensively devolved to the UNDP country offices. In 2009, 22 country offices engaged in waste-related projects or activities. The majority of country-level activities consist of waste policy and planning support, coupled with regulatory strengthening and capacity-building. Some initiatives also include private-public partnerships and the involvement of small and medium-sized enterprises. Programmes are under way on hazardous waste streams, including on wastes containing polychlorinated biphenyls (in Argentina, Brazil, Ghana, Kazakhstan, Kyrgyzstan, Latvia, Mexico, Morocco, Slovakia and Uruguay), health-care waste management (in Argentina, India, Latvia, Lebanon, the Philippines, Senegal and Viet Nam), consumer appliance waste (in Burkina Faso, Brazil, El Salvador, Ghana, Jordan and Serbia) and obsolete pesticides (in China, Georgia, Honduras, Nicaragua and Viet Nam).

63. Solid-waste management forms a small but important component of the municipal and environmental infrastructure sector in the European Bank for Reconstruction and Development. The Bank promotes private-sector participation in the financing, construction, operation and ownership of the full range of solid-waste activities. Where private-sector participation is not a realistic solution, technical cooperation is provided to public-sector waste management service providers, with new ideas and techniques to assist them in the preparation and implementation of projects. The Bank also seeks to assist in the design of efficient institutional and legal frameworks for waste management systems conducive to the enhancement of marketing opportunities in the sector and to facilitate the preparation of a pipeline of integrated waste-management projects. The Bank's primary investments are collection vehicles and equipment and a range of landfill infrastructure goods and works. It also has projects for the closure or rehabilitation of non-compliant dumpsites.

64. FAO has developed extensive expertise in the area of obsolete pesticide prevention and disposal. A global field programme has supported activities related to obsolete pesticides in 93 countries. Several technical guidelines, training programmes and tools have been developed to assist countries in dealing with obsolete pesticides, along with managing pesticides more effectively throughout their life cycle. To date, FAO has supported projects that have facilitated the safe removal and disposal of 3,665 tons of obsolete pesticides from nine countries and operations are currently under way to dispose of an additional 6,000 tons from nine countries. The Organization's bioenergy programme has included agricultural residues as a potential resource for energy generation. The quantity of agricultural residues and their contribution to bioenergy generation has been assessed in Argentina and Peru, using the woodfuels integrated supply-demand overview mapping (WISDOM) model. FAO hosted the livestock environment and development (LEAD) initiative that deals in a variety of ways with problems arising from industrial livestock production. It has implemented a number of projects to tackle environmental problems related to intensive livestock production in China, Mexico, Thailand and Viet Nam.

65. The Organization for Economic Cooperation and Development (OECD) has been working on waste management for many years. Its main areas of work in this domain are: sustainable materials management, environmentally sound management of waste, transboundary movement of waste, waste prevention and minimization, and radioactive waste management. The new integrated approach known as sustainable materials management approaches the management of materials throughout their life cycle in a cost-effective manner. In 2007, OECD published a guidance manual for the environmentally sound management of waste and, in 2009, another manual for the control of transboundary movements of recoverable wastes.

66. UN-Habitat is concerned with solid-waste management in urban areas. It recently launched its third global report on water and sanitation in the world cities, entitled: *Solid Waste Management in the World's Cities*.

67. UNIDO has extensive programmes with a bearing on waste management. The UNIDO-UNEP programme to set up national cleaner production centres has now expanded to 47 developing countries. A number of pilot and demonstration projects are being carried out, including: establishment of an international institute for the monitoring and management of resource recovery technologies in China; implementation of chemical leasing activities in Egypt, Mexico, Morocco, the Russian Federation, Serbia and Sri Lanka; integral use of sisal waste in the United Republic of Tanzania; municipal solid-waste management systems, technical standards, treatment and disposal in China; solid-waste collection and recycling in Guinea; cleaner technology promotion in India; and capacity-building for waste management in communities in Rwanda. UNIDO is also very active in the field of persistent organic pollutants. UNEP and UNIDO jointly developed the Africa Municipal Solid Waste Management programme through the development of a training toolkit. The information collected under a municipal solid-waste strategy project in China was used by the Chinese

