

# **UNEP Global Partnership on Waste Management (GPWM)**

## **Framework Document**

*Final Draft*



**UNEP**

Division of Technology, Industry and Economics  
International Environmental  
Technology Centre

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## 1. FOREWORD

1. The secretariat of the GPWM on Waste Management (GPWM) is pleased to present the draft framework document, which describes organizational and management arrangements for the GPWM as well as guidelines governing its operation. This document includes a description of the organizational structure, the grouping of activities into two overarching areas of work with several sponsored focal areas of work, and the process through which interested stakeholders can become official members to the GPWM. It also describes the roles and responsibilities of the members, sponsored focal areas lead members, Advisory Board, co-chairs, and the secretariat. In addition, this document includes the strategy, approach and funding request for the GPWM, based on the experience of other partnerships developed under the auspices of the United Nations Environment Programme (UNEP).
2. The draft framework for the GPWM has been developed by UNEP Division of Technology, Industry and Economics - Division of International Environmental Technology Centre (DTIE-IETC). UNEP organized several consultation meetings with Governments and major international agencies to receive feedback on the draft framework document. Comments have now been included in the present revised version of the framework document. Further consultations might be held in line with UNEP Governing Council decision 26/3 on waste management. UNEP's Programme of Work for 2010-2011 includes the GPWM under its project 52-P2.
3. Annex A of the draft framework includes a work plan template providing guidance to the GPWM sponsored focal areas of work members. Meeting participants are encouraged to further develop work plans for the sponsored focal areas of work by taking the template into consideration.

## 2. PREAMBLE

In 2000, the United Nations Millennium Summit agreed on eight Millennium Development Goals to be achieved by 2015. Goal 7 – Ensure Environmental Sustainability – has three targets<sup>1</sup>:

*1. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.*

*2. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.*

*3. Have achieved, by 2020, a significant improvement in the lives of at least 100 million slum dwellers.*

To support the implementation of these goals and targets, various international, national and local organizations are undertaking activities focusing on waste management. In 2009, UNEP Governing Council decision 25/8 on waste management<sup>2</sup> asked for integrated and holistic efforts on waste management. Decision 25/8 reflects the increased demand from countries for more support on waste management and a shift in approach on waste management practices by:

*“Recognizing that stronger efforts and support for means of implementation are needed to assist Governments in developing national policy frameworks to encourage a shift from an end-of-pipe approach in waste management to an integrated waste management approach”*

In addition to UNEP’s decision 25/8, the 9<sup>th</sup> meeting of the Conference of the Parties to the Basel Convention adopted the Bali Declaration on “Waste Management for Human Health and Livelihoods.”<sup>3</sup>

Beyond UNEP, waste is gaining priority across the UN as indicated in the reports from various intergovernmental organizations, referred to later in this document. The organization is working closely with Governments and other stakeholders to develop and implement policies and actions on waste management. The interministerial meeting on the implementation of the Libreville Declaration on Health and Environment, which was held in Luanda on 26 November 2010, designated vector control and management of chemicals (particularly pesticides) and wastes, including biomedical (health care) and electronic and electrical wastes as top African priorities for the years to come.<sup>4</sup>

Waste management has also been a priority area in activities to address climate change, especially to reduce non-CO2 emissions and to offset the use of fossil fuels by generating energy from waste. UNEP launched a report on waste and climate change during the 16th meeting of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC) in Cancun (Mexico). Stakeholders, including waste recyclers working on climate change issues, are supporting initiatives on waste management.

(<http://www.unep.or.jp/Ietc/Publications/spc/Waste&ClimateChange/index.asp>)

To support these international efforts and the implementation of UNEP’s decision 25/8 on waste management, UNEP, in partnership with other organizations, proposed to launch the GPWM to advance the work on specific focal areas under waste management.

In this regard, initial consultations were held with inter-governmental organizations, national Governments from developed and developing countries, and civil society during a consultation workshop on waste management, which was organized in cooperation with the Secretariat of the Basel Convention (SBC), and took place in Geneva on 30 November and 1 December 2009. During the Geneva meeting, the concept of a global platform on waste management was discussed. Thereafter, several follow-up discussions and presentations were held including a special event on waste

<sup>1</sup> <http://www.unmillenniumproject.org/goals/gti.htm#goal7>

<sup>2</sup> <http://www.unep.org/gc/gc25/Docs/Proceedings-English.pdf> (pages 25-26)

<sup>3</sup> <http://cop9.basel.int/cop9theme.pdf>

<sup>4</sup> <http://www.unep.org/health-env/pdfs/libreville-declaration-eng.pdf>

management, in cooperation with the Government of Indonesia during UNEP Governing Council Special Session XI/ Global Ministerial Environment Forum in Bali on 25 February 2010. The relevant documents from both events are available at <http://www.unep.or.jp/ietc/SPC/news-nov09.asp> and <http://www.unep.or.jp/Ietc/SPC/news-feb10.asp>, respectively.

In those discussions, it was strongly recommended to avoid duplication of efforts and it seems that the original idea of launching a global platform would have duplicated some of the efforts of other initiatives and programmes. Hence, the idea of an umbrella partnership was developed to provide a voluntary coordinating mechanism to the current initiatives and programmes and to fill the gaps by supporting additional activities. This led to the modification of the original platform in order to engage stakeholders in a GPWM to promote a holistic approach, coordination, and efficiency and efficacy of resources by avoiding duplication of activities. The partners will continue to carry out their activities as lead members of the respective sponsored focal areas of work under the Partnership, and they will benefit from each other's actions, activities and knowledge.

Based on the feedback that was provided during these consultation workshops/meetings, side/special events and presentations, the framework document for GPWM was revised for the second consultation workshop, held in Osaka, Japan from 18 to 19 November 2010.

The Osaka meeting was attended by Governments (from Asia, Africa and Latin America), international organizations, and civil society (private sector associations and academia). The participants discussed the progress made since the first meeting in Geneva. Participants welcomed the work done by UNEP on the agreed next steps, including on the Information Platform on Waste Management ([http://www.unep.or.jp/ietc/GPWM/info\\_platform.html](http://www.unep.or.jp/ietc/GPWM/info_platform.html)). UNEP, in line with decision 25/8, has also carried out various projects on integrated solid waste management, converting waste plastics into a resource, converting waste agricultural biomass into a resource, e-waste management, waste and climate change, and capacity building at national and regional levels with training materials and guidelines.

Participants reviewed and discussed the framework document at length. At the end of the two-day consultation workshop, the GPWM was launched. Participants provided further comments after the meeting, and comments from other potential partners were also received. In addition, UNEP's Committee of Permanent Representatives provided comments on the framework documentation during its meeting on 7 December 2010. Likewise, comments that were gathered at consultation meetings in New York (4 May 2011) and in Paris (29-30 June 2011), were also included in this revised draft. Further revisions are expected based on future discussions and consultations.

During its 26<sup>th</sup> regular session in February 2011, UNEP's Governing Council adopted decision 26/3 on Chemicals and Waste Management, again indicating support for coordinated actions on waste management. In particular, the decision recognizes the need to take into consideration countries' differing circumstances, developmental priorities and capacities (technical and financial) while stressing the need for international organizations to undertake enhanced, more focused and coordinated actions to fill current gaps in support given to efforts by developing countries. The decision also calls for coherence and complementarity and avoidance of duplication of activities. The decision focuses on integrated waste management and related areas including electrical and electronic waste, waste agricultural biomass and urban waste based on the 3R (reduce, reuse and recycle) approach. The decision also takes note of the launching of the GPWM and asks for further consultations.

In line with the decision 26/3's emphasis on countries' differing circumstances, participants in previous consultations also suggested that the GPWM should be dynamic to capture the needs of all the potential partners and stakeholders over time. That way, there will also be room for learning by doing, so the activities of the GPWM will continue and, based on the learning, modifications will be made accordingly.

### 3. BACKGROUND: Why is the GPWM needed?

Waste generation rates have been increasing rapidly due to urbanization and industrialization. Per capita waste generation rates in many developing countries have now crossed the one kilogram per day mark. In most OECD countries, municipal solid waste generation rates are slightly above one kilogram per capita per day. Moreover, population growth in developing countries is very high in comparison to OECD countries. In 2000, when the world population crossed the six billion mark, more than five billion people were living in developing countries. In addition, more and more people are now migrating from rural areas to cities. Hence, it is projected that by 2015, more than 50% of the world population will be living in urban centres.

As a result, the overall waste generation is generally much higher in developing countries than in most developed countries. Industrial waste generation rates are also very high in developing countries as most of the industries are primary industries. In addition, new waste streams have emerged, e.g. e-waste and health care waste, posing new hazards to human health and the environment.

Moreover, traditionally, waste is considered a source of income, especially for scavengers. Recently, waste has also become an important replacement for conventional sources of energy and material.

The following strong trends in waste generation are posing growing challenges:

- Cities are facing more rapid population growth, and shares in GDP growth, resulting in – among other things – increasing quantities of waste being generated.
- Industrialization and economic growth have produced greater quantities of waste, including hazardous and toxic wastes.
- There is a growing understanding of the negative impacts that wastes have had on the local environment (air, water, land, human health etc.) and also on climate change.
- Complexity, costs and coordination requirements have necessitated multi-stakeholder involvement in every stage of waste management. This calls for an integrated approach.
- Governments and stakeholders are now looking at waste as a *business opportunity*, (a) to extract valuable resources contained in it that can still be used, and (b) to process safely and dispose of wastes with a minimum impact on the environment.
- Valuable habitats and biodiversity are being threatened by improper management of waste.

Conventional waste management systems are not well suited to deal with increased waste generation rates and new and special waste streams. These systems in many developing countries were also not based on 3R principles (reduce, reuse, and recycle) as the per capita generation rates were low, and scavengers picked up almost all recyclable waste.

In line with decision 25/8, UNEP has increased its support for waste management. In 2010, UNEP has launched the GPWM to support partnerships among various international, regional, national and local stakeholders. UNEP's Programme of Work for 2010-11 includes the GPWM under its project 52-P2.

The GPWM aims to enhance already existing activities, which are undertaken in a sectoral manner but are lacking a holistic approach, such as the Partnership on Mercury Waste, Solving the E-waste Problem (StEP), 3R Forum in Asia, UN-DESA Partnership on moving towards Zero Waste, UN-Habitat programme on sanitation, etc.

Establishment of the GPWM has also responded to international priorities, as waste has attracted increased attention, for example from the UN Commission on Sustainable Development (CSD). The UN is working closely with Governments and other stakeholders to develop and implement policies and actions on waste management. In addition, the GPWM is in line with international declarations focusing on waste management, including the Bali and Libreville Declarations.

The GPWM aims to overcome identified challenges in a systematic way over the short, medium and long terms in order to allow the effective implementation of sustainable waste management at local, national and sub-regional levels. Identifying challenges and opportunities, whether they emerge from

the national context or externally, will contribute to translating this partnership into a real framework of action at all levels, from local to national and sub-regional levels, through the proposed areas of work.

The GPWM will contribute to enhancing the funding base available to support waste management and help coordinate external financing, while reducing transaction costs by putting together both financial and technical resources to tackle identified challenges at local, national and sub-regional levels. Sources of external assistance can be made available more efficiently and effectively. Hence, the GPWM will maximize the cost effective use of scarce resources. In addition, the GPWM will benefit to its members by supporting the active exchange of knowledge, experiences and lessons, expertise, and training.

The GPWM also aims to complement existing work in the area of waste with a holistic approach which is a noted gap in waste management at large. The holistic approach is meant to facilitate coordination among different waste sectors and related activities/initiatives to avoid duplication of efforts, and improve efficiency and effectiveness by complementing rather than competing. This holistic approach may also take care of further gaps in current efforts and activities, namely by covering important waste streams (domestic, industrial, healthcare, agricultural, etc.), which are not tackled in a coordinated manner nor covered by relevant Multilateral Environmental Agreements.

The GPWM will help to share efficiently and effectively the information that has been generated and collected by various entities such as information on 3R by Japan, information on hazardous waste by the Secretariat of the Basel Convention, etc. The Information Platform under the GPWM will link the available information and encourage partners to effectively use this knowledge while planning and implementing activities, policies, technologies, and capacity building on waste management. It is envisaged to be an interactive tool that will allow members to feed in and exchange information. The GPWM will also work with partners to generate further information to fill gaps and meet the information needs of partners and stakeholders.

The GPWM will cover various sectoral and cross-cutting areas of work including, among others: waste prevention, integrated solid waste management, hazardous waste including e-waste, 3R for waste management, waste agricultural biomass, and capacity building on waste management. The secretariat of the GPWM will be provided by UNEP's International Environmental Technology Centre (IETC). The secretariat will initially comprise two staff members (one professional and one support). It will host an online Information Platform, organize annual meetings of the GPWM, and facilitate coordination among the Advisory Board, sponsored focal areas of work and outside organizations/initiatives.

## **4. OPERATIONAL GUIDELINES**

### **1. OBJECTIVES**

The objectives of the GPWM are:

- (a) To enhance international cooperation, outreach, advocacy, knowledge management and sharing, and identifying and filling information gaps in waste management to protect human health and environment, and to tackle adverse impacts of unsound management of waste;
- (b) To raise awareness, political will, and capacity to promote resource conservation and resource efficiency through waste prevention and by recovering valuable material and/or energy from waste.

### **2. EXPECTED OUTCOMES**

- (a) Holistic approach on waste management is promoted;
- (b) Level of waste management activities is increased due to enhanced international cooperation, advocacy, awareness, political will, and outreach;
- (c) Already available information is shared and additional information is created to fill the gap;
- (d) Better coordination among member institutions so that they can benefit from each others' actions;
- (e) Efficient and synergized activities to avoid duplication and to promote efficiency of efforts;
- (f) Wider range of partners and stakeholders are approached for enhanced and coordinated activities.

#### **Performance Indicators**

- (a) Number of activities carried out by the members on biennium basis;
- (b) Number of activities through sub-partnerships among the stakeholders on biennium basis;
- (c) Information Platform is operational and number of links and number of related activities on biennium basis.

