UNSD/UNEP QUESTIONNAIRE 2006 ON ENVIRONMENT STATISTICS

Section: WASTE

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INTRODUCTION

Waste management is a key concern for the environment and the sustainable management of natural resources. The primary targets of waste management are:

* Reducing toxicity and volume of waste generated in the different production and consumption processes;
* Increasing the share of recovered waste materials;
* Sound environmental management of waste for disposal.

The purpose of the waste questionnaire is to provide consistent data to draw reliable information and trends on:

* generation of waste;
* municipal waste composition, generation, collection and treatment;
* hazardous waste generation and treatment;
* waste treatment facilities.

The biennial data collection which is a joint activity of the United Nations Statistics Division (UNSD) and the United Nations Environment Programme (UNEP), intends to contribute to the development of the UNSD International Environment Statistics Database. The data will be analyzed and consolidated by UNSD for use in international work, in particular for UNEP's Global Environmental Outlook, and will be made available to countries, United Nations specialized agencies and other regional and international organizations, as well as to the general public.

Copies of the questionnaire are available online at http://unstats.un.org/unsd/environment/. Data from previous data collections are available at http://unstats.un.org/unsd/environment/datacollect.htm.

The data requested in this questionnaire may be initially collected or compiled by different institutions in a country. The national statistical offices or ministries of environment are asked to bring together the data from these different sources.

Where a country has answered to the UNSD Questionnaire 2001 or 2004 on Environment Statistics, the 2006 Questionnaire has been pre-filled with these data. Countries are requested to add data for later years and to check the time series for consistency.

The definitions are listed in order of appearance of the variables. Where variables are repeated, the definition can be found where the variable first appeared.

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STEPS TO FOLLOW

For all the tables you are kindly asked to:

- ☑ Please fill in the contact information at the top of each table.
- ☑ Please check the pre-filled data and, if possible, kindly update in the table. Tables are pre-filed with data received from the UNSD Questionnaire 2001 or 2004.
- ☑ Based on the definitions provided, please fill in the tables as far as possible (see the Definitions Sheet). If a different definition or methodology has been used, please explain the differences in a footnote or provide the definition and/or methodology applied in the supplementary information sheet (R7).
- ☑ If data are not available for the years stated in each table, please provide the data you might have for other years and add a footnote for the years to which the data apply.
- ☑ If necessary, please include footnotes to give additional information on data. For this purpose, use the first column to the right of the data for a numerical code, and, in the table entitled 'Footnotes' following each table, write your explanatory text in the footnote text column, preceded by the code of the footnote. Please check also pre-filled footnotes and correct them if necessary.
- ☑ If data is not available, please leave the cell blank. If the relevant data for the cell is zero, the cell should be filled with a "0".
- ☑ Please report data in the requested unit.
- ☑ Please note that the exclamation mark in the first column of each table indicates high priority data for international work. If you cannot supply all requested data for your country, please try to submit data for those variables marked as priority.
- ☑ Please note that the use of indentation in the category column of each table indicates which variables are subsets and which variables are totals.
- ☑ Do not hesitate to attach any documents or reference which could help UNSD to understand your data.
- ☑ If you have any questions, do not hesitate to contact the United Nations Statistics Division at envstats@un.org or call Reena Shah: tel. +1 212 963-4586, fax +1 212 963 0623.

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DESCRIPTION OF TABLES

Table R1: Generation of Waste by Sector

This table asks for data on the total amount of waste (both non-hazardous and hazardous), generated by various economic activities and households.

The sectoral breakdown follows the International Standard Industrial Classification of all Economic Activities (ISIC.Rev.3.1).
(URL: http://unstats.un.org/unsd/cr/family2.asp?Cl=17).

Municipal waste is treated as a separate item, though not directly related to one specific economic sector. Waste from industrial activities removed by municipal waste collection should be reported under the respective sector of generation; if it is not possible to separate the data, please report it under municipal waste and indicate it with a footnote. Double counting should be avoided as much as possible.

The amount reported under 'Total waste generation' should be equal to the sum of the waste amounts reported under the various economic activities and the amount of municipal waste. If this is not the case, please explain it with a footnote.