Government in developing its twelfth five-year plan for municipal solid waste and for the control of pollution from persistent organic pollutants. Other persistent organic pollutant-related projects include: environmentally sound disposal of obsolete persistent organic pollutant pesticides in China; environmentally sustainable management of polychlorinated biphenyls and other persistent organic pollutants in Armenia; introduction of best-available-technique methodology in Viet Nam; and regional network on pesticides for Asia and the Pacific.

68. The United Nations University has established an institute for sustainability and peace, which takes an innovative and integrated approach to sustainability – one that encompasses global change, development, peace and security. The institute's operating unit on sustainable cycling, known as SCYCLE, conducts research on eco-structuring towards sustainable societies; develops interdisciplinary and multi-stakeholder public-private partnerships; provides education, training and capacity-building services; and facilitates and disseminates science-based but applied recommendations to the United Nations and its agencies, Governments, industries and the general public. The United Nations University is leading the StEP initiative, which involves more than 48 stakeholders. UNEP is represented in the steering committee of this initiative, which has five task forces contributing to its core work. Recently, StEP issued a report on recycling from e-waste to resources. It has also established an electronic recycling group, to enhance the research capacity and knowledge base on e-waste issues. In 2009 it co-launched a project on moving towards zero waste in industrial clusters, which has 28 partners.

69. WHO focuses on issues of health-care wastes. It is implementing a four-year, GEF-funded demonstration project, to demonstrate and promote best techniques and practices for reducing health-care waste, in order to minimize or eliminate releases of persistent organic pollutants and mercury to the environment, in Argentina, India, Latvia, Lebanon, the Philippines, Senegal and Viet Nam. The project has a component to develop, test and disseminate affordable non-burn health-care waste treatment technologies that can be built and serviced in sub-Saharan African countries. As a member of the Global Alliance for Vaccines and Immunization, WHO is providing support to the 72 countries in the Alliance to develop national plans, policies, regulations and implementation strategies, including through capacity-building. The Libreville Declaration on Health and Environment in Africa, adopted in 2008, requests countries to develop and establish health and environment strategic alliances as the basis of national plans of joint action. At the regional level, capacity-building is organized on the adequate management of health-care waste. A number of documents, guidelines and policy papers have been developed in that area and a global initiative has been launched to substitute mercury-based medical devices with safer, affordable and accurate alternatives. WHO has also responded to needs related to health-care wastes in countries affected by disasters, such as Haiti and Pakistan.

70. Solid-waste management remains a crucial component of the World Bank's overall support in the urban sector, as outlined in its recent urban and local government strategy. Since early 2008, the Bank has approved 45 projects with solid-waste management components, in 30 countries across all six geographic regions. The total financial commitments provided through these projects total over \$2.7 billion, of which more than \$674 million was dedicated to the project components on solid-waste management. The World Bank is broadening and deepening its solid-waste assistance through the introduction of new tools such as those on development policy loans (for a solid-waste project in Morocco); stand-alone and fully integrated carbon finance for solid-waste efforts, such as that for landfill gas recovery in Jordan; city-specific, country-specific and global technical reviews; and targeted support for waste-pickers and improved working conditions for waste-management employees.

71. Solid-waste management is a growing sector in the World Bank. This reflects the large share allocated to solid-waste management in many local government budgets, the growing link between solid waste and greenhouse-gas emissions, the management-intensive aspects of solid-waste management – with many of these skills transferable to other municipal services – the abysmal working conditions of many waste-pickers, and the direct links between poor solid-waste management and human and environmental health impacts. Solid waste is the most immediate and important by-product of urbanization – as the cities of the world welcome 3 million new residents per week, solid-waste management is a rapidly growing priority with local and global implications. Solid-waste management assistance in the World Bank will continue to grow in support of an integrated approach to solid-waste management linked with other municipal services.