### **3. WORKING DEFINITION – What is the GPWM?**

The GPWM is an open-ended partnership for international agencies, Governments, businesses, academia, local authorities, and nongovernmental organizations. The GPWM supports the development of work plans to facilitate the implementation of integrated waste management at national and local levels to overcome environmental, public health, social and economic problems arising from unsound waste management. The GPWM supports policy dialogues and other activities to exchange experiences and practices. It will facilitate enhanced awareness raising and capacity building.

#### **Focus**

The GPWM will focus on major waste streams such as municipal waste, industrial waste, healthcare waste, waste agricultural biomass, e-waste, hazardous waste, etc. The related themes such as capacity building, information collection and sharing, financing, policies, technologies, etc. will also be covered. However, this partnership will not work directly on issues such as nuclear waste, munitions waste, chemical weapons, etc. UNEP is in contact with the Organisation for the Prohibition of Chemical Weapons and will refer requests to it as appropriate.

### **4. EVOLVING STRUCTURE**

The structure, focus, and operational guidelines of the GPWM will be dynamic in nature. Although various consultations have been carried out already, many potential partners and stakeholders are yet to have an opportunity to provide feedback and suggestions. Therefore, the participants in the Osaka meeting (18-19 November 2010) suggested that this GPWM should be dynamic to capture the needs of all the potential partners and stakeholders over time. That way, there will also be room for learning by doing, so the activities of the GPWM will continue, and based on the learning, modifications will be made accordingly.

## 5. APPROACH

The GPWM aims to support coordination, information sharing, and capacity building on policy and technical interventions to improve waste management practices in developing countries based on the 3R (reduce, reuse and recycle) approach. The approach of the GPWM has the following main elements:

- (a) *Policies and technical interventions*: Contribute to the design and implementation of public policies and technical solutions that support efficient and effective systems for waste management including, waste reduction, converting waste into a resource and collection and treatment of waste. This will cover all the major wastes including electronic waste, municipal waste and hazardous waste.
- (b) *Investments*: Local, public and private investments are key. In addition to that, foreign direct investments and international support can also play a vital role in major projects. The GPWM will help to bring donors and investors on board to enhance the financial capacity for waste management.
- (c) *Capacity building and information sharing*: Enhance the ability of national governments, local authorities and the business sector (formal and informal) to implement policy and technical interventions and management practices that deliver efficient and effective waste management systems. Demonstration projects, and training and dissemination of information are key to enhancing the capacity of local and national stakeholders.
- (d) *Awareness and advocacy*: Document and disseminate information on the economic, cultural, social, and environmental benefits of waste management based on 3R (reduce, reuse and recycle) to governments, service providers (private and public sectors), waste generators, recyclers (formal and informal), and communities to increase stakeholder participation in the solid waste management chain.
- (e) *Implementation and monitoring*: Foster the implementation of innovative management practices and technologies in waste management operations and monitor the respective economic, environmental, cultural, and social benefits.

### 5.1. Project impacts on poverty alleviation and gender equality

Poverty alleviation and gender equality aspects are addressed from a project impact point of view. The strategy aims to involve the local private sector, especially for projects to demonstrate the recovery of resources in the form of energy and materials. Engaging local entrepreneurs and workers in this way is expected to have a positive impact on poverty alleviation by providing new income generation possibilities and improving living conditions through better management of hazardous waste. Furthermore, it is observed that in many countries, many women are the waste recovery entrepreneurs in their communities and constitute the main work force for sorting waste at transfer stations. Hence, the economic well being of women may be disproportionately strengthened and there will be improvements in their working conditions.

The projects focusing on waste management based on 3R will have strong direct and indirect impacts on poverty alleviation and gender equality. The impacts of projects on poverty alleviation and gender equality will be:

- (a) Increased direct job opportunities in waste segregation recycling/reuse industries/activities. For example, in a project in Pune, India, community-level waste segregation programmes alone were likely to provide 2,500 jobs. A substantial number of job opportunities is likely to be generated in other locations where Integrated Solid Management Plans (ISWM) plans will be developed, provided the local authorities take appropriate actions to implement the plans.
- (b) In the long-term, it is expected that increased availability of segregated waste constituents (such as segregated plastics, paper, metal etc.) will encourage businesses to set up recycling operations using such segregated waste as raw materials. This will create further job opportunities. For example, in a similar project carried out in Matale, Sri Lanka, the establishment of a recycling industry park is expected to provide about 100 jobs.
- (c) Better working conditions for rag pickers/scavengers. The difficult and challenging conditions under which rag pickers and scavengers (mostly women and children) are working are well known. Diseases and injuries are very common. The waste management system based on 3R includes setting up of properly designed transfer and sorting stations in which the rag pickers and scavengers can work under

much safer working conditions. This also holds true for the prevailing practices in material recovery from e-waste where the workers are often exposed to toxic fumes and hazardous liquids.

- (d) Successful implementation of business-to-business partnerships will result in setting up of industries in developing countries in places where the creation of job opportunities is crucial. For example, an experimental facility set up in Region 3 in the Philippines for converting waste rice husk into carburized fuel provides jobs for 12 persons although the facility uses only 5 tons of rice husk per day. In rural farming areas such job opportunities may be taken up mainly by women as men are mostly engaged in direct farming activities.
- (e) Increased reuse/recycling of waste is likely to result in waste acquiring a value. The waste could therefore become a source of revenue for households. Community level composting plants could be set up by households to produce compost, which could be sold for community gardens, kitchen gardens, etc.

## **5.2. Key stakeholders, target beneficiaries, and the expected benefits to be delivered**

The Partnership and respective activities will benefit all sectors affected by challenges of waste management, including:

- (a) Governments at all levels – capacity-building to support implementation of the policy and technical interventions, generate public and private investments and improve stakeholders’ participation in the waste management chain;
- (b) waste generators (domestic, commercial, industrial, agricultural, healthcare etc.) – capacity-building in waste reduction, source segregation of waste, and reuse and recycling at source with economic benefits, including lowered waste management costs, financial opportunities to reduce waste and convert waste into a resource, and increased level of participation in designing and implementing policy and technical intervention for waste;
- (c) stakeholders in the value chain in waste management – capacity-building and coordination among all stakeholders involved in the value chain in waste management (collection, transportation, material recovery for recycling, treatment and resource recovery and final disposal);
- (d) the local and international private sector – capacity-building for private sector participation in waste management (collection, transportation, material recovery for recycling, treatment and resource recovery and final disposal), creating an enabling environment for private sector participation in waste management, new business and investment opportunities;
- (e) formal and informal sectors in waste recycling – capacity-building in waste recycling practices, including municipal waste and e-waste, providing opportunities for establishing small and micro businesses;
- (f) communities – capacity-building and awareness to ensure proper waste management by various actors;
- (g) women – opportunities for more and higher-quality employment and independent entrepreneurial activities; capacity-building;
- (h) vulnerable groups – awareness raising and capacity-building for vulnerable groups (identified based on local situations and ground realities) in waste management (collection, transportation, material recovery for recycling, treatment and resource recovery and final disposal), protection from the adverse impacts of unsound management of waste, improving overall public health;
- (i) neighbourhoods near waste management and treatment sites – better understanding of living near waste transfer stations, treatment plants (biological and thermal) and landfills to avoid negative health and environmental impacts; capacity building;
- (j) non-governmental organizations, community organizations, academia, think-tanks, etc. – coordination and capacity-building for all related stakeholders non-governmental organizations, community organizations, academia, think-tanks and others as identified at local and national levels;
- (k) developing country economies – turning challenges into opportunities for increased economic and environmental benefits, wider distribution of income and gender equality, private sector investments, and material and energy security by converting waste into a resource.

## 6. THE ORGANIZATIONAL STRUCTURE

The conceptual structure of GPWM is shown below.



## 7. PARTICIPATION

The GPWM is a partnership for international agencies, Governments, businesses, academia, local authorities and NGOs. The GPWM is a voluntary and collaborative relationship between various partners in which all agree to work together to attain the overall objectives described above.

- Each entity upon becoming a member of the GPWM will contribute to the development and implementation of GPWM activities. Contributions may be in the form of financial support, in-kind contribution and/or technical expertise.
- To be accepted as a member, interested parties shall submit a letter of intent to join the GPWM indicating their commitment to its objectives. These should be submitted to:

Director, UNEP IETC, 2-110, Ryokuchi Koen, Tsurumi-ku, Osaka 538-0036, Japan,  
Fax : +81-6-6915-0304 Email : [ietc@unep.org](mailto:ietc@unep.org)

Letters of intent to become a member of the GPWM will be made public through its website.

- Acceptance as a member of the GPWM is at the discretion of the Advisory Board. Upon receipt of a letter of intent, the secretariat will inform the applicant of the decision based on consultation with the Advisory Board.
- The Advisory Board retains the right to exclude any member that significantly breaches its

commitment to the objectives of the GPWM or the roles and responsibilities set in the GPWM framework.

- (e) Stakeholders can apply for observer status. The secretariat will decide regarding participation and roles, in consultation with the co-chairs of the Advisory Board.

## **8. AREAS OF WORK AND WORKING GROUPS**

In the GPWM meeting held in Osaka on 18 and 19 November 2010, after assessment and anticipating potential future needs of respective country representatives, the partners agreed that there will be two overarching areas of work: sectoral and cross-cutting areas. The purpose of the proposed areas is cooperation among the partners to achieve the objectives by sharing technology, financing, participating in the effort made directly and/or indirectly with the consent of both GPWM as an entity and of the individual member(s). In addition to the list that was agreed upon in the meeting, a more comprehensive list of potential areas of work can be developed and made available for the Advisory Board to take decision subsequently as need arises. Following is a list of potential sponsored focal areas that was identified in the discussions:

### **A. Sectoral Areas:**

1. Municipal solid waste management
2. Industrial waste management
3. Hazardous waste management
4. Health care waste
5. E-waste management
6. Waste agricultural biomass
7. Mercury waste management
8. Marine Litter
9. Used tyres
10. Ship-breaking waste
11. Plastic waste

### **B. Cross-cutting Areas:**

1. Policy and regulatory framework for integrated waste management
2. Financing mechanisms for waste management
3. Technologies for waste management (source segregation and primary disposal, collection, transportation, disposal, waste to energy, waste plastics, E-waste, healthcare waste, etc.)
4. Community participation in waste management
5. Environmental education in waste management
6. Waste management for economic development (green economy)
7. Waste Management and Climate Change (GHG reduction, CDM)
8. Capacity building on waste management
9. Awareness raising on waste management
10. Informal sector
11. Waste prevention including upstream solutions (e.g. toxic free materials cycles)
12. Policy instruments (regulatory, economic and voluntary) such as extended producer responsibility
13. 3R (reduce, recycle, reuse) for waste management
14. Waste management in rural areas
15. Integrated solid waste management (ISWM)

Out of this comprehensive list, the participants proposed the following priority areas:

1. Waste prevention
2. 3R for waste management
3. Waste agricultural biomass
4. Integrated solid waste management
5. E-waste management
6. Hazardous waste management
7. Marine Litter

In the Osaka meeting and in follow-up discussions, some organizations volunteered to lead some of the identified areas of work. Six sponsored focal areas of work have emerged so far. Further lead members may be found through future consultations.

**Six sponsored focal areas of work:**

1. Waste and Climate Change (International Solid Waste Association-ISWA)
2. Waste agricultural biomass (UNEP-IETC)
3. Integrated solid waste management (UNEP-IETC)
4. E-waste management (United Nations Industrial Development Organization-UNIDO)
5. Marine Litter (UNEP-Division of Environmental Policy Implementation-DEPI)
6. Waste Minimization (UNEP-IETC)

The GPWM will:

- Avoid duplication, i.e. areas of work that are already being led by other organizations at global level will not be selected under the GPWM unless the original lead organization agrees to do so. In those cases, existing initiatives will continue and the GPWM will try to create synergies to complement these initiatives. This will also avoid duplication of activities of existing initiatives. GPWM will hold only annual meetings to discuss progress and take decisions.
  - Encourage the role of lead members as elaborated below.
  - Encourage donors to meet the secretariat costs, including two staff members initially, annual meetings, operation and scaling up of the information platform, and coordination with the Advisory Board, sponsored focal areas of work, and outside agencies/initiatives. Major donors will be invited to be members of the Advisory Board.
  - Promote the criteria for acceptance of sponsored focal areas of work, including no duplication with existing initiatives, availability of lead members and demand from members for specific areas of work and viability of activities. After the approval of a new sponsored focal area of work by the Advisory Board, the lead members will develop a work plan in consultation with other members of the working group for that specific area of work. The Advisory Board will review the progress in annual meetings and may suggest to expedite the activities or cancel the sponsored focal areas of work in case of no or limited progress.
- (a) Activities of each sponsored focal area of work will be defined, coordinated and implemented through a working group (one working group for each sponsored focal area of work).
  - (b) The GPWM members can decide to which sponsored focal area(s) of work they wish to contribute based on their expertise and capacities. Members are required to contribute to at least one sponsored focal area of work and its working group.
  - (c) A member of the secretariat will be assigned to each working group.
  - (d) Each working group will be led and coordinated by one or more lead member(s). The lead member(s) commit themselves at GPWM meetings. In case a lead member cannot continue to lead a working group any more, the working group is required to communicate this change to the Advisory Board.

**9. ACTIVITIES IN THE SPONSORED FOCAL AREAS OF WORK AND WORK PLANS**

- (a) Sponsored focal area lead members, in collaboration with other members of the respective sponsored focal area working group will develop work plans for their activities, including timeline, identification of resources, and fundraising strategies, in accordance with the GPWM framework and reflecting their accepted contributions. A work plan template is outlined in Annex A to provide guidance to the working groups.
- (b) The work plans for the sponsored focal areas of work as well as the overall programme, including work plans for the secretariat, which will be based on the work plans for the sponsored focal areas, will be developed in the first year (2011). These work plans will be discussed in the first meeting of the Advisory Board in 2012.

