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**Question 7. Effects on Health/Environment****2004. Africa. (Parties which did not report are not listed).**

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**Algeria:**

*Information:* Monitoring network SAMASAFIA.

**Benin:**

*Information:* Information is not available.

**Burundi:**

*Information:* Plus de 50 unités de production industrielle implantées dans les villes ont été installées sans aucun système de prétraitement des déchets ; L'usine textile « complexe Textile de Bujumbura » est la 1ère qui pollue l'environnement car les mesures de prétraitement des déchets ne sont pas respectées ; Plus ou moins 10 stations de carburant déversent leurs huiles et autres déchets dans les cours d'eau.

**Ethiopia:**

*Information:* POPs/NIP project office, E-mail epol@ethionet.et African Stockpile Programme (can be accessed from FAO website) Environmental Protection Authority is undertaking inventory on 50 industries.

**Gambia:**

*Information:* Information is not available.

**Ghana:**

*Information:* None.

**Madagascar:**

*Information:* Ministère de la Recherche Scientifique -CNRE: Centre National de Recherche sur l'Environnement, Antananarivo-Madagascar. -INSTN : Institut National des Sciences et Techniques Nucléaires, Université d'Antananarivo-Madagascar. Ministère de la Santé -CHU/HJRA: Centre Hospitalo-Universitaire/Joseph Ravoahangy Andrianavalona, Antananarivo-Madagascar. -IPM: Institut Pasteur de Madagascar

**Mauritius:**

*Information:* Information is not available.

**Morocco:**

*Information:* Statistics are not yet available.

**Mozambique:**

*Information:* The amount of hazardous wastes generated is low. Therefore, the effect of hazardous wastes on human health and environment is difficult to assess. However, the wastes may have some effect on health and environment due to poor management of waste such as landfills that are operated not in fully environmentally sound manner and don't have the basic infra-structure for control of pollution..

**Seychelles:**

*Information:* According to the POPs inventory on environmental and health effects of persistent organic pollutants, there is no concrete evidence of such effects on public health or the environment. A detailed analysis is yet to be carried out to show whether the application of chemicals in the past can be related to health past and present health disorders. For example: test for residues in food, water and soil samples.

**Tunisia:**

*Information:* None.

**Uganda:**

*Information:* A study was carried out to evaluate the effects of a major landfill site (near Kampala) on the surface waters and soil quality. A study undertaken by Carl Bro on behalf of the Regional Training Centre in Pretoria – A needs analysis for Uganda with regard to Hazardous waste management. Study report can be got from the center in Pretoria.

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**Question 7. Effects on Health/Environment****2004. Asia and Pacific. (Parties which did not report are not listed).**

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**Bahrain:**

*Information:* For this item information is not reported.

**Bangladesh:**

*Information:* Information is not available.

**Brunei Darussalam:**

*Information:* Environmental Sanitation Health Brunei, Ministry of Health, Negara Brunei Darussalam. Telephone: +673 2 381640

**Cambodia:**

*Information:* Information is not available.

**Cook Islands:**

*Information:* Contact Information: National Environment Service for Solid Waste Audit 2001/2002 for Rarotonga.

**Indonesia:**

*Information:* Chronic toxicity study of hazardous waste and chemical substance by Center of Environmental Study. Simulation program of the "mobility and exposure" of organic chemical substance on the environment.

**Japan:**

*Information:* Information is not available.