Hazardous waste here refers to categories of waste to be controlled according to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Article 1 and Annex I). If data are not available according to the Basel Convention, amounts can be given according to national definitions and labelled accordingly. The amount reported in this table should correspond with the amount in the first row of table R4.

Please note that the unit of measurement in this table is '**1000 t (1000 metric tons)**' except for hazardous waste, which is requested in '**tonnes (metric tons)**'.

Table R2: Treatment and Disposal of Municipal Waste

This table focuses on management of municipal waste. The total amount of 'municipal waste collected' is the part of generated waste, which is effectively collected by or on behalf of municipalities. "Municipal waste generated" (in table R1) includes all municipal waste, including waste which is not collected.

In some instances, part of the municipal waste collected may be exported to other countries before treatment. Countries may also have imported municipal waste for treatment or disposal. The total amount of 'municipal waste managed in the country' is calculated as: 'municipal waste collected in the country' - 'municipal waste exported' + 'municipal waste imported'.

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In principle, the sum of the amounts going to 'recycling + composting' + 'incineration' + 'landfill' + 'other' should be equal to the amount of 'municipal waste managed in the country'. Nevertheless, as there can be double counting due to secondary waste quantities (e.g. residues of incineration which are landfilled or residues from composting that are incinerated), the sum can be higher than the amounts to be managed.

The 'Percentage of total population served by municipal waste collection' is the estimated percentage of the total population that is covered by the municipal waste removal system. It is usually estimated on the basis of the percentage of addresses in the municipalities from where waste is collected. Similarly, the urban population served is expressed as a percentage of the total urban population, and the rural population served is expressed as a percentage of the total rural population. Please apply national definition for "urban" and "rural" population.

Table R3: Composition of Municipal Waste

Municipal waste is composed of a mix of different materials. Usually, the composition of municipal waste is determined from the physical analysis of waste samples. The table asks for the 'percentage' of the main material groups in mixed municipal waste.

Table R4: Treatment and Disposal of Hazardous Waste

This table focuses on management of hazardous waste. Please note that the unit of measurement is '**tonnes (metric tons)**' for the entire table.

Hazardous waste here refers to categories of waste to be controlled according to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Article 1 and Annex I). If data are not available according to the Basel Convention, amounts can be given according to national definitions and labelled accordingly. The total amount of waste generated should correspond to the amount reported in table R1.

Part of the amount of hazardous waste generated may be exported to the other countries before treatment. Countries may also have imported hazardous waste either for treatment or disposal. The amount of 'hazardous waste managed in the country' can therefore be calculated as: 'hazardous waste generated in the country' - 'hazardous waste exported' + 'hazardous waste imported'.

In principle, the sum of the amounts of hazardous waste going to: 'recycling' + 'incineration' + 'landfill' + 'other' should be equal to the amount of 'Hazardous waste managed in the country'. Nevertheless, as there can be double counting due to secondary waste quantities (e.g. residues of incineration which are landfilled), the sum can be higher than the amounts to be managed.

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Table R5: Waste Treatment and Disposal Facilities

This table asks for data on the number and capacity (in **1000 metric tons**) of waste treatment and disposal facilities. Only the main types of treatment facilities are specified in the table. The capacity of treatment facilities refers to the annual capacity except for the landfill sites, where the annual input is requested instead. Under the category 'Other waste treatment facilities, please specify' should be reported the permanent storage facilities.

Table R6: Selected Waste Variables at City Level

This table aims to provide a comprehensive picture of the generation, collection, treatment and disposal of municipal waste at local level. Countries are kindly asked to provide data for 2 - 3 big cities, preferably the most populous cities of the country. Please do not hesitate to duplicate this table if you can provide data for more cities.

Table R7: Supplementary Information Sheet on the Waste Section

Please provide any additional information that can help the interpretation of your data, e.g. national definition, survey methods applied, quality statements on the data, etc.

In addition, countries are encouraged to provide or attach any complementary source of information such as website addresses, publications, results of surveys, etc., related to the waste topic, particularly if countries encountered difficulties filling in the questionnaire.