- (c) Members can propose activities, in addition to those already identified in the work plan, by submitting a written justification to the secretariat with copy to the relevant working group lead member(s). The lead member(s) will review the proposal and submit it to the GPWM Advisory Board for consideration.

## **10. GPWM CO-CHAIRS AND ADVISORY BOARD**

- (a) Two GPWM co-chairs will be elected at the opening of each GPWM biennium meeting, and will serve until the election of the new co-chairs at the subsequent GPWM biennium meeting. If resources are not available to host a meeting, co-chairs will be elected through email communication. Should a co-chair not be able to continue to term, a new one will be elected from among the Advisory Board members.
- (b) A GPWM Advisory Board will be established to serve and advise the GPWM.
- (c) The following representatives will be invited to serve as members of the GPWM Advisory Board:
- (i) The GPWM co-chairs, who will also co-chair the Advisory Board
  - (ii) The working group lead member
  - (iii) UNEP-IETC representative

Representation on the Advisory Board will be important in achieving the success of activities and projects. It is suggested to include donors on the Advisory Board to provide an opportunity to receive their feedback and guidance.

Additional Advisory Board members can be:

- Governments, international organizations and civil society (non-governmental organizations, private sector, academia, etc.) if they are leading any specific sponsored focal area at global or at regional level.
- Donors with biennium funding of USD 200,000 and more (either in-kind or funding for waste related activities or direct support for GPWM).
- The international conventions with a focus (or sub-focus) on waste.

## **11. MEETINGS**

- (a) Meetings of the GPWM will take place physically or through electronic means.
- (b) Opportunities for physical meetings of the GPWM will be explored by the secretariat, in particular, in conjunction with: (a) meetings of the working groups; (b) international/ regional/ national meetings on waste management and other relevant topics, and subject to available resources.
- (c) Communication between lead members, Advisory Board and secretariat will take place primarily through electronic communication mechanisms.
- (d) The biennium meeting will be held to exchange information across the sponsored focal areas of work, review the progress made, including on the Information Platform, and coordinate the work of the overall GPWM. The biennium meeting will be held in conjunction with the Advisory Board meeting.
- (e) **GPWM Advisory Board:**
- (i) The Advisory Board will meet at least once a year
  - (ii) Meetings may be in person or through electronic means
  - (iii) Reports of the meetings of the Advisory Board will be made available through the GPWM website
- (f) **GPWM sponsored focal area working groups:**
- (i) Members will meet at least once a year
  - (ii) Meetings may be in person or through electronic means

## 12. ROLES AND RESPONSIBILITIES

- (a) Roles and responsibilities are consistent across GPWM sponsored focal areas of work and consistent with the overall objectives of the GPWM.
- (b) Roles and responsibilities of the members:** The members of the GPWM based on their capacity, will, inter alia:
- (i) Contribute, initiate and undertake activities within the working group(s), consulting with other members as needed.
  - (ii) Report to working group lead members on the progress and results of their activities. These reports will be used to monitor and review the progress of the GPWM and assess results against the agreed objectives.
  - (iii) Identify additional activities, strategies, and resources that will contribute to achieving the objectives of GPWM.
  - (iv) Contribute to the development of work plan(s) for the identified areas of work.
  - (v) Provide strategic guidance and technical assistance to the working group(s).
  - (vi) Share information on the GPWM and its working group(s) within their respective organizations.
  - (vii) Mobilize resources, including financial resources for the GPWM and for the implementation of its activities.
  - (viii) Help bring new members to the GPWM.
- (c) Roles and responsibilities of the sponsored focal area lead members:** The lead members for each of the sponsored focal areas will:
- (i) Lead the sponsored focal area working group.
  - (ii) Prepare a work plan including a budget and fund-raising plan.
  - (iii) Convene and chair the meetings of the working group(s).
  - (iv) Develop regular reports of the activities of the sponsored focal area working groups for consideration by the GPWM Advisory Board. The reports should contain an assessment of the progress and results achieved.
  - (v) Encourage the active participation of and the sharing of information and strategies among all members in the sponsored focal area.
  - (vi) Share and disseminate information including providing reports on progress, lessons learned, and best practices to the Advisory Board for wider public dissemination.
  - (vii) Represent the sponsored focal area working group in the GPWM Advisory Board.
  - (viii) In case the lead member(s) encounter(s) problems, they can call for an emergency meeting requesting for solution. The solution can either be to fix or abandon the project within the specific sponsored focal area depending on the decision passed by the secretariat and the lead member(s). This decision is open for appeal to the beneficiary of the program/project/activity.
- (d) Roles and responsibilities of the GPWM Advisory Board:** The functions and responsibilities of the Advisory Board will include the following:
- (i) Provide overall coordination for the GPWM
  - (ii) Provide guidance to prepare a strategic plan and fundraising strategy for the overall GPWM.
  - (iii) Encourage the work of the GPWM sponsored focal area working groups.
  - (iv) Provide strategic advice, review, monitor, and suggest changes to the GPWM work plans and implementation, and promote consistency with the objectives of the GPWM.
  - (v) Review and comment on the progress reports for the sponsored focal areas.
  - (vi) Communicate overarching issues and lessons learned across sponsored focal areas.
  - (vii) Approve the overall work plan of the GPWM.
  - (viii) Decide on the amendments to the framework document based on the requests submitted through the secretariat.
  - (ix) Decide on membership issues.
  - (x) Advise the secretariat on new membership applications and observers' requests.
- (e) Roles and responsibilities of the GPWM co-chairs:** The GPWM co-chairs will:
- (i) Convene and chair the biennium meeting of the GPWM and guide the work of the GPWM.
  - (ii) Chair the GPWM Advisory Board meeting.
  - (iii) May represent the GPWM at related international activities during their term.

- (f) Roles and responsibilities of the secretariat:** The secretariat, subject to the availability of resources, will:
- (i) Provide administrative and secretariat support to the GPWM.
  - (ii) Help bring new members to participate in the GPWM.
  - (iii) Review submissions and letters of intent of interested stakeholders, decide in consultation with the Advisory Board, and inform applicants upon their acceptance as GPWM members.
  - (iv) Maintain a list of members of the GPWM.
  - (v) Facilitate coherent communication and coordination between the different areas of work. Draw substantial synergies with different partners and lead members within and beyond the GPWM.
  - (vi) Disseminate information on relevant issues to the members.
  - (vii) Prepare and publish GPWM meeting reports.
  - (viii) Provide guidance to the sponsored focal area working groups.
  - (ix) Operate and maintain the GPWM webpage including the Information Platform.
  - (x) Develop and disseminate public outreach materials about the GPWM and its activities.
  - (xi) Develop, with guidance from the Advisory Board, a fundraising strategy for the overall GPWM on a biennium basis.
  - (xii) Assist in mobilizing resources, including financial resources, to support the GPWM including fundraising to support the secretariat.
  - (xiii) Provide coordination for capacity building.
  - (xiv) Receive requests from observers, decide in consultation with Advisory Board, and provide information on observers' status.
- (g) Roles and responsibilities of the observers:** The observers will:
- (i) Attend the open meetings including annual meetings and will provide inputs if required.
  - (ii) Be able to attend advisory board and working group meetings on their own cost.
  - (iii) Can request to become a member of the GPWM.

### **13. FINANCES, FUNDRAISING ACTIVITIES AND FUNDING REQUEST**

The financial structure of the GPWM will be managed through a special project number and budget line for the GPWM (in conformity with UN rules and regulations). The overall budget and the choice of projects to be financed will be approved by the biennium conference or Advisory Board meeting. The implementation of the overall work programme will be executed by the secretariat, under the guidance of the Advisory Board. Financial controls will be those of the United Nations.

Financial resources will come from two main sources:

- (a) direct financial support from national, regional, and multilateral partners/donors;
- (b) in-kind support from participating members.

The financial structure of the sponsored focal areas of work may vary in accordance with the regulations of the lead member organization. The members of the sponsored focal areas are responsible for their activities and for fundraising, accordingly. However, based on their respective work plans, they can request the Advisory Board of GPWM to raise funds for specific activities.

The overall budget will be defined every year by the Advisory Board and it will allocate the funds for different costs including for the specific activities under sponsored focal areas of work. The GPWM will have a results-oriented structure, in which its long-term funding and success will directly depend on its ability to deliver useful high-quality tools in accordance with its objectives, sponsored focal areas of work, and policy and technical interventions. Fundraising will therefore depend on demonstrating successful implementation of the overall work plan of the GPWM and respective work plans of the sponsored focal areas of work. The secretariat, with guidance from the Advisory Board, will develop a fundraising strategy for the overall GPWM on a biennium basis. This will be based on the five-year strategic plan to be adopted in the first biennium conference or Advisory Board meeting expected to be held in autumn 2012.

### 13.1. Activities for fundraising/resources

- (a) Fundraising should be planned at GPWM level. A coherent approach should be chosen for fundraising with clear outcomes. The global and regional level fundraising should be carried out for global and regional activities including participation costs for stakeholders from developing countries and economies in transition to attend annual meetings, workshops on policy discussions, etc.
- (b) The work plans for the sponsored focal areas under the GPWM are a means of mobilizing resources for the respective areas of work. The objectives for each sponsored focal area of work and the work plans shall provide clarity for potential donors and finance institutions.
- (c) Each entity, upon becoming a member of the GPWM and based on their capacity, commits to contribute resources in the form of financial support, in-kind contribution and/or technical expertise for the development and implementation of the GPWM activities.
- (d) The work plans, including the budget, will be prepared for each area of work by the lead member(s) in consultation with the members of the respective sponsored focal area.
- (e) GPWM member(s) are responsible for the funding of their activities.
- (f) Each member shall administer funds in accordance with its financial regulations, rules and administrative practices. Any transfer of funds between members shall be made under an appropriate separate arrangement, to be negotiated between the members concerned.
- (g) Secretariat costs are expected to include personnel, operational costs (e.g. contractual agreements as necessary, communication and outreach activities including information forms, newsletter and/or the GPWM website) and meeting costs (e.g. support participation of developing countries and countries in economies in transition through meetings), etc.

### 13.2. Annual Funding

#### In-kind Support and Funding Request 2012-2013 (two years):

##### In-kind support from UNEP-IETC (secretariat of GPWM)

###### 1. Staff time

|          |             |
|----------|-------------|
| P4 (30%) | USD 120,000 |
| G4 (30%) | USD 50,000  |
| D1 (10%) | USD 60,000  |

###### 2. Facilities:

USD 20,000

###### 3. Information Platform:

USD 50,000

**Total on in-kind staff USD 300,000**

###### 4. UNEP activities on waste:

|                 |             |
|-----------------|-------------|
| ISWM:           | USD 300,000 |
| E-waste:        | USD 300,000 |
| Waste to energy | USD 100,000 |
| GPWM meetings   | USD 100,000 |

**Total on in-kind activities USD 1,100,000**

##### Funding request:

###### 1. Staff for the secretariat including for Information Platform (USD700,000):

|                          |             |
|--------------------------|-------------|
| Coordinator (P-3 or P-2) | USD 300,000 |
| General Staff (G-4)      | USD 200,000 |
| Consultant               | USD 200,000 |

###### 2. Biennium conference or Advisory Board Meeting

USD 200,000

100 participants – 60 supported costing USD 180,000

Services USD 20,000

**Total funding request USD 900,000**

3. Funding for specific activities including field projects and training on Integrated Solid Waste Management, Waste Agricultural Biomass and WEEE / E-waste: To be worked out with partners through their work plans for specific sponsored focal areas of work.

## **14. COMMUNICATION AND PUBLIC INFORMATION**

The GPWM will communicate its activities through cross-media channels with the objectives of (i) providing information and knowledge to members, and (ii) giving visibility to the GPWM and its members. A communication strategy will be developed by the secretariat for approval during the first biennium conference or Advisory Board meeting expected to be held in autumn of 2012.

### ***a) Media activities***

The communications component of the GPWM will be implemented in direct cooperation with the Advisory Board or the relevant partners including lead members of the sponsored focal areas. In addition to the Information Platform, the GPWM will use international and national cross-media channels, such as online media, radio, television, and newspapers, as well as the networks and platforms of the partners and lead members of the sponsored focal areas. The GPWM will also produce an annual factsheet in UN official languages as well as in other languages based on the requests from the Advisory Board and subject to availability of funds. In addition, an executive summary of the annual report will be produced in English and French.

### ***b) Web-based products***

The secretariat has launched the Information Platform on Waste Management, and various web-based products including training materials, compendia of policies and technologies, databases, etc. will be created and hosted on this platform.

### ***c) Publications***

The GPWM will develop publications for specific projects and relevant publications as suggested by the GPWM members. All publications will be available on the Information Platform on Waste Management for download at no costs for the general public to enhance knowledge sharing on waste management. The secretariat will also identify potential synergies with partners to seek access on their libraries and information platforms, as well as the possibility of connecting each other's websites and platforms.

### ***d) Awareness raising/ Outreach events***

- The GPWM may organize regional events of the GPWM for its partners/members to seek further partners and lead members for areas additional sponsored focal areas of work;
- The GPWM will develop and circulate press information to the world and national press at the end of the biennium conference or Advisory Board meeting to show the major results of the activities;
- The secretariat and its members/partners will work jointly to give a maximum visibility to the GPWM and its results at key relevant international and national events, workshops and conferences by
  - participating in, and/or
  - disseminating information about the GPWM at these events.

## **15. LEGAL MATTERS**

### **15.1. Use of names, official emblems and logos**

- (a) GPWM members shall not use the name, emblem or trademark of UNEP in publications, documents or oral/written communication without the expressed prior written approval of UNEP.
- (b) The name "GPWM on Waste Management" can only be referred to by members for projects, publications or communication that fall within the GPWM framework and activities. The following wording must be used: "This <<project/publication/communication/activity>> is a contribution to the GPWM on Waste Management."
- (c) The name "GPWM on Waste Management" cannot be used for commercial or promotional

- activities.
- (d) Institutions and/or entities that are not official members of the GPWM cannot use the name of the GPWM.
  - (e) Official GPWM documents and reports will be prepared by the secretariat and will include the UNEP logo and a disclaimer in accordance with the relevant guidelines of the organization.
  - (f) The GPWM will develop its own logo.