## 10. Paragraph 10

72. In paragraph 10 of decision 25/8, the Council/Forum requested the Executive Director to forward his report on waste management to the Basel Convention and other relevant multilateral

environmental agreements, UN-Habitat, UNDP and other relevant United Nations bodies, international institutions, forums and processes. The report in question was forwarded to all those entities on 30 April 2009.

### III. Lessons learned and way forward

73. Some valuable lessons have been learned through the activities mounted by UNEP in the area of waste management. For example, Governments, and local governments in particular, often lack knowledge relating to environmentally sound waste management and are unaware of the potential for recovering resources from waste. Demonstration projects such as those conducted by UNEP and the assessment reports prepared by the International Panel for Sustainable Resource Management<sup>12</sup> on topics such as global metal flows are excellent means of showcasing opportunities for economic and social development through the sustainable management of waste – and, ultimately, materials – throughout their life cycle.

74. While up-front and explicit political commitment is essential to ensure the serious engagement of partners, experience shows that it is often difficult to gain national interest in local-level projects and this adversely affects the replication of the concept within the country.

75. Waste management is a multi-stakeholder process and the active participation of all stakeholders in developing the sustainable management of waste and materials is crucial. Authorities dealing with waste management are not always familiar with the process of stakeholder involvement, and building trust from stakeholders can take time. The private sector has a particular responsibility in minimizing waste over the entire life cycle of the products put on the market.

76. UNEP experience has shown that lack of local capacity is an important factor affecting progress and results in this area. Lack of funding also limits the speed of projects and the implementation of project findings. The impact of the project can be significantly enhanced if funds are available in advance to support the implementation of schemes identified in the demonstration projects. Lastly, new approaches like integrated solid-waste management require long-term and sustained support to ensure that they are well understood.

77. The regional implementation meetings for the current cycle of the Commission on Sustainable Development highlighted the opportunities presented by waste management, especially in terms of the recovery of resources. Many challenges were also identified such as: awareness-raising and capacity-building of all stakeholders in all aspects of waste management; institutional strengthening; demonstration projects; technical guidelines and technology compendiums; management of specific waste streams such as e-waste, waste plastics and organic wastes, with emphasis on material and energy recovery; formulation and strengthening of waste policies and regulatory frameworks, strengthening the implementation of waste-related multilateral agreements and the illegal movement of waste; transfer and dissemination of knowledge and technology and regional cooperation, for example for the exchange of information and good practices. The important role of the private sector and informal sector was also highlighted.

78. UNEP has already been working to tackle many of the above-mentioned challenges. The work done by UNEP includes awareness-raising, capacity-building, demonstration projects, policy formulation, improving availability and access to information and technology and developing innovative approaches to waste management with an emphasis on resource recovery and the environmentally sound disposal of residual waste. Its programmes on the management of specific waste streams (e-waste, waste agricultural biomass, waste plastics) is geared towards maximizing the recovery of resources through those waste streams. Parallel activities include the provision of support to countries in strengthening the implementation of waste-related multilateral agreements, preventing illegal trade through the training of Customs officials and the development of environmentally friendly products through its life-cycle initiative, among others.

79. UNEP has carried out intensive consultations to establish the Global Partnership on Waste Management, which aims to promote partnerships for waste-related activities not only across the entire United Nations system, but also between Governments, the private sector, universities and research institutions and civil-society organizations. The Partnership will be a clearing house for best practices and regulatory frameworks, provide capacity-building and technical assistance and promote close cooperation with bilateral development agencies and the private sector. The focus can be extended over time from waste to material management, covering all stages of a product's life. Activities will

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12 [www.unep.fr/scp/rpanel/](http://www.unep.fr/scp/rpanel/).

include facilitating policy dialogues and the replication and upscaling of activities at both the regional and national levels.