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List of Definitions

Industry Classification

This questionnaire asks for data on the total amount of waste (both non-hazardous and hazardous), generated by various economic activities and households. The sectoral breakdown follows the International Standard Industrial Classification of all Economic Activities (ISIC.Rev.3.1). For the full classification, see http://unstats.un.org/unsd/cr/family2.asp?Cl=17.

ISIC Code(s)	Questionnaire abbreviation	ISIC Rev 3.1
01-02	**Agriculture and forestry**	**Agriculture and forestry** cover the exploitation of vegetal and animal natural resources. The section comprises the activities of growing crops, raising animals, harvesting timber, and harvesting other plants and animals from a farm or their natural habitats.
10-14	**Mining and quarrying**	**Mining and quarrying** include the extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). Extraction can be achieved by underground or surface mining or well operation.
15-37	**Manufacturing industries**	**Manufacturing** comprises units engaged in the physical or chemical transformation of materials, substances, or components into new products. The materials, substances, or components transformed are raw materials that are products of agriculture, forestry, fishing, mining or quarrying as well as products of other manufacturing activities.
40	**Energy production**	**Energy production** includes electricity, gas, steam and hot water supply, which cover the activity of providing electric power, natural gas, and steam supply through a permanent infrastructure (network) of lines, mains and pipes.
45	**Construction**	**Construction** includes general construction and special trade construction for buildings and civil engineering, building installation and building completion. It includes new work, repair, additions and alterations, the erection of prefabricated buildings or structures on the site and also construction of a temporary nature.

Definitions for Waste

Table	Term	Definitions
	Waste	Waste refers here to materials that are not prime products (i.e. products produced for the market) for which the generator has no further use for his own purpose of production, transformation or consumption, and which he discards, or intends or is required to discard. It excludes residuals directly recycled or reused at the place of generation (i.e. establishment) and waste materials that are directly discharged into ambient water or air.

Definitions for Waste

Table	Term	Definitions
R1	(Waste from) **Agriculture and forestry**	All waste from agricultural and forestry activities. Manure used as fertilizer is excluded (i.e. only excess manure which is disposed of should be included). This category refers to ISIC divisions 01 and 02.
R1	**Industrial waste**	For the purposes of this questionnaire, industrial waste comprises waste from mining and quarrying, manufacturing industries, energy production and construction.
R1	(Waste from) **Mining and quarrying**	All waste from mining and quarrying activities. This category refers to ISIC divisions 10 to 14.
R1	(Waste from) **Manufacturing industries**	All waste from manufacturing industries. This category refers to ISIC divisions 15 to 37.
R1	(Waste from) **Energy production**	All waste from electricity, gas, steam and hot water supply. Waste from the production of nuclear energy should be excluded. This category refers to ISIC division 40.
R1	(Waste from) **Construction**	All waste from construction activities. This category refers to waste generated in ISIC division 45.
R1	**Other activities**	For the purpose of this questionnaire, the category 'other activities' refers to all other economic activities not specified before.
R1-R3 & R6	**Municipal waste**	Municipal waste includes waste originating from: households, commerce and trade, small businesses, office buildings and institutions (schools, hospitals, government buildings). It also includes bulky waste (e.g. white goods, old furniture, mattresses) and waste from selected municipal services, e.g. waste from park and garden maintenance, waste from street cleaning services (street sweepings, the content of litter containers, market cleansing waste), if managed as waste. The definition excludes waste from municipal sewage network and treatment, municipal construction and demolition waste.
R1 & R4	**Hazardous waste**	Hazardous waste refer to the categories of waste to be controlled according to the Basel Convention on the control of transboundary movements of hazardous waste and their disposal (Article 1 and Annex I).
R1 & R6	**Municipal waste generated**	This amount is the sum of the amount of municipal waste collected plus the estimated amount of municipal waste from areas not served by a municipal waste collection service.
R2 & R6	**Municipal waste collected**	Municipal waste collected by or on behalf of municipalities, as well as municipal waste collected by the private sector. It includes mixed household waste, and fractions collected separately for recovery operations (through door-to-door collection and/or through voluntary deposits).
R2 & R6	**Municipal waste managed in the country**	The amount of municipal waste collected in the country - amount exported before treatment or disposal + amount imported for treatment or disposal.