**Kazakhstan:**

*Information:* There are no statistical data in Kazakhstan regarding consequences for professional health of people working in garbage possessing plants, dumps or other objects. As to present there are no garbage possessing objects in Kazakhstan. Epidemiological researches of population living in immediate closeness to landfills or other sites of wastes burial were not carried out. Environment impact monitoring of landfills or other sites of wastes burial or wastes produced by industries is pointed in nature protective arrangements of local executive bodies and in production programs of enterprises - nature users. As a whole it is known that effects of environmental unfavorable factors including industrial and domestic influence significantly on population health of the republic. In 2003-2004 planned work on research and assessment of dynamics of population mortality and morbidity of tested territories of Kazakhstan including persons related to zones of emergency and increased radioactive risk was carried out by clinical divisions of Scientific-research institute of radiation medicine and ecology of the Ministry of health of RK. All received data on morbidity and mortality assessment of exposed population were compared with figures of check groups and also with the same on the whole of the republic. Activity connected with research of removal of population of Kazakhstan regions exposed to pollution by fission products in consequence of nuclear weapons tests in Semipalatinsk nuclear test polygon was carried out during a number of years. Results of this work allowed to receive comprehensive data on quantity of groups of high level realization of post ray effects as at the moment of termination of nuclear weapon test in air either on situation till 2002 year. At that three dosage groups were identified, the first and second of them are related to zones of emergency and increased radioactive risk. On state on 2002 year quantity of persons exposed to direct irradiation on this dosage groups is 90,7 thousand people. In 2003-2004 as well as in previous years ( since 1965) index of overall morbidity among groups of radioactive risk was nearly two times as much than check and republican. On five classes of morbidity possessing high sensity to radiation influence both during last 30 years and on state on 2003-2004 their levels almost two times exceeded check indexes. Levels of malformations (deformity) among exposed population are significantly high. On issue of realization of "Program on integrated solution of Aral sea region problems for 2004-2006", approved by the decree of the Government of the Republic of Kazakhstan on May 7, 2004 # 520 the quarterly monitoring of technical-economical indexes of health care objects is carrying out by the Ministry of health care.

**Marshall Islands:**

*Information:* Presently there are no reports.

**Pakistan:**

*Information:* Although a number of studies to assess the impacts of particular components of hazardous wastes on human health and the environment have been undertaken by universities and research organizations, these statistics are not centrally collated.

#### **Papua New Guinea:**

*Information:* Information is not available.

#### **Philippines:**

*Information:* None.

#### **Singapore:**

*Information:* Information is not available.

#### **Sri Lanka:**

*Information:* Some of the walk through audits conducted by the National Cleaner Production Center are based on occupational health aspects. A joint cabinet memorandum has been prepared on the use and disposal of used tyres. Sri Lanka is in the process of preparing the National Implementation Plan (NIP) on Persistent Organic Pollutants (POPs) under the Stockholm Convention and the preparation of initial inventories on POPs pesticides, PCBs, Dioxin & Furans. National Policy on health care waste management prepared by the Ministry of Health, Nutrition and Welfare: Provisions are made for the management of hazardous waste in an environmentally sound manner. Several pilot scale projects are being implemented by the Ministry of Health, for the hazardous medical waste collection, treatment and disposal and their effects on human health and on environment.