80. To strengthen future work on waste management and to secure the commitment of national Governments and support from donors, it is important to link waste management with other thematic issues with higher national interest. Some of these linkages are outlined below:

(a) *Linkage between waste management and energy access:* National Governments in developing countries face the huge task of improving the quality of life in rural areas. A key requirement for success in this undertaking is ensuring access to energy, in particular electricity, in rural areas. On the other hand, developing countries, as they are mostly still agriculture-based economies, generate huge quantities of waste agricultural biomass every year. Currently most of that biomass is left in the field to decompose naturally or is burnt in the open. Such practices not only waste valuable resources but also cause unnecessary greenhouse-gas emissions. The establishment of waste agricultural biomass-based decentralized energy conversion systems could simultaneously solve both those problems. In addition, based as they are on locally available and renewable sources of energy, those systems would also provide much needed energy security in rural areas;

(b) *Linkage between waste management and water management:* One of the well-known adverse impacts of the improper management and disposal of waste is the contamination of water bodies. There are many instances of both surface water bodies and underground aquifers becoming contaminated through the seepage of pollutants from waste dumps. The proper management and disposal of waste will also avoid such contamination. On the other hand, water and wastewater treatment generates waste sludge that needs to be treated and disposed of as a solid waste. Thus, incorporating waste management while dealing with water-management issues will offer more competitive and comprehensive solutions;

(c) *Linkage between waste management and climate change:* Emissions from the waste-management sector are estimated to constitute between 3 and 5 per cent of global human-caused greenhouse-gas emissions. Most of these emissions are from the landfills – methane generated by the anaerobic decomposition of organic waste. There are several attractive ways of turning this problem into an opportunity. If well segregated and collected separately, organic waste can be biomethanated or composted or both, to generate energy (biogas), together with a valuable product (compost). In addition, this avoids the emission of methane from landfills as the waste no longer needs to be disposed of in a landfill and it also extends the life of existing landfills. The installation of gas-recovery systems in landfills can help in capturing and using the methane. As many developing countries still use open dumps as a means of waste disposal, there is tremendous scope for gas recovery from these dumps. Some projects of this nature have also qualified as Clean Development Mechanism projects and have generated carbon credits.

#### **IV. Further cooperation with other organizations**

81. Drawing upon past and current activities, proposals for further cooperation with other organizations are outlined below.

82. UNEP, in cooperation with the Secretariat of the Basel Convention, will continue to promote resource augmentation through waste recovery, reuse and recycling, supported by awareness-raising activities and practical application strategies, in particular for municipal waste at the local level and for certain material flows also at the global level. Working through existing mechanisms, including the Marrakech Process, UNEP will take the lead in strengthening and expanding national policy frameworks to shift the emphasis from an end-of-pipe approach to a more appropriate integrated resource management approach, in the light of the scientific knowledge provided by the International Panel for Sustainable Resource Management.

83. UNEP will also take the lead at the local level in developing and implementing integrated waste-management strategies and action plans for municipalities, in particular in developing countries. The secretariats of the multilateral environmental agreements, notably the Basel Convention, the Stockholm Convention and the Montreal Protocol on Substances that Deplete the Ozone Layer, within their respective mandate and available resources, will strengthen their implementation of preventive aspects of waste-related multilateral agreements, particularly at the local level.

84. UNEP has established the Global Partnership on Waste Management. It will host the secretariat and will facilitate the establishment of partnerships under a wide variety of thematic and functional areas to be led by the organizations most competent to deal with the subject. UNEP originally launched an idea of a global platform on waste management during a consultative meeting in December 2009; during subsequent consultations and discussions with additional stakeholders,

however, it became clear that the original idea of a global platform would be duplicating some efforts of other initiatives and programmes. Hence, an umbrella partnership was conceived, to provide the overall coordinating mechanism for the current initiatives and programmes and to fill remaining gaps by supporting additional activities, enhancing complementarities and avoiding duplication.