Definitions for Waste

Table	Term	Definitions
R2 & R6	**Percentage of population (total, urban, rural) served by municipal waste management services (in %)**	The percentage proportion of the total, urban and rural population covered by regular municipal waste removal service in relation to the total, urban and rural population, respectively, of the country.
R2, R4 & R6	**Recycling**	Recycling is defined as any reprocessing of waste material in a production process that diverts it from the waste stream, except reuse as fuel. Both reprocessing as the same type of product, and for different purposes should be included. Recycling within industrial plants i.e. at the place of generation should be excluded.
R2 & R6	**Composting**	Composting is a biological process that submits biodegradable waste to anaerobic or aerobic decomposition, and that results in a product that is recovered and can be used to increase soil fertility.
R2, R4 & R6	**Incineration**	The controlled combustion of waste with or without energy recovery.
R2, R4 & R6	**Landfill**	It includes all amounts going to landfill, either directly, or after sorting and/or treatment, as well as residues from recovery and disposal operations going to landfill. Landfill is the final placement of waste into or onto the land in a controlled or uncontrolled way. The definition covers both landfill in internal sites (i.e. where a generator of waste is carrying out its own waste disposal at the place of generation) and in external sites.
R2, R4 & R6	**Other** (waste treatment/disposal)	Any final treatment or disposal different from recycling, composting, incineration and landfill. Releasing into water bodies and permanent storage are included here.
R5	**Treatment plant**	Facilities for the physical, chemical, or biological processing of waste, that change the characteristics of the waste in order to reduce its volume, or hazardous nature, facilitate its handling, or enhance recovery. Composting plants are included here.
R5	**Incineration plant**	Facilities for burning wastes under controlled conditions, with or without energy recovery.
R5	**Landfill site**	Sites that manage the final placement of waste in or on the land in a controlled or uncontrolled way.
R5	**Controlled Landfill**	Landfill whose operation is submitted to a permit system and to technical control procedures in compliance with the national legislation in force. Includes specially engineered landfill.
R5	**Other, please specify**	Plants for waste treatment/disposal not elsewhere specified. It includes permanent storage.

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Table R1: Generation of Waste by Sector

If the value turns red, please check if it is correct.

Priority	Line	Category	Unit	1990	1995	1999	2000	2001	2002	2003	2004	2005
	1	Agriculture and forestry (ISIC 01-02)	1000 t									
	2	Industrial activities	1000 t									
	3	*of which* : Mining and quarrying (ISIC 10-14)	1000 t									
	4	Manufacturing industries (ISIC 15-37)	1000 t									
	5	Energy production (ISIC 40)	1000 t									
	6	Construction (ISIC 45) (a)	1000 t									
	7	Other activities	1000 t									
	8	Municipal waste (b,c)	1000 t									
	9	*of which* : from households	1000 t									
!	10	**Total waste generation (10 = 1+2+7+8)**	1000 t									
	11	*of which:* hazardous waste (d)	tonnes									

Notes:

a) Waste generated by an economic sector includes all waste generated by entreprises within this sector.

b) Waste from industrial activities removed by municipal waste collection should be reported under the respective sector of generation; if it is not possible to separate the data, please report it under municipal waste and indicate it with a footnote. Double counting should be avoided.

c) The amount of "Muncipal waste generated" is the sum of the amount of "Municipal waste collected" (the first row of table R2) plus the (estimated) amount of municipal waste not collected, especially from areas not served by a municipal waste collection service.

d) Please note that the unit for "hazardous waste" is "tonnes (metric tons)". The amount reported in this table should correspond with the amount in the first row of table R4.

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Table R2: Management of Municipal Waste

If the value turns red, please check if it is correct.

Priority	Line	Category	Unit	1990		1995		1999		2000		2001		2002		2003		2004		2005	
!	1	**Municipal waste collected** (a)	1000 t																		
	2	Municipal waste imported for treatment/disposal	1000 t																		
	3	Municipal waste exported for treatment/disposal	1000 t																		
!	4	**Municipal waste managed in the country** (4 = 1 + 2 - 3)	1000 t																		
!	5	*Amounts going to* : Recycling	1000 t																		
!	6	Composting	1000 t																		
!	7	Incineration	1000 t																		
!	8	*of which:* with energy recovery	1000 t																		
!	9	Landfill	1000 t																		
!	10	*of which:* controlled landfill	1000 t																		
	11	Other, please specify	1000 t																		
!	12	Percentage of total population served by municipal waste collection	%																		
	13	Percentage of urban population served by municipal waste collection	%																		
	14	Percentage of rural population served by municipal waste collection	%																		

Note:

a) The total amount of "Municipal waste collected" is the part of municipal waste, which is effectively collected by or on behalf of municipalities. "Municipal waste generated" (in table R1) includes all municipal waste, including waste which is not collected.