#### **Thailand:**

*Information:* In 2004, four emergency incidents have been monitored and remedied as follows: -On June 7, 2004, the Chemical Emergency Response Supporting Center, Pollution Control Department, received a report from the Metropolitan Waterworks Authority that a lot of chemical drums were illegal dumped and burned nearby the Authority's water supply canal. Officers from the center examined the incidents and found that all drums were paint waste containers. The Authority was recommended to extinguish the fire and move all drums and wastes out of the area for proper disposal. -The Police station in Rayong reported to the Chemical Emergency Response Supporting Center on June 29, 2004 that there was a fire incident in Map Ta Put Cyplace Ltd. 250 chemical drums and plastic residues stored in the stocking yard were on fire. The officers from the Local Disaster Prevention tried to control the fire but failed. The Center advised the Department of Disaster Prevention and Mitigation on how to control the situation until the fire was extinguished. On the next day, the officers of the Center accessed and monitored the contamination of hazardous chemicals at incident area and its surrounding area. After consulting with the relevant authorities, the Province designated the Provincial Industry Office to take legal action against the company and also force them to safely dispose all wastes within 7 days. -On July 21, 2004, it was reported that waste electronic printed circuit boards stocking piles of one disposal facility at Nakorn Ratchasima was on fire. It formed fumes of Epiconchydin, Phenol, Ammonia, Phosgene and Hydrogen chloride, which were very strong smell and were dispersed with 20 kilometers distance. There was one patient caused by the inhalation of such fumes. The Regional Environment Office in cooperation with Provincial Natural Resources and Environment Office and Provincial Industry Office in Nakorn Ratchasima examined the incident area. Fire was extinguished by local policemen and the fire fighters. The company covered up the waste pile with soils to reduce such fumes. Pollution control Department monitored the chemical residues at the incident area and found that waste pile had some little smell. The facility was ordered by the provincial industry office to stop the operation and the storage area of electronic wastes was need to improve for the safer stocking and to prevent the fire. -Two months later, It was found that more than 6,000 200 liters-drums of hazardous wastes were illegally dumped in Klang Dong, Nakorn Ratchasima and some of them were also punctured to pour chemicals into such excavation land, which made the contamination of hazardous substances into the soils and ground water. The people who live in that area were suffered by chemical odors. However, the Chemical Emergency Response Supporting Center detected very low level of toxic gases, which were not harm to human health. The Minister of Industry ordered waste owner removed all of wastes as well as contaminated surface soils to dispose in the environmentally sound manner. The Pollution Control Department, Department of Environmental Quality Promotion and the Regional Environment Office cooperated to inspect and take a charge of the company to remedy contaminated soils as well as monitor the ground water.

#### **Viet Nam:**

*Information:* Limited information in this issue could be found in: Annual Report on State of the Environment, VEPA Vietnam Environment Monitor 2004-Solid Waste (World Bank) For more information: website of VEPA [www.nea.gov.vn](http://www.nea.gov.vn) (limited in English) or by direct contact with VEPA.

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**Question 7. Effects on Health/Environment****2004. Central and Eastern Europe. (Parties which did not report are not listed).**

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**Albania:**

**Information:** During these years are done several surveys, studies, monitoring programs on state of environment and feasibility studies for remediation of areas with significant environmental degradation: 1-In Autumn 2000, UNEP performed an assessment of Albania's environment. The results were detailed in the report "Post-Conflict Environmental Assessment - Albania". During this assessment, UNEP investigated nine potential 'hot spot' sites that had been identified during a pre-mission conducted in cooperation with national / Albanian authorities. The assessment determined that five of the nine sites were, in fact, 'hot-spots' posing imminent risks to public health and the environment. The assessment report also presents findings regarding the impacts of the Kosovo conflict on Albania's environment and Albania's institutional capacity for environmental protection. The report concluded with a series of recommendations for improving the state of Albania's environment. 2-In order to catalyze urgently needed environmental action, UNEP performed a follow-up risk reduction assessment in Spring 2001. This feasibility study, focused on the hot spots identified in Durrës and Vlorë as well as the more general challenge of creating hazardous waste management infrastructure in Albania. 3-In September 2001, building on previous work by UNEP as well as national and international partners, the Government of Albania, supported by the Swedish International Development Cooperation Agency (SIDA), requested UNEP to conduct a feasibility study at Sharra Landfill, at one of the identified "hotspots" of Albania, that would identify and catalyze urgently required environmental measures. 4- The Environmental Performance Reviews in Albania done in 2002. There is a chapter on waste management. 5-The project of Institute of Environment done in 2002 "Monitoring of quality of air, surface and underground water in Sharra dumpsite", 6-The project of Institute of Environment done in 2002 "Monitoring of air, surface water, underground water, and soil in metallurgical cooper plant in Rubik" 7- The project of Institute of Environment in 2004 "On environmental assessment on industrial dumpsites in Metallurgical Complex in Elbasan, Superphosphate plant in Lac, Metallurgical Cooper plant in Rubik, Iron- nickel enrichment plant in Pogradec". 8-The project of NGO "Health 2000" The assessment of human health in Chemical Plant in Durres" (one of the hot-spots). This project was financed from state budget in 2004. 9-The project of Institute of Environment "The assessment of environmental pollution in area of Bisht-Palla storage". About 370 of expired chemicals and pesticides are stored in open storehouses 1,5 km from former chemical plant in Durres. 10. The project on "Feasibility study on remediation of former chlor -alkali and polivinil chloride plant (PVC) in Vlora", financed from World Bank. The project started in 2003 and continued during 2004. 11. Project on "Feasibility study on remediation of former chemical plant in Durres" started in 2003 and continued during 2004. In 2005 has started the project for remediation of this contaminated area by pesticides and chromium.