### **15.2. Publications**

- (a) Members wishing to use the name of the GPWM in their publications must respect the rules established for the use of names, emblems and logos. The collaboration of members should be duly acknowledged in publications, unless a member does not wish to be associated with the publication. The wording of the acknowledgement should be agreed between the members concerned.
- (b) The listing of information and resources on the GPWM website is intended to provide information and guidance. The mention of specific resources or their producers does not imply that they are endorsed or recommended by UNEP in preference to others of a similar nature that are not mentioned. UNEP cannot attest the accuracy of information provided by members or any other linked site.
- (c) Official reports and publications of the GPWM will be prepared by the secretariat. They will carry the UNEP logo and a disclaimer in accordance with the relevant guidelines of the organization.

### **15.3. Copyrights**

- (a) The copyright of any publication resulting from or relating to any of the agreed activities carried out under the collaboration of the GPWM or contributing to it shall be retained by the member(s) who prepared the publication. However, the secretariat has the right to use the information included in these publications for reporting purposes.
- (b) UNEP will follow its copyright approach for use of its own documents.

## **16. MONITORING PROGRESS AND EVALUATION**

- (a) An overall report on GPWM activities including financial performance will be produced on an annual basis.
- (b) Sponsored focal area lead members will report at least once a year on the progress of their working group, including financial performance, to the secretariat. Reporting requirements, including the systematic reporting format and the timeframe for reporting, will be defined by the secretariat. To undertake monitoring and evaluation of activities, indicators that are based on the UNEP logframe matrix shall be used.
- (c) The Advisory Group will review and comment on the sponsored focal area progress reports.
- (d) The progress reports will be a means to monitor the performance of the sponsored focal area activities and assess the effectiveness and impact of the GPWM on target beneficiaries.
- (e) The summary of the reports will be made publicly available through the GPWM website.
- (f) If need be, the Advisory Board may suggest an independent panel for evaluation of overall activities.

## **17. AMENDMENTS OF OPERATIONAL GUIDELINES**

Proposals for any amendment to the operational guidelines will have to be submitted at least six weeks in advance of an Advisory Board Meeting and need to be circulated to all members for feedback. The proposals will be presented to the Advisory Board for decision.

## **18. STRATEGY**

The main strategy for the GPWM on Waste Management (GPWM) is developed to achieve the above aims through active coordinating efforts among stakeholders. The GPWM will work as a “forum” to share information and improve the coordination of activities carried out by various stakeholders to reduce duplication, improve the efficiency of efforts and promote collaboration. This forum is open for all interested stakeholders including international, regional, national and local organizations working in the area of waste management. The GPWM will help stakeholders to compliment each other’s efforts, to avoid duplication and to optimize the efficiency and efficacy of their resources. The

GPWM will work with all stakeholders including waste generators (domestic, commercial, industry, healthcare, agriculture, etc), the public sector, service providers including private sector, recyclers including informal sector, and communities. It is anticipated that different stakeholders will form groups to undertake activities on at least one sectoral area (e.g. hazardous waste, e-waste, marine litter, waste agricultural biomass, etc.) or on at least one cross-cutting issue (integrated solid waste management, financing for waste management, recycling, waste and climate change, waste prevention, waste to energy, technologies for waste management, etc.). Adding further sectoral area(s) and/or cross-cutting issue(s) will be based on the willingness and availability of lead members for the respective areas. To further facilitate the coordinating efforts and implementation of activities on waste management, the GPWM will collaborate with a wide range of partners and current/new initiatives to manage and share science based information on waste management and related areas and its linkages to sustainable development. Academic institutions will be invited to join various activities as well as the Information Platform on Waste Management, to increase the knowledge available on waste management issues, as well as to support the projects developed under the sponsored focal areas of work.

### 18.1. Facilitating Coordination and Coherence under the GPWM

The GPWM intends to provide a forum for all interested stakeholders and organizations to achieve better coordination and coherence among various activities, projects, programmes, initiatives and partnerships. The coordination work under the GPWM can be organized around the following tasks: a strategic analysis to assess the current activities carried out by different stakeholders and to identify the gaps and needs to help avoiding redundancy of efforts and activities; promoting coordination among networks and partnerships, educating stakeholders on the GPWM and promoting stakeholders' participation; developing an information platform to collect, share and fill the gaps in information; and developing a strategy for the selection and implementation of specific activities and the biennium meeting of the GPWM.

### 18.2. Assessment of current activities carried out by different stakeholders and organizations

The secretariat will prepare an initial draft of the assessment report to highlight the activities on waste management by different inter-governmental, governmental and civil society organizations. This will be a scaled up version of the report prepared for the 25<sup>th</sup> session of UNEP Governing Council (UNEP GC 25/5 Add 2 (Annexure 1)). The report will be available online for review and feedback. It will provide useful information for everyone to know "who is doing what". The results could be tabulated and elaborated to provide a comprehensive picture of agencies working on waste management at global, regional, national and local levels. For example, based on the previous efforts by UNEP (Annexure 1) the information was summarized in the following table:

EXAMPLE: Agencies with existing/planned activities on waste management

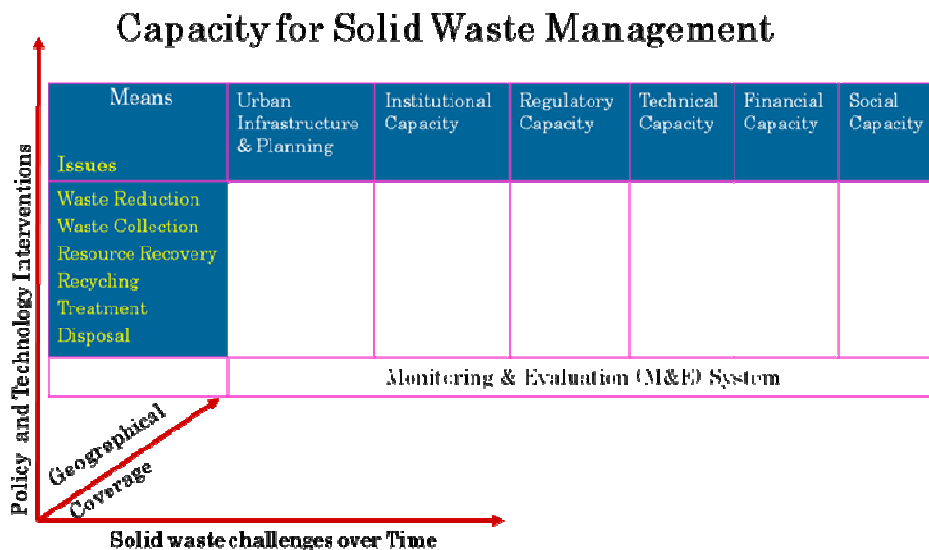
| Level               | Global         | Regional /National  | Local                            |
|---------------------|----------------|---|----------------------------------|
| Aspect of needs     |                |   |                                  |
| Policy & regulatory | UNEP, SBC, IMO | OECD, SBC, UNDP, UNEP, WB, ADB, UN ESCAP, UN-Habitat, UNCRD | UNEP, UNDP, UN ESCAP, UN-Habitat |
| Technical           | SBC, IMO, UNEP | OECD, WB, ADB, UN ESCAP, UNDP, UNEP, UN-Habitat             | UNDP, UNEP, UN ESCAP, UN-Habitat |
| Financial           | --             | WB, OECD, UN ESCAP,   | WB-PCF, UN ESCAP                 |
| Social              | UNEP, SBC      | UNEP, UNDP, UNESCs, ADB, UN ESCAP                           | UNEP, UN ESCAP, NGOs             |
| Institutional       | UNEP           | OECD, SBC, GEF, WB, ADB, UN ESCAP, UN-Habitat, UNEP, UNDP   | UNEP, UNDP, UN ESCAP, UN-Habitat |

This assessment report will be dynamic and continuously updated with the activities and related organizations. In the biennium meeting either an e-copy or hardcopy will be made available.

Outputs: Publication on-line and e-copy/ hardcopy

### 18.3. Assessment of needs for capacity building

To coordinate for demand-supply of waste management activities and efforts at various levels, a report will be developed based on the inputs from all the major stakeholders and organizations. Most of the efforts by donors, international organizations, and national and local stakeholders are aimed at enhancing local, national and regional capacity in waste management. The needs for capacity building will be assessed in terms of technical, regulatory, and financial and human resources of all the relevant stakeholders, including waste generators, service providers (public and private), regulators (independent and government), recyclers (formal and informal), community groups and academic institutions. This needs assessment report, which will be updated on a biennium basis, will be helpful for all the related stakeholders, including international organizations and donors, to develop their detailed work programmes accordingly and to make efficient and effective use of their scarce resources.



The needs assessment report will be dynamic and continuously updated with the feedback from all relevant stakeholders. In the biennium meeting either an e-copy or hardcopy will be made available.

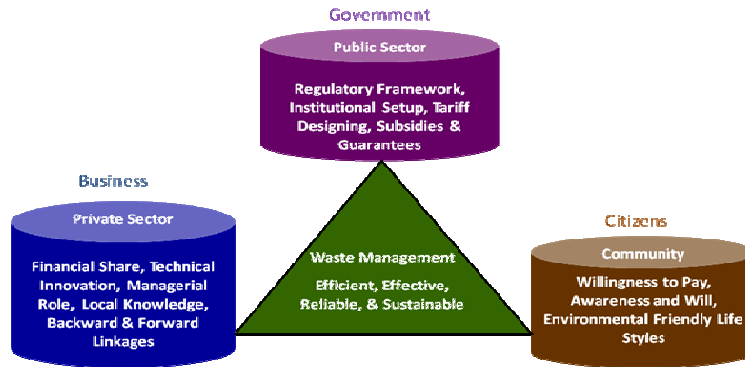
Outputs: Publication on-line and e-copy/ hardcopy

### 18.4. Promoting coordination among networks and partnerships, educating stakeholders on the GPWM and promoting stakeholders' participation

Networks and partnerships will be coordinated to achieve a greater impact of their activities as well as to avoid duplication of efforts and to increase the efficiency of scarce resources. The GPWM works as a voluntary coordination mechanism to enhance the efficiency and efficacy of the overall GPWM activities as well as the activities in the sponsored focal areas of work. Coordination with external initiatives and partnerships will also be ensured to compliment activities and to avoid duplication of efforts. This is a very important aspect for beneficiaries as well as for donors.

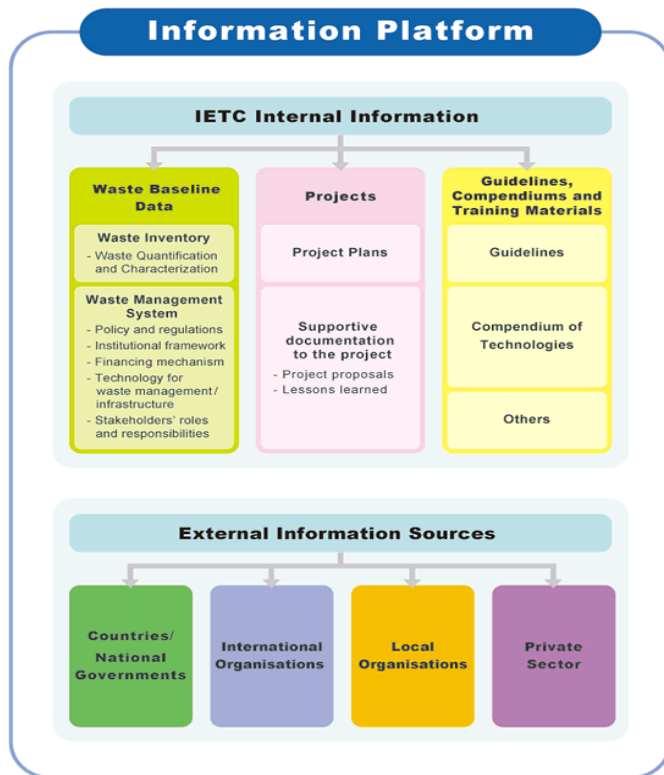
**Stakeholder participation** is one of the vital aspects to develop efficient and effective waste management systems based on 3R (reduce, reuse and recycle) for any waste generating sector (municipal, commercial, industrial, healthcare, agricultural, etc) and all types of waste (E-waste, waste biomass, construction debris, hazardous waste, etc). The GPWM will encourage the participation of stakeholders (public, private, community, academia and international organizations) in all stages of the solid waste management chain viz.: waste reduction, source segregation, collection, transfer stations with material recovery facility, transportation, treatment with resource recovery, and final disposal and rehabilitation. In addition, stakeholders should be educated on the GPWM.

## Stakeholders and Partnerships for Waste Management



### 18.5. Information gathering and sharing

Gathering and sharing information on waste management is essential to strengthen local, national and regional decision-making and capacity building processes. The information on waste (characterization and quantification with future projections), current waste management systems/ practices (regulations, policies, institutions, financing mechanisms, technologies and infrastructure, and stakeholders' roles and responsibilities), waste management plans and targets based on 3R (reduce, reuse and recycle), and lessons learned will be collected and made available through the Information Platform on Waste Management. This website has already been launched by the secretariat of the GPWM (please refer to the screenshot below or [http://www.unep.or.jp/Ietc/GPWM/info\\_platform.html](http://www.unep.or.jp/Ietc/GPWM/info_platform.html)). The Information Platform will also host training materials, compendia of technologies and policies, and project reports to further strengthen the local capacity. In case information is already made available online by other stakeholders, links will be provided. It is envisaged that the Information Platform will be an interactive tool that will allow stakeholders/ partners to post their questions and replies for real-time learning.



## 18.6. Planning and implementation of specific projects and biennium meeting

**Gaps analysis and identification of projects:** Based on the needs assessment and assessment of current activities by different organizations, specific activities can be identified to develop and implement projects under the sponsored focal areas of work.