85. This decision entailed the need to modify the original platform, which would have had a limited number of stakeholders on board carrying out the activities in question, and instead develop a global partnership on waste management with a more holistic approach, promoting coordination, the efficient and effective use of resources and the avoidance of duplication and responding to the overwhelming needs expressed by developing countries. The partners would carry out their activities as lead members of respective focal areas and would benefit from one another's activities, experience and knowledge.

86. The partnership was launched during the second workshop on waste, held in Osaka on 18 and 19 November 2010, and attended by representatives of Governments from Asia, Africa and South and Latin America, international organizations, private sector associations and universities. Participants discussed the progress made since the first consultation on the issue, held in Geneva on 30 November and 1 December 2009. Participants commended UNEP on the work that it had accomplished on the agreed next steps, including the formulation and launching of an information platform on waste management ([www.unep.or.jp/etc/GPWM/info\\_platform.html](http://www.unep.or.jp/etc/GPWM/info_platform.html)). In line with the provisions of decision 25/8, UNEP has also carried out various projects on integrated solid-waste management, the conversion of waste plastics and waste agricultural biomass into resources, e-waste management, waste and climate change, and capacity-building at national and regional levels with the provision of training materials and guidelines. The partnership aims to enhance already existing activities, which are undertaken in a sectoral manner and lack a holistic approach. At the launch of the partnership, in Osaka, participants decided that it should focus on the following priority areas: waste prevention, the three Rs for waste management, waste agricultural biomass, integrated solid-waste management, e-waste management and hazardous waste management.

87. The partnership would also cover related functional focal areas, such as capacity-building, information collection and sharing, financing, policies, technologies, and others. It would not work directly on such issues as nuclear waste, munitions waste and chemical weapons. It was agreed that, as UNEP was in contact with the chemicals weapons conventions, it would refer any requests related to chemicals weapons to those conventions.

88. The structure, focus and operational guidelines for the partnership are dynamic in nature. Although a variety of consultations have been carried out, many potential partners and stakeholders are yet to provide their feedback and suggestions. Accordingly, participants at the Osaka workshop suggested that the partnership should be sufficiently dynamic to capture the needs of all potential partners and stakeholders over time and strengthened through learning by doing. The partnership could evolve over time, its activities would continue and, in the light of lessons learned, appropriate modifications would be made to it.

89. At the end of the meeting, participants proposed Ethiopia and India as co-chairs for the first year of the partnership (2011). It was agreed that letters of invitation would be sent to the respective Governments and that UNEP would strengthen its cooperation with UNDP, UNIDO, the multilateral environmental agreement secretariats and the Basel Convention regional and coordinating centres to launch programmes on institutional strengthening and capacity-building at the national level, to facilitate work on policy, technical, financial and social aspects of the pre-generation and post-generation stages of waste management. The experience gained through projects in developing countries should be factored into the capacity-building activities, thus strengthening the partnership's normative function. Institutional capacity-building or strengthening at the local level could be initiated by UNDP, UNIDO, the United Nations Centre for Regional Development and the Basel Convention regional and coordinating centres.

90. The links between waste management and climate change were presented by UNEP at the sixteenth session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, held in Cancún, Mexico, from 29 November to 10 December 2010, through the launching of its report: *Waste and Climate: Global Trends and Strategy Framework*.<sup>13</sup> The report demonstrates the potential to tap non-carbon-dioxide emissions for the generation of energy, thus offsetting the use of fossil fuels. UNEP intends to broaden its cooperation on this issue with all major stakeholders, including those in the private sector.

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13 [www.unep.or.jp/download/Waste&ClimateChange.pdf](http://www.unep.or.jp/download/Waste&ClimateChange.pdf).