**Armenia:**

**Information:** In accordance with data of Ministry of Health of the Republic of Armenia, at present there are 45 municipal and 429 rural landfills in Armenia, which generally, do not correspond to hygienic requirements (all the urban landfills and 368 rural ones). Landfills are situated at a distance of 2-18 km from the towns; they have been constructed without special planning permission or environmental impact assessment. There is no available data on monitoring, statistics, studies on the effects of the generation, transportation and disposal of hazardous wastes, as well other wastes on human health and the environment. In the Republic of Armenia there are no special facilities for wastes recovery and disposal. According to the Chapter I "General provisions", article 6 "Main principles and directions of the state policy in waste management area" of the National "Law on Wastes" one of the main principles is to protect human health and environment from wastes adverse effect. In accordance with the Chapter IV "Rights and obligations of individuals/subjects in waste management area" article 20 "Obligations of legal persons, individuals and natural persons in waste management area" of the National "Law on Wastes" legal persons, individuals and natural persons are obliged to inform about emergency situation that threaten to human health and environment occurred during waste management and response measures shall be applied. In order to protect human health and environment from adverse effect of hazardous wastes and in accordance with the Basel Convention requirements the following documents and actions were done: The "Enabling activities to facilitate early action on the implementation of the Stockholm Convention on Persistent Organic Pollutants (POPs) in the Republic of Armenia" (POPs Project) has been implemented to develop the National Implementation Plan (NIP) addressed on reduction and elimination of POPs releases and POPs-containing wastes generation in Armenia. The "List of actions implemented within the frames of the "National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants in the Republic of Armenia during 2005-2010 was approved by the Protocol Decision of the Government of the Republic of Armenia" (No. 1 of January 13, 2005). To prevent the harmful effect of obsolete pesticides on environment and human health the Decision of the Government of the Republic of Armenia "On approval of measures ensuring security of obsolete pesticides burial and on assigning funds from Republic of Armenia state budget for FY 2004" (No. 526-A dated April 22, 2004) were prepared. To assist state policy and strategy implementation on waste issues and to provide wastes environmentally sound management within

the Ministry of Nature Protection the State non-commercial organization "Waste Research Center" was established by the Decision of the Government of the Republic of Armenia No. 670-N of May 19, 2005. "Waste Research Center" will be engaged in research of landfills adverse impact on environment and human health, in issues on wastes inventory, classification by hazard classes, development of normative documents on wastes management, collection and analysis of information on BAT and BEP.