**Selection criteria:** When developing projects under the sponsored focal areas, selection criteria that will be set by the lead members in consultation with other members of the respective sponsored focal area of work, will be applied. The projects under specific sectoral areas or cross-cutting issues will then be shortlisted by the lead members for further discussions and suggestions from the Advisory Board of the GPWM.

**Implementation of projects and activities:** The lead members in cooperation with other members of the respective sponsored focal area (sectoral areas and/or cross-cutting issues) will prepare the implementation and financial strategy as part of their work plans for these respective areas. These plans will be shared and available to everyone for feedback and suggestions. This will also help to minimize duplication and increase the possibilities for synergy and resource efficiency.

**Biennium general meeting and Advisory Board meeting:** A biennium general meeting will be held, subject to availability of resources, to review progress, identify next targets, and to provide a platform for the partners, networks and partnerships to present their work plans and outcomes. This biennium general meeting will also include a meeting of the Advisory Board. The next biennium meeting is planned to be held in 2012 in a central location.

## 18.7. Outline of potential work plan 2011-2012

It is expected that the initial tasks will be undertaken by UNEP, in coordination with the Advisory Board. The following is an outline of the activities to be undertaken in 2011 to transform the plan of GPWM into reality and to kick-start the initial activities:

- **Consultation Meetings in 2011 on TOR and Implementation Strategy:** Consultation meetings with donors and international organizations to discuss the implementation strategy / terms of reference and fund-raising.
- **Consultation Meetings in 2012 on Work Plans and Information Platform:** Consultation meetings with lead members to assist them in preparing the work plans for their respective areas of work. The consultation meeting with lead members, donors, international organizations, governments, civil society and major stakeholders will also be organized to further improve the Information Platform on Waste Management.
- **Assessment studies including gap analysis and complementing current studies:** Based on the availability of funds, two assessment studies will be carried out by the secretariat. The first study will assess the current activities by international agencies, governments and civil society organizations. The second study will be focused on the assessment of needs of different stakeholders with regards to waste streams and cross-cutting issues.
- **Outreach and promotion of GPWM:** Participation in major international and regional events, subject to availability of resources, to promote the GPWM. The outreach activities including pamphlets, online information and workshops will also be organized.
- **Membership and fundraising:** Seek new members and funding.
- **Information Platform on Waste Management:** Seek additional information and linkages from partners and potential partners to keep updating the Information Platform.
- **Support for the international conventions:** Undertake activities to build capacity of the member countries to meet the obligations under the international conventions on waste.
- **First biennium conference on GPWM or Advisory Board meeting in autumn 2012:** Organize the first biennium meeting on GPWM, which is expected to review the progress of the consultations, make changes to the Framework of the GPWM, approve the overall strategy and work plans of GPWM, and determine the budget for 2012-2013 accordingly. At the biennium conference, the stakeholders, international organizations, civil society and

governments may also present their activities on waste management for better coordination. The mode, scale and scope of the meeting will be based on the availability of resources. If resources are not sufficient, an online meeting will be organized.

**Table 1: Potential work plan for the GPWM 2011-2013**

| <b>Expected deliverables</b>                | July-Dec 2011 | Jan-June 2012 | July-Dec 2012 | Jan-June 2013 | Jul-Dec 2013 |
|---|---------------|---------------|---------------|---------------|--------------|
| UNEP GC and follow-up consultation meetings |               |               |               |               |              |
| Setting up of secretariat – hiring of staff |               |               |               |               |              |
| Assessment studies                          |               |               |               |               |              |
| Outreach to new members and fundraising     |               |               |               |               |              |
| Information Platform                        |               |               |               |               |              |
| Biennium conference                         |               |               |               |               |              |
| Implementation of activities                |               |               |               |               |              |
| Mid-term activity reports                   |               |               |               |               |              |

## **ANNEX A: GPWM SPONSORED FOCAL AREA /BUSINESS PLAN TEMPLATE**

### **SHORT INTRODUCTION**

#### **OVERALL GOAL AND OBJECTIVES OF THE GPWM ON WASTE MANAGEMENT**

##### **1. SUMMARY OF THE SPONSORED FOCAL AREAS OF WORK**

The summary highlights why this particular sponsored area of work is important in the context of the overall GPWM on Waste Management. It provides the reader with some context of the issue.

##### **2. OBJECTIVES OF THE GPWM SPONSORED FOCAL AREA OF WORK**

The objectives of the sponsored focal area of work should reflect the desired outcomes of the GPWM on Waste Management. They should contribute to the overall goal and objectives of the GPWM. Objectives are to be ambitious and target-oriented. Objectives will focus on the work and will contribute to concrete results in a systematic way.

##### **3. PRIORITY ACTIONS/ACTIVITIES**

This section identifies the key priority activities for the GPWM sponsored focal areas of work (suggest three to five priority actions). The priority actions are clearly linked to the GPWM objectives of the sponsored focal areas. The activities may be formulated according to the following outline:

- (i) Scientific assessment of waste type under this focal area - how much, where, what impacts, 'costs' in economic and social terms etc - the basis for decision making/actions
- (ii) Governance - what rules apply at national, regional and international levels - what actions need to be strengthened?
- (iii) Risks assessment and management - what to do about the type of waste - filling gaps in guidance, developing consortia for actions and financing - details of project activities/interventions under this focal area
- (iv) Communications - getting the right messages to stakeholders

##### **4. GPWM SPONSORED FOCAL AREA EFFORTS AND TIMELINES**

This section delineates the efforts of the members towards the priority actions, including overarching, bilateral and collaborative efforts and should be:

- Clearly linked to the objectives of the GPWM's sponsored focal areas.
- Described with costs, timeframes, targets and milestones, as appropriate and available.
- Provided with contact information for those responsible of the efforts.

##### **5. OPPORTUNITIES AND LINKAGES**

This section notes other concepts and ideas that are of potential interest to the GPWMs' sponsored focal area in terms of meeting its objectives. This section allows the members to:

- (i) Identify "good ideas" that may need more scoping to form part of the future sponsored focal area work plan.
- (ii) Identify actions that provide intervention advancing objectives of GPWM's sponsored focal areas and to which links could be made.
- (iii) Members are encouraged to identify and pursue work that is cross-cutting in nature. Opportunities should clearly be linked to the objectives of the GPWM's sponsored focal areas and be as specific as possible.

##### **6. EVALUATION**

Common to all sponsored focal areas:

The sponsored focal areas lead members will report to the secretariat of the GPWM on a schedule to be agreed upon. Reports will monitor the performance of the sponsored focal area activities and contributions and assess the effectiveness and impact of the GPWM on target beneficiaries.

In this section, the GPWM sponsored focal areas shall:

- Outline how progress will be monitored in meeting the objective(s) of the GPWM sponsored focal areas.
- Describe how the GPWM sponsored focal areas will undertake performance measurement and reporting. To undertake monitoring and evaluation of activities, indicators that are based on the UNEP logframe matrix shall be used.

## **7. RESOURCE MOBILIZATION**

The GPWM on Waste Management and the associated work plans for the different sponsored focal areas are a way of mobilizing resources in a systematic, focused and harmonized way. The objectives and plans of the sponsored focal areas should provide clarity for potential donors and finance institutions. If members wish to leverage funding for particular projects, details should be outlined within this section.

The GPWM members are responsible for the funding of their activities. The members are expected to identify potential donors, including government donors or other institutional donors, with an interest in providing resources to the GPWM activities. The GPWM members are encouraged to develop and submit proposals for GPWM activities to the funding mechanisms of various bilateral and multilateral agencies.

## **8. WORK PLANNING PROCESS**

The process of developing and reviewing work plans will be outlined in this section. The GPWM members will take stock of efforts and test direction and productivity in moving forward and will adjust planning accordingly.

## **9. MEMBERS**

This section is a list of members of the sponsored focal areas and it identifies the lead member(s) and points of contact.



UNEP/GC.25/5/Add.2



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Environment Programme**

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**Twenty-fifth session of the Governing Council/  
Global Ministerial Environment Forum**

Nairobi, 16–20 February 2009

Item 4 (a) of the provisional agenda\*

**Policy issues: state of the environment**

Chemicals management, including mercury

**Addendum**

**Waste management**

*Summary*

The present report is being submitted to the Council/Forum at its twenty-fifth session pursuant to paragraphs 3 and 4 of decision SS.X/1 of 22 February 2008, with a view to facilitating the consideration by the Council/Forum of the significant programme-related matters raised in the report of the Executive Director on waste management submitted to the Council/Forum at its tenth special session. The present report constitutes a full report on the implementation of decision 24/5 of 9 February 2007 on waste management, as requested by decision SS.X/1.

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\* UNEP/GC.25/1.

## Waste management

### I. Draft decision

1. The Governing Council may wish to consider adopting a decision along the following lines:

*The Governing Council,*

*Recalling* its decisions 24/5 of 9 February 2007 and SS.X/1 of 22 February 2008 on waste management,

*Recalling also* the United Nations Environment Programme medium-term strategy for 2010–2013, as welcomed by decision SS.X/3 (Medium-term Strategy for the period 2010–2013) of 22 February 2008,

*Takes note of* the report by the Executive Director summarizing the activities undertaken by the United Nations Environment Programme in the context of the implementation of decision SS.X/1.

### II. Review of the work

#### A. Introduction

2. The rapid increase in the volume and types of solid waste and hazardous waste generated, mainly owing to economic growth, urbanization, industrialization and the lack of both physical and institutional infrastructures, represents a growing problem for both national and local Governments and also for municipal authorities in their endeavours to ensure the effective and sustainable management of waste. Notwithstanding the considerable efforts by many Governments, international and national organizations and agencies in tackling waste-related problems, looking at both the minimization of waste at its pre-generation stage and at the treatment of waste at its post-generation stage, international reports indicate that major gaps to be filled remain in this area.

3. In line with the Plan of Implementation of the World Summit for Sustainable Development, the 10-Year Framework of Programmes on Sustainable Consumption and Production (the Marrakech Process), the International Panel for Sustainable Resource Management and requests made to the Governing Council/Global Ministerial Environment Forum at its special session in Jeju, Republic of Korea, the United Nations Environment Programme (UNEP), in conjunction with partners, intends to step up and enhance its activities in the field of waste management. It will focus on specific delivery at the national and local levels, on the scientific understanding of synergies between resource augmentation and waste management to decouple waste generation and environmental impacts from economic growth, on the promotion of tools such as waste prevention, the “3R” (reduce, reuse and recycle) initiative and cleaner production at the international level. In support of the Bali Strategic Plan for Technology Support and Capacity-building, UNEP activities will focus on capacity-building and provide support for technology identification, assessment and implementation at the national and local levels.

4. The present report, prepared through consultation with relevant organizations, aims to identify the needs and gaps in the field of waste management, including hazardous waste. A draft copy 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 on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which is considered to be a significant global framework for hazardous and other wastes, provided inputs on its activities. An assessment has been made of the activities and programmes undertaken by various international organizations to identify areas that require further work and strengthening to assist countries in

improving their waste management systems. The report will also help UNEP to forge synergies with Governments, international and national agencies and organizations.

5. This analysis does not include national bilateral developing agencies, nor is it concerned with 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 purview of this analysis.

## **B. Waste**

6. There are a number of waste categories according to various definitions and criteria.<sup>5</sup> For the purpose of the present report, hazardous and other wastes are broadly classified as follows:

(a) Municipal waste from households and commercial centres. This consists of both non-hazardous waste such as organic waste, textile and paper, and hazardous wastes such as batteries, paint containers and oil mixtures;

(b) Industrial waste from processes or manufacturing and services. This consists of non-hazardous waste such as organic waste, textile and paper, in addition to hazardous waste and sludge from wastewater treatment plants;

(c) Historical hazardous waste, of which production has ceased, such as polychlorinated biphenyls, polychlorinated terphenyls, polybrominated biphenyls and ozone-depleting-substance waste;

(d) End-of-life equipment, discarded products and appliances, such as electronics and electrical appliances (and their peripherals and spares) and motor vehicles, which constitute the emerging waste streams of e-waste and end-of-life vehicles (normally considered separately). Some of these discarded products and appliances may end up in municipal waste;

(e) Health-care and laboratory waste from laboratories, hospitals and clinics, medical and nursing facilities and offices;

(f) Construction and demolition waste from construction activities or renovation of buildings; and post-disaster wastes;

(g) Agricultural waste, crop residues, manure and chemical wastes such as pesticides, including persistent organic pollutants, polychlorinated biphenyls and ozone-depleting substances;

(h) Marine-related wastes, such as marine litter, products dumped at sea, land-based wastes discarded in the marine environment, waste from dismantled ships and ship recycling.

7. In many developing countries, owing to lack of awareness, capacity and poor segregation of domestic and municipal wastes, hazardous wastes are often mixed with domestic and municipal wastes and disposed together in an uncontrolled manner. These unsound practices, among others, contaminate underground water and pose health risks to disposal site operators. Realizing the importance of this problem, the Basel Convention recognized the need to consider the concept of integrated waste management when tackling the issue of environmentally sound management of hazardous and other waste, in particular for small island developing States and least developed countries.

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<sup>5</sup> In most of the categories, there are waste types that affect distinct media (air, water and soil). At the present stage, the strategy focuses on solid waste and hazardous waste. Specific waste streams – such as nuclear waste, mining waste, munitions waste, space waste and litter – lie outside the scope of the present paper.

### C. Impacts of waste

8. The increased amount of wastes and the concomitant rise in the hazards that it poses are severely affecting global and local environments, natural resources, public health and local economies and living conditions, and in this way hampering the attainment of relevant Millennium Development Goals. Various diseases, including cancers, result from exposure to hazardous emissions, mainly from open burning and substandard incineration of wastes. Communities living near dumps are suffering from the associated littering, odour, insects and vermin. Human scavengers incur even greater health risks.