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Table R3: Composition of Municipal Waste

If the value turns red, please check if it is correct.

Priority	Line	Category	Unit	1990	1995	1999	2000	2001	2002	2003	2004	2005
	1	Paper, paperboard	%									
	2	Textiles	%									
	3	Plastics	%									
	4	Glass	%									
	5	Metals	%									
	6	Organic material	%									
	7	*of which* : food and garden waste	%									
	8	Other inorganic material	%									
	9	TOTAL	%	100	100	100	100	100	100	100	100	100

Note:

Usually, the composition of municipal waste is determined from the physical analysis of waste samples using surveying methods. If the survey was not conducted in the years listed above, please provide the year in the footnote.

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Table R4: Management of Hazardous Waste

If the value turns red, please check if it is correct.

Priority	Line	Category	Unit	1990	1995	1999	2000	2001	2002	2003	2004	2005
!	1	**Hazardous waste generated (a)**	tonnes									
	2	Hazardous waste imported	tonnes									
	3	Hazardous waste exported	tonnes									
!	4	**Hazardous waste managed in the country** (4 = 1 + 2 - 3)	tonnes									
!	5	*Amounts going to* : Recycling	tonnes									
!	6	Incineration	tonnes									
!	7	Landfill	tonnes									
	8	Other, please specify	tonnes									

Notes:

* Please note that the unit in this table is "tonnes (metric tons)".

a) The amount reported in this table should correspond with the amount in the last row of table R1.

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Table R5: Waste Treatment and Disposal Facilities

If the value turns red, please check if it is correct.

Priority	Line	Category	Unit	1990	1995	1999	2000	2001	2002	2003	2004	2005
!	1	**Treatment plants:** number	number									
!	2	annual capacity	1000 t									
!	3	**Incineration plants:** number	number									
!	4	annual capacity	1000 t									
	5	*of which:* with energy recovery number	number									
	6	annual capacity	1000 t									
!	7	**Landfill sites:** number	number									
!	8	annual inputs	1000 t									
	9	*of which* : controlled landfill number	number									
	10	annual inputs	1000 t									
	11	**Other waste treatment/disposal facilities, please specify:** number	number									
	12	annual capacity	1000 t									

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Table R6: Selected Waste Variables at City Level

CITY NAME: _____

If the value turns red, please check if it is correct.

Priority	Line	Category	Unit	1990	1995	1999	2000	2001	2002	2003	2004	2005
!	1	Total population of the city	**1000 inh.**									
!	2	Persentage of city population served by municipal waste collection	%									
!	3	**Total amount of municipal waste generated (a)**	1000 t									
	4	Municipal waste collected from households	1000 t									
	5	Municipal waste collected from other origins	1000 t									
!	6	**Total amount of municipal waste collected (6 = 4 + 5) (a)**	1000 t									
!	7	*Amounts going to* : Recycling	1000 t									
!	8	Composting	1000 t									
!	9	Incineration	1000 t									
!	10	*of which:* with energy recovery	1000 t									
!	11	Landfill	1000 t									
!	12	*of which:* controlled landfill	1000 t									
	13	Other, please specify	1000 t									

Notes:

* Countries are asked to provide data for 2 - 3 major cities, preferably the most populous cities of the country. Please duplicate this table if you can provide data for more than one city.

a) The "Total amount of municipal waste collected" is the part of municipal waste, which is effectively collected by or on behalf of municipalities. "Total amount of municipal waste generated" includes all municipal waste, including waste which is not collected.

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Table R7: Supplementary Information Sheet on the Waste Section

National definition of waste, hazardous waste, municipal waste, complementary information on waste treatment etc.