#### **Belarus:**

*Information:* In Belarus from three components of the environment the basic attention of ecologists at inspection of objects of waste disposal is given studying of the level of their influence on ground water, less often surface waters and in a smaller measure on soil and air. For monitoring of quality of the ground waters observation posts are equipped (basically chinks). From which water tests for analytical researches are periodically selected. The regime network of observant chinks is created on 80 municipal waste disposal objects and 46 objects with industrial wastes. As a rule, the network will consist of 2-5 chinks on the municipal waste disposal objects and 4-10 - on objects with industrial wastes; on some objects the quantity of chinks exceeds 50-60 (salt spoil heap of the Production Society "Belaruskaliy", phosphogypsum heap of the Gomel chemical plant, a complex on processing and landfilling of hazardous wastes of Chechersk region and other). For ground and surface waters the set of the certain components is regulated and maximum permissible concentration are established. Monitoring of soils, air and surface waters in a zone of influence of waste landfilling objects is not conducted. However, on many objects where ecological inspection was carried out and ecological passports were developed, there are single definitions of maintenances of heavy metals in soil and definitions of quality of superficial waters (from streams, fire reservoirs) and atmospheric air. Now the extensive material about the basic chemical soil pollutants - microelements (Ni, Co, V, Mn, Cr, Pb, Mo, Cu, Zn, etc.), some inorganic (Na, NH<sub>4</sub>, Cl, SO<sub>4</sub>, NO<sub>3</sub>, etc.) and organic (mineral oil) substances is saved up. Environmental impact of waste disposal facilities are stated in the report on scientific research work "To Develop the Forecast of Change of the Condition of the Surrounding environment and a Complex of Actions with the Purpose of Maintenance of Ecological Safety of Belarus for 2010-2020". Ecological passports are developed for working objects. They are contain an information allowing to make an environmental impact assessment of object. For projected facilities (sources of waste production, objects on their processing and (or) disposal), the estimation of their possible environmental impact is carried out. Contact information: Institution BRC "Ecology", V. Khoruzhey Str.31a Minsk 220002 tel: (375 17) 234 70 65; tel/fax (375 17) 234 78 18 e-mail: belnic@mail.belpak.by

#### **Bosnia & Herzegovina:**

*Information:* Study on "Environmental Protection Assessment of Industrial, Medical and other hazardous wastes in Bosnia and Herzegovina" which contains three thechnical reports: Industrial and other Hazardous wastes (IHW and OHW); Medical hazardous wastes; and Executive summary.

#### **Bulgaria:**

*Information:* Such kind of information can be obtained from Executive Environmental Agency, "Waste" Sector:136, "Tsar Boris III" blvd., Sofia 1618; e-mail: ncesd@nfp-bg.eionet.eu.int; tel.: (3592) 940-6488, (3592) 955-9396; fax: (3592) 955-9015

#### **Croatia:**

*Information:* Information can be obtained from the Ministry of Health, Ksaver 200/a, 10000 Zagreb.

#### **Czech Republic:**

*Information:* There are no special statistics on the effects of hazardous wastes and other wastes on human health and the environment. Contact information: National Institute of Public Health, Srobarova 48, CZ-10042 Prague 10

#### **Estonia:**

*Information:* National Waste Management Plan, Yearly statistics, Health Care Waste Management Strategy.

#### **Georgia:**

*Information:* Information is not available.

#### **Hungary:**

*Information:* On the basis of the material balance and other documents, the owner of the waste shall submit a quarterly and annual report, to the regional environmental protection authority. The annual reports are collected and registered in the database which is operated by the Ministry of Environment and Water. All information on waste classification can be found at National Inspectorate for Environment and Nature Conservation.

**Latvia:**

*Information:* Information is not available.

**Lithuania:**

*Information:* The feasibility study "Lithuanian Hazardous Waste Management" was done in 2003. The aim of this study was to address the need for the treatment/disposal of the hazardous waste, including waste generated in the past by tanneries operating close to the new facilities site. Every enterprise pursues the monitoring on local level and it is appreciable like their self-control implement.

**Poland:**

*Information:* Multi-annual governmental research programme "Environmental and Health" is under way and will be continued in 2006. The programme of environment and health actions in Poland is implemented within the framework of basic strategy setting priorities for national health policy, namely the National Health Programme (NHP). The NHP was adopted by the Government of Poland for the years 1996-2005. The programme covers the following implementation actions: - improvement of legal system on human protection in occupational environment (system of radiological protection, management of occupational safety and health in enterprises, prevention of biological hazards, safety in case of serious industrial accidents); - development and implementation of a modern system for identification and assessment of occupational hazards; - development of methodology for early diagnosis and prevention of occupational diseases and health promotion at workplace; - development or up-dating of educational systems essential for national social policy in relation to occupational safety and hygiene as well as ergonomics.