9. Wastes accumulated over decades and leachate from unmanaged landfills and wastes dumps have contaminated groundwater and soil worldwide. Waste dumping into rivers, lakes and seas has caused damage that threatens the agriculture, water supplies and livelihoods that depend on these aquatic systems. Wastes choke sewage and irrigation systems, leading in turn to damage to infrastructure and the local economy.

10. Substandard landfills and waste dumps emit methane, among other gases, which is a major greenhouse gas of concern for climate change. Promoting modern waste management in countries can contribute significantly to greenhouse gas reductions at the global level. Similarly, construction and building waste also represents a lost opportunity for reducing greenhouse gas emissions, as the reuse or recycling of some components, such as steel, aluminium and concrete, is more energy-efficient than using virgin materials. Being highly inflammable, methane has also been the cause of repeated accidents involving fires, explosions and collapses at landfills and dumps. For example, more than 200 people died and hundreds were injured when Payatas dumpsite in the Philippines collapsed in 2000.<sup>6</sup>

11. For many components of the waste streams (such as plastics, metals and glass), and for some waste streams themselves (such as e-waste), environmental impacts are not only caused by the waste treatment and disposal processes themselves, but also derive indirectly from the loss of potential resources from the economy loop. This means that these resources have to be produced again from virgin materials (often non-renewable), thus not only depleting the valuable stock of natural resources but also perpetuating the vicious cycle of environmental degradation and resource depletion. The resulting ever-increasing demand for resources makes waste management a global issue.

### D. Waste by volume

12. It is estimated that the total amount of municipal solid waste generated worldwide reached 1.84 billion tons in 2004, a 7 per cent increase on the 2003 total (*Global Waste Management Market Report 2004*).<sup>7</sup> It is further estimated that, between 2004 and 2008, worldwide generation of municipal waste will rise by 31.1 per cent, representing an annual rate of increase of some 7 per cent.

13. Analysts at the Basel Convention estimated that some 318 and 338 million tons of hazardous and other waste were generated for 2000 and 2001 respectively,<sup>8</sup> based on incomplete reports provided by Parties to the Convention. Health-care waste is classified as a subcategory of hazardous wastes in many countries. The World Health Organization (WHO) estimates that, in most low-income countries, total health-care waste per person per year ranges between 0.5 kg and 3 kg.<sup>9</sup>

14. The amount of industrial wastes generated worldwide is difficult to assess. Estimates are available for Australia, Brazil, Canada, China, European Union, Japan, Mexico, Thailand, Republic of Korea and United States of America. The volume of non-hazardous industrial waste in those countries ranges from 1.1 to 1.8 billion tons.<sup>10</sup> No

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<sup>6</sup> <http://www.iges.or.jp/en/pub/pdf/asia2000/e-12.pdf>

<sup>7</sup> [http://www.researchandmarkets.com/reportinfo.asp?report\\_id=72031](http://www.researchandmarkets.com/reportinfo.asp?report_id=72031)

<sup>8</sup> <http://maps.grida.no/go/collection/collectionid/17F46277-1AFD-4090-A6BB-86C7D31FD7E7>

<sup>9</sup> <http://www.who.int/mediacentre/factsheets/fs253/en/>

<sup>10</sup> Organization for Economic Cooperation and Development ([www.oecd.org/waste](http://www.oecd.org/waste)), the Statistical Office of the European Communities (<http://epp.eurostat.cec.eu.int>).

recent and reliable data are available for the Russian Federation, while estimates for China range from 315 million tons to 1 billion tons. The United States Environmental Protection Agency estimates that industrial facilities in that country generate and dispose of approximately 7.6 billion tons of non-hazardous industrial solid waste each year.<sup>11</sup> This clearly shows a large gap when estimating the amount of world industrial waste.

15. The term “special waste” refers to waste streams that present particular problems and need specific policies and regulation for their management. These include hazardous wastes, e-wastes<sup>12</sup> and end-of-life motor vehicles, to name but a few. The amount of hazardous waste in selected countries (Canada, China, India, European Union, Japan, Mexico, Republic of Korea, South Africa, Thailand and United States) is estimated at approximately 150 million tons. Waste from agriculture and rural areas include both biomass agricultural residues and hazardous wastes such as spent pesticides. The European Union estimates that its 27 member States annually produce a total of 700 million tons of agricultural waste.<sup>13</sup>

16. E-waste generation is steadily increasing owing to large-scale use of electronic and white goods.<sup>14</sup> E-waste is one of the fastest growing segments of the waste stream: 315 million personal computers became obsolete in 2004 and 130 million mobile phones were disposed of in 2005. Similar waste flows for personal digital assistants, MP3 players and video game equipment account for 20–50 million tons of e-waste per year worldwide (equivalent to about 1 kg of e-waste per capita and year).

17. As a result of globalization, with the increasing availability of all types of products, there will be an accompanying significant increase in waste generation levels worldwide. There is a need for improvements to the availability of valid data on waste generation from all sources and to national reporting under the Basel Convention.

## **E. Waste by cost**

18. The World Bank estimates that, in developing countries, it is common for municipalities to spend 20–50 per cent of their available recurrent budget on solid waste management, even if only 30–60 per cent of all the urban solid waste is actually collected and less than 50 per cent of the population is served. In most developing countries, open dumping with open burning is the norm.<sup>15</sup>

19. In low-income countries, collection alone drains up to 90 per cent of municipal solid-waste management budgets. In mid-income countries, collection costs between 50 and 80 per cent of total budgets. In high-income countries, by contrast, collection accounts for less than 10 per cent of the budget, which allows large funds to be allocated to waste treatment facilities. Up-front community participation in these developed countries reduces the collection cost and facilitates waste recycling and recovery.

20. Based on case studies, it was found that, for regions spending \$1–10 per capita and year for waste management, the improvement of disposal systems (complete collection, upgrading to sanitary landfilling) was the most cost-effective method to attain the objectives of environmentally sound waste management. Technologies that are widely applied in developed countries are not suitable methods to attain waste management goals in countries where people cannot spend more than \$10 per person for the collection, treatment and disposal of their waste.<sup>16</sup>

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<sup>11</sup> <http://www.epa.gov/osw/non-haz.htm>

<sup>12</sup> Some e-wastes are hazardous under the Basel Convention (e.g., A1150, A1160, A1170, A1180, A1190 and A2010).

<sup>13</sup> <http://ec.europa.eu/environment/waste/index.htm>

<sup>14</sup> White goods are house and kitchen appliances such as refrigerators, washing machines, microwaves.

<sup>15</sup> <http://www.worldbank.org/solidwaste/>

<sup>16</sup> P. H. Brunner, “Setting priorities for waste management strategies in developing countries”, *Waste Management & Research*, vol. 25, No. 3, (2007), pp. 234–240.

## F. Waste management: needs analysis

21. An analysis has been carried out in respect of needs at the policy and regulatory, technical, financial and social and institutional levels. In addition, as needs could vary at the global, regional, national or local levels, the analysis has been differentiated wherever required.

### (a) Policy and regulatory

- (i) Greater conceptual clarity supported by practical application strategies is required to enable synergies between resource augmentation and waste management. Awareness-raising and capacity-building is required in such areas as waste prevention, the 3R initiative, cleaner production and sustainable material management.
- (ii) National policy frameworks need to be strengthened and expanded to shift the emphasis from an end-of-pipe approach to an integrated resource management approach. At the local level, integrated waste management strategies and action plans for municipalities, especially in developing countries, need to be developed and implemented. In the light of changing trade patterns in recyclables, national policies may need to be coordinated regionally to improve efficient use of resources;
- (iii) Effective implementation of waste-related multilateral agreements and guidelines is needed at the national level. Corresponding legislation, regulations and standards need to be developed and their enforcement strengthened at both the national and local levels;
- (iv) Non-regulatory instruments are required, whether at the local, national or regional levels, to address the specificities of particular waste streams and taking into account the rollercoaster effects of the economy;
- (v) Industry-driven mechanisms and tools, such as design for recyclability, product service systems and remanufacturing, must be promoted, in the light of the need to ensure security of supply in resources generated from waste;

### (b) Technical and scientific understanding:

- (i) Greater scientific understanding of the synergies between resource augmentation and waste is required;
- (ii) Enhanced access to environmentally sound waste-management technologies and enhanced capacity in technology assessment and selection are required. Simultaneously, research and development work is required to adapt these technologies to local conditions (for example, in respect of locally available skills, resources, climate conditions and culture);
- (iii) Technical guidelines, case studies and demonstration and pilot projects for integrated waste management are needed, especially in developing countries. For hazardous wastes management, many technical guidelines have been developed, for example under the Basel Convention, however, implementation at the national and regional levels has been lacking;<sup>17</sup>
- (iv) Local-level capacity to implement and operate waste-management technologies needs to be built or strengthened, including by making the best use of United Nations-supported national and regional

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<sup>17</sup> See <http://www.basel.int/meetings/sbc/workdoc/techdocs.html>

specialized institutions in training, capacity-building and technology transfer;

(c) Financial:

- (i) The resources available for developing, implementing and operating waste-management systems in developing countries need to be enhanced;
- (ii) There is a need to develop and implement appropriate economic instruments to raise funds for waste management and make it economically attractive;
- (iii) Public-private partnerships need to be explored further to enhance the availability of and access to financial resources and to meet the growing demand for the construction and operation of waste-management systems;

(d) Social:

- (i) There is a need to change attitudes and to raise awareness at all levels and, in particular, among all waste generators, so as to promote waste minimization, source segregation and the proper disposal of waste;
- (ii) In developing countries, waste management programmes and policies need to find ways to incorporate and improve employment and working conditions of vulnerable sections of society, notably, scavengers and ragpickers;
- (iii) The involvement of private sector and local communities in developing, building and running waste-management systems needs to be strengthened and made more effective;

(e) Institutional:

- (i) Institutional strengthening and capacity-building are required at the national level to enable work on policy, technical, financial and social aspects;
- (ii) At the local level, institutional capacity needs to be built or strengthened to raise awareness and develop human resources for waste management.

## **G. Key actors and major initiatives**

22. The primary stakeholders in international waste management, whether at the global, regional, national or local level, are UNEP and some of the UNEP-administered multilateral agreements, namely, the Basel Convention, the Stockholm Convention on Persistent Organic Pollutants, the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, together with some of the established UNEP action programmes, such as the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities and the Regional Seas Programme.

23. Other United Nations agencies working on various aspects of waste management include the United Nations Development Programme (UNDP), WHO, the International Maritime Organization (IMO), the United Nations Human Settlements Programme (UN-Habitat), the United Nations Centre for Regional Development (UNCRD), the United Nations Industrial Development Organization (UNIDO) and, to a lesser extent, the economic and social commissions in the various regions. Among other international organizations, the Organization for Economic Cooperation and Development (OECD) is a key stakeholder.

24. In addition, various international financing institutions are engaged in work related to waste management, namely, the World Bank Group (the International Bank for Reconstruction and Development (IBRD), the International Development Association (IDA), the International Finance Corporation (IFC) and the Prototype Carbon Fund (PCF)) and regional development banks such as the Asian Development Bank, the European Bank for Reconstruction and Development (EBRD), the Inter-American Development Bank (IADB) and the African Development Bank (AfDB). The World Bank, in particular, has prepared several guidelines and training programmes and has carried out a number of studies.

25. The key stakeholders active in various aspects of waste management needs are summarized in table 1, based on information from their websites. The work being implemented or planned has been analysed along two lines: first, the pre-generation stage of the waste chain (before resources actually appear as waste), covering waste minimization, cleaner production and the 3R initiative, and, second, the post-generation stage of waste (after the waste has been generated), covering waste treatment and disposal. In addition, a distinction has been made between actions at various geographical levels – global, regional or national and local.

**Table 1.**

**Agencies having existing and planned activities in waste management**

| Level Aspects of needs                 | Pre-generation stage of waste |                               |             | Post-generation stage of waste |  |                            |
|--|-------------------------------|-------------------------------|-------------|--------------------------------|--|----------------------------|
|  | Global                        | Regional/national             | Local       | Global                         | Regional/national  | Local                      |
| Policy and regulatory                  | UNEP, SBC                     | OECD, UNEP, UNIDO, UNCRD, ADB | --          | UNEP, SBC, IMO                 | OECD, SBC, UNDP, UNEP, UNIDO, WB, ADB, EBRD, IADB, AfDB, UN-Habitat, UNCRD | UNEP, UNDP, UN-Habitat, WB |
| Technical and scientific understanding | WB, SBC, UNEP, UNU            | OECD, UNIDO, UNEP             | UNIDO, UNEP | SBC, IMO, UNEP, WB             | OECD, WB, ADB, EBRD, IADB, SBC, UNDP, UNIDO, UNEP, UN-Habitat              | UNDP, UNEP, UN-Habitat, WB |
| Financial                              | --                            | IADB, ADB                     | --          | --                             | WB, OECD, EBRD   | WB-PCF                     |
| Social                                 | UNEP                          | UNEP, UNCRD, ADB, NGOs        | NGOs        | UNEP, SBC, WB                  | UNEP, UNDP, UNESCO, ADB, IADB, AfDB  | UNEP, NGOs, SBC            |
| Institutional                          | WB, UNEP, UNIDO               | UNEP, UNIDO, UNCRD, ADB       | --          | UNEP, WB                       | OECD, SBC, GEF, WB, ADB, EBRD, IADB, AfDB, UN-Habitat, UNIDO, UNEP, UNDP   | UNEP, UNDP, UN-Habitat     |

**H. Waste management needs and extent to which they are being met**

26. Table 2 summarizes the extent to which the waste management needs identified above are being met to by organizations that have existing and planned activities in the field of waste management. Information was sought from the various organizations and the responses received have been summarized in document UNEP/GC.25/25/INF/29. These success stories, compiled from the information given by the organizations, are reproduced in the same document. Information available from published sources and

websites has also been used. For the sake of simplicity and ease of understanding, a broad qualitative assessment – low, medium or high – has been made.

**Table 2.**  
**Needs analysis at the pre-generation stage of waste**

| Waste management needs   | Global assessment  | Regional/national assessment  | Local assessment  |
|--|--|---|---|
| <p>Policy and regulatory:<br/>(i) Greater conceptual clarity supported by practical application strategies is required to enable synergies between resource augmentation through waste management. Awareness-raising and capacity-building are required in areas such as waste prevention, the 3R initiative and cleaner production.</p> <p>National policy frameworks need to be strengthened and expanded to shift the emphasis from an end-of-pipe approach to an integrated resource management approach. An integrated resource management strategy and action plan, especially in developing countries, needs to be developed and implemented.</p> | <p>The International Panel for Sustainable Resource Management has recently been launched by UNEP. The Marrakech Process is the major global initiative to promote sustainable consumption and production, under which waste prevention and cleaner production is also addressed. The Government of Japan put forward the 3R initiative at a Group of Eight summit and is now working to disseminate it at the regional level. The Basel Convention has carried out substantive work in the field of hazardous waste and also has achievements in other fields.</p> <p><b>Level: low</b></p> <p>Virtually no effort at the global level.</p> <p><b>Level: very low</b></p> | <p>OECD has done considerable work but mostly limited to OECD countries. UNEP-UNIDO through the National Cleaner Production Centre programme has met the need in some developing countries. Recently UNCRD has started work on the 3R initiative in some countries.</p> <p><b>Level: medium</b></p> <p>Sporadic efforts at the local level, e.g., Cleaner Production Act in China.</p> <p><b>Level: low</b></p> | <p>No national-level effort worthy of mention.</p> <p><b>Level: very low</b></p> <p>Virtually no effort at the local level except for a few pilot projects by UNEP.</p> <p><b>Level: very low</b></p> |

| Waste management needs  | Global assessment   | Regional/national assessment   | Local assessment  |
|---|---|--|---|
| <p>Effective implementation of multilateral waste-related agreements and guidelines is needed at the national level. Corresponding legislation, regulations and standards need to be developed and their enforcement strengthened at the national and local levels.</p>   | <p>SBC and other secretariats of corresponding multilateral environmental agreements doing good work in this direction, although effectiveness of implementation at the national level needs to be improved.<br/><b>Level: high</b></p>                   | <p>Few regional bodies, e.g., Basel Convention regional centres, are active in this area, however resources are limited.<br/><b>Level: medium</b></p>  | <p>Local-level implementation on preventive aspects may be low, depending on regions.<br/><b>Level: low-medium</b></p>      |
| <p>Technical and scientific understanding:<br/>Greater scientific understanding of the synergies between resource augmentation and waste management to decouple waste generation and economic impact from economic growth, in particular for emerging special waste streams such as e-wastes.</p>   | <p>UNEP carries out a global assessment on global metal flows and does work on decoupling under the International Panel for Sustainable Resource Management, UNU leads work on the “Solving the E-waste Problem” initiative.<br/><b>Level: medium</b></p> | <p>OECD has a programme on material flows and resource productivity.<br/><b>Level: medium</b></p>  | <p>No work done at the local level. Research and development adoption remains extremely low<br/><b>Level: low</b></p>       |
| <p>(i) Enhanced access to cleaner and resource-efficient technologies and building capacity for technology assessment and selection is required. At the same time, research and development work is required to adapt these technologies to local conditions (e.g., in respect of locally available skills, resources, climatic conditions and culture).<br/>(ii) Development of the normative framework for the environmentally sound management of hazardous and other waste by the Basel Convention.</p> | <p>Little or no effort at the global level. Environmentally sound technologies and processes for persistent organic pollutant waste selected by the Basel Convention.<br/><b>Level: low</b></p>   | <p>OECD has worked to enhance access but mostly applicable to OECD countries. UNIDO has technology databases for preventive technologies but the information is not cutting-edge and not regularly updated. Recent efforts include the setting up by UNEP of a 3R knowledge hub at the Asian Institute of Technology. Cooperation between SBC and regional projects (ASP) on technology assessment. National reporting system under the Basel Convention on national facilities.<br/><b>Level: low</b></p> | <p>No work done at the local level. Research and development adoption remains extremely low.<br/><b>Level: very low</b></p> |

| Waste management needs   | Global assessment   | Regional/national assessment  | Local assessment   |
|--|---|---|--|
| <p>(iii) Technical guidelines, case studies, demonstration and pilot projects for preventive aspects of integrated waste management, especially in developing countries, are needed.</p> <p>(iv) Build or enhance capacity at the local level to implement and operate cleaner and resource efficient technologies.</p>  | <p>SBC had many initiatives, in particular on priority waste streams. Little effort at the global level on preventive aspects of an integrated waste management in developing countries. World Bank has produced some guidelines.<br/><b>Level: low</b></p> <p>No effort at the global level.<br/><b>Level: very low</b></p>  | <p>SBC and UNEP-UNIDO through National Cleaner Production Centre programme have developed a number of guidelines, manuals, case studies, etc., on preventive aspects.<br/><b>Level: high</b></p> <p>UNEP-UNIDO through National Cleaner Production Centre programme has built and strengthened capacity at the national level on preventive waste management technologies.<br/><b>Level: medium</b></p> | <p>SBC and UNEP have begun a few pilot demonstration projects. UNEP-UNIDO through National Cleaner Production Centre programme has done quite good work at the local level.<br/><b>Level: high</b></p> <p>No concerted work carried out at the local level.<br/><b>Level: very low</b></p> |
| <p>Financial:</p> <p>(i) The availability of resources for developing, implementing and operating waste prevention systems in developing countries needs to be enhanced. There is a need to develop and implement appropriate economic instruments to raise funds for waste prevention and make it economically attractive.</p> <p>(ii) Public-private partnerships need to be further explored to raise availability and access to financial resources and to meet growing demand for construction and operation of waste prevention systems.</p> | <p>No effort at the global level to enhance availability of financial resources for waste prevention. Under BC, voluntary funds only.<br/><b>Level: very low</b></p> <p>Mobile Phone Partnership Initiative and Partnership for Action on Computing Equipment under the Basel Convention. No concerted effort at the global level to establish such partnerships, except Mobile Phone Partnership Initiative.</p> | <p>Regional development banks, particularly ADB, have set up country-specific loan and technical assistance projects credit lines in their respective regions. Here again the number of beneficiaries is rather low.<br/><b>Level: low</b></p> <p>No concerted effort at the regional level to establish such partnerships.<br/><b>Level: very low</b></p>  | <p>No concerted effort at the local level except sporadic cases, e.g., in Bangladesh, Brazil and India.<br/><b>Level: very low</b></p> <p>No concerted effort at the local level to establish such partnerships.<br/><b>Level: very low</b></p>  |

| Waste management needs   | Global assessment  | Regional/national assessment  | Local assessment  |
|--|--|---|---|
|  | <b>Level: very low</b>   |   |   |
| <p>Social:</p> <p>(i) There is a need to change attitudes and raise awareness at all levels and among all waste generators to promote waste minimization, source segregation, reuse and recycling of waste.</p> <p>(ii) In developing countries, the waste-recycling sector needs to find ways to incorporate and improve employment and working conditions for vulnerable sectors of society, e.g., the informal sector, scavengers and ragpickers.</p> <p>(iii) The involvement of the private sector and local communities in developing, building and running waste minimization efforts needs to be strengthened and made more effective.</p> | <p>Some effort at the global level by UNIDO and UNEP.<br/><b>Level: very low</b></p> <p>No concerted effort at the global level<br/><b>Level: very low</b></p> <p>The private sector is only working on a few occasions with UNEP and other organizations on waste minimization issues at the global level, such as the Life Cycle Initiative.<br/><b>Level: Low</b></p> | <p>UNEP-UNIDO through National Cleaner Production Centre programme has done considerable work at the national level.<br/><b>Level: high</b></p> <p>No concerted effort at the regional level<br/><b>Level: very low</b></p> <p>No effort at the regional or national levels.<br/><b>Level: very low</b></p>   | <p>No concerted effort at the local level.<br/><b>Level: very low</b></p> <p>Sporadic efforts at the local level<br/><b>Level: low</b></p> <p>Sporadic efforts by organizations such as UNEP and UNCRD.<br/><b>Level: low</b></p> |
| <p>Institutional:</p> <p>(i) Institutional strengthening and capacity-building required at the national and local levels to enable work on policy, technical, financial and social aspects, in particular, to move towards sustainable material management.</p> <p>(ii) At the local level, institutional capacity needs to be built or strengthened to raise awareness and</p>  | <p>Organizations such as WB, UNEP and UNIDO have undertaken considerable work in building and enhancing capacity in countries. The pedagogical impacts are, however, mostly based on experience in developed countries.<br/><b>Level: high</b></p> <p>No global effort for building local institutional capacity except Basel</p>  | <p>The UNEP-UNIDO National Cleaner Production Centre programme has been extremely effective in building preventive waste management capacity at the national level. Further effort is needed to build the institutional basis for sustainable material management.<br/><b>Level: medium</b></p> <p>Considerable efforts at the regional and national level by academic institutions</p> | <p>Sustainable material management begins at the local level where the capacity of the institutions is weak.<br/><b>Level: Low</b></p> <p>No local-level initiative to develop human resources.</p>                               |

| Waste management needs                          | Global assessment                                | Regional/national assessment                                | Local assessment  |
|---|--|---|-------------------|
| develop human resources for waste minimization. | Convention regional centres<br><b>Level: low</b> | to build and develop human resources.<br><b>Level: high</b> | <b>Level: low</b> |

**Table 3**  
**Needs analysis at the post-generation stage of waste**

| Waste management needs  | Global assessment   | Regional/national assessment  | Local assessment   |
|---|---|---|--|
| <p>Policy and regulatory:<br/>(i) Greater conceptual clarity supported by practical application strategies is required to enable synergies between resource augmentation and waste management. Awareness-raising and capacity-building required in areas such as waste prevention, the 3R initiative, cleaner production, etc.</p>                  | <p>The Marrakech Process is the major global initiative to promote sustainable consumption and production, under which waste management is also addressed. The 3Rs initiative from Japan also addresses post-generation stage of waste but is so far mostly limited to 6–8 countries.<br/><b>Level: low</b></p> | <p>Regional 10-year framework of programmes on sustainable consumption and production, the African version of which was approved by the African Ministerial Conference on the Environment, identify waste management as one of the key priorities.<br/><b>Level: very low</b></p> | <p>In developing countries only a few sporadic initiatives, such as organic waste composting in Bangladesh. Most other initiatives are market-driven.<br/><b>Level: low</b></p>          |
| <p>National policy frameworks need to be strengthened and expanded to shift the emphasis from an end-of-pipe approach to an integrated resource management approach. At the local level, an integrated waste management strategy and action plan for municipalities, especially in developing countries, needs to be developed and implemented.</p> | <p>Global efforts (mainly WB, SBC, IMO) predominantly continue to lay emphasis on end-of-pipe approach.<br/><br/>Little global effort on integrated waste management.<br/><b>Level: very low</b></p>  | <p>Regional and national efforts (mainly WB, regional development banks) also continue to emphasize the end-of-pipe approach. UNEP and UNDESA have begun tackling this issue through regional round tables on sustainable consumption and production.<br/><b>Level: low</b></p>   | <p>Increasing number of cities developing waste management strategies. There is a strong need to enhance the integrated solid waste management dimension.<br/><b>Level: very low</b></p> |
| <p>Effective implementation of multilateral waste-related agreements and guidelines is needed at the national level. Corresponding legislation, regulations</p>   | <p>Secretariats of corresponding multilateral environmental agreements active in this direction, although increased support would need to</p>   | <p>Regional and national set-ups exist, particularly for multilateral environmental agreements such as Basel Convention, work picking up</p>  | <p>Local-level implementation gradually strengthening, specifically for hazardous waste, ozone-depleting substances, persistent</p>  |

| <b>Waste management needs</b>  | <b>Global assessment</b>   | <b>Regional/national assessment</b>  | <b>Local assessment</b>  |
|--|--|--|--|
| and standards need to be developed and their enforcement strengthened at the national and local levels.  | be provided<br><b>Level: high</b>  | for Stockholm Convention and Rotterdam convention, also under Marrakech Process.<br><b>Level: high</b>   | organic pollutants, etc.<br><b>Level: high</b>   |
| Technical and scientific understanding:<br>Enhanced access to cutting-edge waste management technologies and building capacity for technology assessment and selection is required. At the same time, research and development is required to adapt these technologies to local conditions (e.g., in respect of locally available skills, resources, climatic conditions and culture). | At the global level considerable work done (BC, IMO, UNEP) for wastes convened under specific multilateral environmental agreements. For other wastes (such as municipal and industrial) few guidelines made available (UNEP, WB). Little or no work done for local adoption.<br><b>Level: low</b> | At the regional and national levels considerable work done (WB, regional development banks, OECD) to provide technology guidelines. Capacity for technology assessment and selection continues to be low in developing countries.<br><b>Level: low</b>   | Some work done (UNDP, UN-Habitat, UNEP) at a few locations to enhance technology access at the local level. Little or no work done for local adoption.<br><b>Level: low</b>  |
| Technical guidelines, case studies and demonstration and pilot projects for integrated waste management, especially in developing countries, are needed.<br>(i) Build or enhance capacity at the local level to implement and operate waste management technologies.   | Little effort at the global level on integrated waste management except guidelines by UNEP.<br><b>Level: very low</b><br><br>No work done at the global level.<br><b>Level: very low</b>   | No work done at the regional or national levels.<br><b>Level: very low</b><br><br>Pilot projects under the Basel Convention on persistent organic pollutants, used oils, e-waste, used lead-acid batteries, etc. Overall little work done at the regional or national levels.<br><b>Level: low</b> | Except for a few pilot projects by UNEP and the Basel Convention, no work done.<br><b>Level: very low</b><br><br>Except for local capacity-building as part of locally implemented projects by development banks, little work done.<br><b>Level: low</b> |