**Republic of Moldova:**

*Information:* Information not available.

**Romania:**

*Information:* Information is not available.

**Russian Federation:**

*Information:* Ministry of Natural Resources of the Russian Federation, State Report "On condition and protection of the environment of the Russian Federation in 2004", Moscow, 2005; Ministry of Natural Resources of the Russian Federation, Federal Ecological Fund of the Russian Federation, Geographic Faculty of the Moscow State University named after M.V. Lomonosov, "Ecological atlas of Russia", Moscow, 2002; Ministry of Health of the Russian Federation, Information and methodic letter "On introduction of methodology for evaluation of health risk in Russia", Moscow, 2002; Ministry of Natural Resources of the Russian Federation, "Ecology of Production", periodic scientific and practical magazine; Russian Academy of Medical Sciences, "Human Ecology", periodic All-Russian scientific and practical magazine; Russian Academy of Sciences, "Ecology and Industry of Russia", periodic social scientific and technical magazine; "Problems of Regional Ecology", periodic magazine; Risk of effect of chemical pollution on population health. From assessment to practical actions, Under redaction of academician of RAMS, Y.A. Rakhmanin. Moscow, 2003; Physical Factors of Production and Natural Environment. Sanitary Assessment and Control. G.A. Suvorov, N.F. Izmerov, Moscow, 2003.

**Serbia and Montenegro:**

*Information:* The enormous destruction of chemical and power generators and their bombing in 1999, was reflected on the quality of the environment. The most quantities of hazardous wastes (PCBs, PBBs) were exported for treatment and final disposal. Priority activities on decontamination of hot spots are underway and supported by financial assistance through the projects, studies and other international activities.

**Slovakia:**

*Information:* Special statistics on the effects of hazardous wastes and other wastes on human health and the environment do not exist in Slovakia. The following information sources regarding wastes are available: - Statistical Yearbook of the Slovak Republic, national, annual, Statistical Office of the Slovak Republic; - Report on Status of Environment of the Slovak Republic, national, annual, Ministry of Environment of the Slovak Republic; - Wastes in the Slovak Republic, national, annual, Statistical Office of the Slovak Republic; - Waste Management Programme of the Slovak Republic until 2005, national, Ministry of Environment of the Slovak Republic - [www.enviro.gov.sk](http://www.enviro.gov.sk) - [www.enviroportal.sk](http://www.enviroportal.sk) - [www.sazp.sk/COH](http://www.sazp.sk/COH) - [www.uzis.sk](http://www.uzis.sk) - Office for public relations established at the Ministry of Environment of the Slovak Republic - a public service.

**Slovenia:**

*Information:* Information is not available.

**Ukraine:**

*Information:* This information can be found in the National Report on the State of Environment in Ukraine (for years 1999, 2000).

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**Question 7. Effects on Health/Environment****2004. Latin America and The Caribbean. (Parties which did not report are not listed).**

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**Antigua and Barbuda:**

*Information:* None.

**Argentina:**

*Information:* There are no statistics on waste generation. However, there is a register of generators, operators and transporters subject to National Jurisdiction (this information can be found on Web Page: [www.medioambiente.gov.ar](http://www.medioambiente.gov.ar)). In general most of the Argentine Provinces have no statistics or register, so there are no data for the whole country. However, there is a National Profile on human health elaborated by Ministry of Health and Social Action for OPS. Project (INTOX - OMS/OIT/PNUMA). Country additional data can be found in the Red Argentina de Toxicología (REDARTOX) (Argentine Toxicology Network).

**Barbados:**

*Information:* None.