| Waste management needs   | Global assessment   | Regional/national assessment   | Local assessment  |
|--|---|--|---|
| <p>Financial:</p> <p>(i) The availability of resources for developing, implementing and operating waste management systems in developing countries needs to be enhanced. There is a need to develop and implement appropriate economic instruments to raise funds for waste management and make it economically attractive.</p> <p>(ii) Public-private partnership needs to be explored further to raise availability and access to financial resources and to meet growing demand for construction and operation of waste management systems.</p> | <p>At the global level WB has set up country-specific credit lines to provide financial resources. The number of beneficiary countries is, however, rather low in view of the demand for resources. Development of economic instruments is rather absent. Financial resources from institutions such as GEF and mechanisms such as CDM do not support integrated waste management projects but isolated aspects such as persistent organic pollutants and landfill gas.</p> <p><b>Level: low</b></p> <p>No concerted effort at the global level to establish such partnerships except under Basel Convention.</p> <p><b>Level: very low</b></p> | <p>Regional development banks have made significant financial resources available for implementation of end-of-pipe waste management system. Not much work done, however, towards development of economic instruments.</p> <p><b>Level: high</b></p> <p>No concerted effort at the regional or national levels to establish such partnerships.</p> <p><b>Level: very low</b></p> | <p>No concerted effort to increase availability of financial resources at the local level.</p> <p><b>Level: very low</b></p> <p>Limited efforts at the local level, e.g., Bangladesh, Brazil, India and Kenya.</p> <p><b>Level: low</b></p> |

| Waste management needs  | Global assessment  | Regional/national assessment  | Local assessment  |
|---|--|---|---|
| <p>Social:</p> <p>(i) There is a need to change attitudes and raise awareness at all levels and among all waste generators to promote waste minimization, source segregation and proper disposal of waste.</p> <p>(ii) In developing countries, waste management needs to find ways to incorporate and improve employment and working conditions of vulnerable sections of society, e.g., scavengers and ragpickers.</p> <p>(iii) Involvement of the private sector and local communities in developing, building and running waste management system needs to be strengthened and made more effective.</p> | <p>SBC has contributed towards raising awareness on proper waste disposal although mainly on hazardous waste and some other specific waste types. UNEP has worked in the area for ozone-depleting substances and persistent organic pollutants. Little work done for municipal and industrial waste in developing countries.</p> <p><b>Level: low</b></p> <p>Some concerted effort at the global level.</p> <p><b>Level: very low</b></p> <p>No efforts at the global level to involve private sector and local communities.</p> <p><b>Level: very low</b></p> | <p>Actions by Basel Convention regional centres. Otherwise little concerted effort at the regional and national levels.</p> <p><b>Level: low</b></p> <p>Sporadic efforts by organizations such as UNEP, UNCRD and non-governmental organizations.</p> <p><b>Level: low</b></p> <p>No effort at the regional or national levels.</p> <p><b>Level: very low</b></p> | <p>No concerted effort at the local level.</p> <p><b>Level: very low</b></p> <p>A number of non-governmental organizations active at the local level.</p> <p><b>Level: medium</b></p> <p>Sporadic efforts by organizations such as UNEP and UNCRD.</p> <p><b>Level: low</b></p> |
| <p>Institutional:</p> <p>(i) Institutional strengthening and capacity-building required at the national level to enable work on policy, technical, financial and social aspects.</p> <p>(ii) At the local level, institutional capacity needs to be built or strengthened to raise awareness and develop</p>  | <p>Global efforts (mainly WB) are based on experience in developed countries and experience from developing countries has not been used to enhance the normative function.</p> <p><b>Level: low</b></p> <p>No global effort in institutional enhancing at the local level.</p> <p><b>Level: very low</b></p>   | <p>Regional and national efforts (mainly regional development banks) are country-specific and experience sharing in similar countries is missing.</p> <p><b>Level: low</b></p> <p>Considerable effort at the regional and national levels by academic</p>   | <p>Not applicable</p> <p>No local-level initiatives to develop human resources.</p> <p><b>Level: very low</b></p>   |

| Waste management needs                | Global assessment | Regional/national assessment   | Local assessment |
|---------------------------------------|-------------------|--|------------------|
| human resources for waste management. |                   | institutions to build and develop human resources.<br><b>Level: high</b> |                  |

## I. Tangible recommendations

27. From tables 2 and 3, it is clear that several areas remain to be tackled in the field of waste management. A review of the two tables shows that, although considerable efforts have been made in the environmentally sound management of waste over past years, gaps remain to be filled if countries' needs are to be met. The main recommendations in this regard are set out below along the two lines used before: first, the pre-generation stage of the waste chain, and, second, the post-generation stage of waste.

28. Recommendations at the pre-generation stage of waste:

(a) Policy and regulatory:

- (i) Greater conceptual clarity, supported by practical application strategies to promote resource augmentation through waste recovery, reuse and recycling, is required, particularly at the local level. Awareness-raising and capacity-building are required in areas such as waste prevention, the 3R initiative and cleaner production;
- (ii) National policy frameworks need to be strengthened and expanded to shift the emphasis from an end-of-pipe approach to an integrated resource management approach, including implementation of standards on waste management;
- (iii) Implementation of preventive aspects of waste-related multilateral agreements needs to be strengthened at the local level;

(b) Technical and scientific understanding:

- (i) Greater scientific understanding of the synergies between resource augmentation and waste management to decouple waste generation and economic impact from economic growth, in particular for emerging special waste streams like e-wastes, needs to be brought to the local level;
- (ii) Access to environmentally sound waste-management technologies needs to be enhanced and development and use of best practices should be encouraged concurrently;
- (iii) Greater South-South cooperation is needed;
- (iv) Strengthened capacity is required for technology assessment and selection;
- (v) At the same time, research and development work is required to adapt these technologies to suit local conditions;
- (vi) Technical guidelines, case studies, demonstration and pilot projects for waste minimization, especially in developing countries, need to be prepared and disseminated at the global level, using, in the case of hazardous wastes, technical guidelines developed under the Basel Convention, as appropriate;
- (vii) Capacity needs to be built or enhanced at the local level to implement and operate cleaner and resource-efficient technologies;

(c) Financial:

- (i) Availability of resources for developing, implementing and operating waste prevention systems, particularly at the local level in developing countries, needs to be enhanced. The Millennium Development Goals on water and sanitation and poverty reduction for many regions, especially Africa, cannot be met without adequate waste management; accordingly, donors should intensify support to waste management projects;
- (ii) Public-private partnerships need to be established to increase the availability of and to improve access to financial resources to meet the growing demand for the construction and operation of waste management systems;

(d) Social:

- (i) Awareness-raising is required to change the attitude of waste generators, particularly at the municipal and industrial levels, to raise their awareness of the need for proper segregation and disposal of waste;
- (ii) In developing countries, employment-generation schemes are required and working conditions in particular for waste recycling sectors of vulnerable sections of society, e.g., scavengers and ragpickers, need to be improved;
- (iii) The private sector and local communities in developing countries should be involved in waste minimization efforts:

(e) Institutional:

- (i) Institutional enhancing and capacity-building is required at the local level to enable work on policy, technical, financial and social aspects, in particular to move towards sustainable material management;
- (ii) Institutional capacity needs to be built or enhanced at the local level to raise awareness and develop human resources for waste minimization.

29. Recommendations at the post-generation stage of waste:

(a) Policy and regulatory:

- (i) Greater conceptual clarity, supported by practical application strategies to promote resource augmentation through waste recovery, reuse and recycling is required, particularly at the local level;
- (ii) National policy frameworks need to be strengthened and expanded to shift the emphasis from an end-of-pipe approach to an integrated resource management approach, including implementation of standards on waste management;
- (iii) At the local level, an integrated waste management strategy and action plan for municipalities, especially in developing countries, needs to be developed and implemented;

(b) Technical and scientific understanding:

- (i) Access to environmentally sound waste-management technologies needs to be enhanced and development and use of best practices should be encouraged concurrently;
- (ii) Greater South-South cooperation is needed;
- (iii) Enhanced capacity is required for technology assessment and selection;

- (iv) At the same time, research and development work is required to adapt these technologies to local conditions;
  - (v) Technical guidelines, case studies, demonstration and pilot projects for integrated waste management, especially in developing countries, need to be prepared and disseminated. For hazardous wastes management, technical guidelines developed under the Basel Convention need to be implemented, as appropriate;
  - (vi) Capacity needs to be built or enhanced at the local level to implement and operate waste-management technologies;
- (c) Financial:
- (i) Availability of resources for developing, implementing and operating waste-management systems, particularly at the local level in developing countries, needs to be enhanced. The Millennium Development Goals on water and sanitation and poverty reduction for Africa cannot be attained without adequate waste management; accordingly, donors should increase support to waste management projects;
  - (ii) Appropriate economic instruments to raise funds for waste management and to make it economically attractive need to be developed and implemented;
  - (iii) Public-private partnerships need to be established to increase the availability of and to improve access to financial resources to meet the growing demand for the construction and operation of waste management systems;
- (d) Social:
- (i) Awareness-raising is required to change the attitude of waste generators, particularly at the municipal and industrial levels, to raise their awareness of the need for proper segregation and disposal of waste;
  - (ii) In developing countries, employment-generation schemes are required and working conditions of vulnerable sections of society, e.g., scavengers and ragpickers, need to be improved;
  - (iii) The involvement of the private sector and local communities in developing, building and running waste management system needs to be strengthened and made more effective;
- (e) Institutional:
- (i) Institutional enhancing and capacity-building at the national level is required to enable work on policy, technical, financial and social aspects of the post-generation stage of waste management. The experience gained through projects in developing countries should be factored into the capacity-building activities, thus enhancing the normative function of this work;
  - (ii) Institutional capacity needs to be built or enhanced at the local level to raise awareness and develop human resources for waste management.

### **III. Outcome of the process of cooperation with other organizations**

30. The outcomes of the process of cooperation with other organizations are set out below.

- (a) Policy and regulatory:

- (i) UNEP, in cooperation with the secretariat of the Basel Convention, will promote resource augmentation through waste recovery, reuse and recycling, supported by awareness-raising activities and practical application strategies, particularly for municipal waste at the local level, and for some material flows also at the global level. UNEP, through existing mechanisms including the Marrakech Process, will take the lead in enhancing and expanding national policy frameworks to shift the emphasis from an end-of-pipe approach to an integrated resource management approach, as appropriate, based on scientific knowledge provided by the International Panel for Sustainable Resource Management;
  - (ii) UNEP will take the lead at the local level in developing and implementing integrated waste management strategies and action plans for municipalities, especially in developing countries. It will work towards having integrated waste management recognized as a key priority area under the current “One United Nations” approach;
  - (iii) The secretariats of the multilateral environmental agreements, particularly the Basel Convention, the Stockholm Convention and the Montreal Protocol, within their respective mandate and available resources, will enhance their implementation of preventive aspects of waste-related multilateral agreements, particularly at the local level.
- (b) Technical:
- (i) OECD, the World Bank, UNIDO, the Asian Development Bank, IADB and the African Development Bank are invited to enhance access to cutting-edge, waste-management and resource-efficient technologies. This includes understanding the global market for those technologies and the enhancing of capacity in developing countries for technology transfer, including assessment and selection, towards which UNEP is willing to work in close cooperation with OECD and UNIDO. Research and development institutions such as UNU may enhance the necessary efforts on research and development required to understand the challenges for moving towards sustainable material management and to adapt existing approaches and technologies to suit local conditions;
  - (ii) The secretariat of the Basel Convention will continue its efforts and UNEP will initiate appropriate programmes, within their respective mandates and available resources, for preparation of technical guidelines, case studies, demonstration and pilot projects for integrated waste management, especially in developing countries;
  - (iii) UNEP, UNDP, UNIDO, development banks and the Basel Convention regional centres could consider initiating programmes to build or enhance capacity at the local level to implement and operate waste management and resource-efficient technologies;
- (c) Financial:
- (i) The World Bank and the development banks are invited to enhance availability of resources for developing, implementing and operating waste management systems (both preventive and post-generation stage of waste), particularly at the local level in developing countries needs to be enhanced;
  - (ii) The secretariat of the Basel Convention, with support from UNEP, is developing a framework for assessing costs and benefits through the implementation of the convention for use by developing countries.

OECD, the World Bank and development banks are invited to support developing countries in framing appropriate economic instruments to provide incentives for waste minimization and to raise funds for waste management and make it economically attractive;

- (iii) Establishing public-private partnerships and working with the financial sector are means for UNEP and other organizations to raise awareness on issues, changing business models towards more resource-efficiency and a potential source of financial resources, to meet growing demand for awareness-raising campaigns and capacity-building activities for waste minimization, resource-efficient technology transfer and construction and operation of waste management systems;

(d) Social:

- (i) UNEP is willing to cooperate with UNCRD, UNIDO, UN-Habitat and UNDP to launch awareness-raising programmes to change the attitude of waste generators, particularly municipal and industrial waste generators on proper segregation and disposal of waste;
- (ii) UNEP is willing to work with UNDP, UNCRD and UN-Habitat towards improving the working conditions and incomes of vulnerable, informal sectors of society, e.g., scavengers and ragpickers, in developing countries;
- (iii) UNEP would like to establish partnerships with the private sector for promoting waste minimization. The World Bank and development banks could consider enhancing the involvement of private sector and local communities in developing, building and running of waste management systems;
- (iv) UNIDO has developed a responsible entrepreneurs achievement programme to assist small- and medium-sized enterprises in their efforts to implement management approaches based on corporate social responsibility and operation methods. Corporate social responsibility issues that can be tackled through the responsible entrepreneurs achievement programme include water, energy, waste, and raw material management.

(e) Institutional:

- (i) UNEP would like to enhance its cooperation and collaboration with UNDP, UNIDO, the multilateral environmental agreement secretariats and the Basel Convention regional centres to launch programmes on institutional enhancing and capacity-building at the national level, to enable work on policy, technical, financial and social aspects of the pre- and post-generation stage of waste management. The experience gained through projects in developing countries should be factored into the capacity-building activities, thus enhancing the normative function. Institutional capacity-building or enhancing at the local level could be initiated by UNDP, UNIDO, UNCRD, and the Basel Convention regional centres.
-