**Brazil:**

*Information:* In depth studies concerning the contamination of soil, water, air and human exposure to hexachlorocyclohexane (lindane – HCH) due to environmentally unsound disposal of HCH wastes: Department of Science and Technology in Health (DECIT) inside the Health Policy Secretariat (SPS) of the Health Ministry (MS). Address: Esplanada dos Ministérios, Bloco G, 7º andar, Sala 706 –70058-900 – Brasília, DF, Brazil Phones: (55-61) 3315-2852, (55-61) 3315-2273, (55-61) 3224-4692; Fax: (55-61) 3225-1167; e-mail: [ciencia@saude.gov.br](mailto:ciencia@saude.gov.br)

**Chile:**

*Information:* In the last years no accidents have been detected due to the transport or disposal of hazardous wastes. Nevertheless, because of the illegal import of hazardous wastes containing lead, which was carried out by a Swedish firm PROMEL in the eighties, the consequences are still being felt on health.

**Colombia:**

*Information:* “Study over hazardous wastes in Colombia: a first step for action”, elaborated by the National Planning Department and the Engineering Department of the National University of Colombia on July 1998. This study has a first overview of the issue of hazardous wastes in Colombia, the nature and volume of hazardous wastes generated in the country, etc. The full version of the document can be found in the web page of the Ministry of Environment of Colombia: [www.minambiente.gov.co](http://www.minambiente.gov.co) “Methodology to classify the Risk Associated to the Exposure to Cancerous agents and other Chemical Toxic Substances”, elaborated by Elizabeth Anderson in 1984. This study present a methodology based on the indicators of danger defined as the general indicator of potential harm that a hazardous substance poses to humans and to the environment. This document can be found at the library of the Ministry of Health of Colombia. “Project for the Safe Management of Residues by Health Institutions”, presented by the Ministry of Health in 1997. This document refers mostly to solid wastes and identifies as the main problem for their sound management the fact that they are essentially heterogeneous, and present characteristics of high humidity and important absorption capacity. The increased use of non re-usable materials adds to the problem. The document establishes a clear connection between the risks generated by such wastes and the type of hospitals involved, taking into account their medical specificity, the occupancy rate and the coverage of their service. It refers also to the biosafety rules applied to the percentage of accidents and professional diseases due to incorrect management or procedures, and insufficient working staff. This document proposes a waste management plan that includes administrative, financial, planning and legal functions, based on the development of the generation, classification and security, collection, transportation and treatment, final disposition and advantage. As for the quantity and quality of wastes, the study refers to the results obtained at the “Pablo Tobón Uribe” Hospital. This document can be found at the Library of the Ministry of Health of Colombia. Article “Treatment and Disposal of Solid Industrial Wastes”, elaborated by Martha Espitia on March 1992. This document presents the problem of wastes as for their generation, characterization, collection, storage, pre-treatment and treatment. Though it presents some indicators over the generation and characterization of hazardous wastes, these are not specific enough. This document can be found at the Documentation Center of the Colombian Security Council. Article “Management of Hazardous Wastes in Cement Furnaces”, written by Sandra Escobar and Diego Ramírez in 1997, and published by the Colombian Security Council. It presents the benefits of hazardous wastes treatment in the cement industry for other furnace industries. It presents a study from the Panamerican Health Organization (PAHO) with an annual calculation over the wastes generation in

three different countries. It does not include the methodology used to obtain such results. "Health and Work Environment, a Research of Cancerous Risk Factors in Industry", made by the Corporation "Penca de Sábila" and the Social Security Institute in 1996. The research was carried out in the metropolitan area of the city of Medellín, in the city of Barranquilla and the municipality of La Soledad. It focused in the enterprises classified in risk III, IV and V, according to the Decree 1295 of 1994. A survey was achieved for 120 enterprises, followed by 40 technical visits, and the result was the determination of the exposure levels to chemical substances or wastes considered cancerous according to the International Research Agency. The document can be found at the Center of Documentation of the CENSAT. Seminar "Management and Disposal of Hazardous Wastes", organized in Bogota by the Ministry of Health of Colombia and the Panamerican Health Organization (PAHO) in 1996. The presentations, where, inter alia, on: disposal of solid hazardous wastes, repercussions of such wastes on health, hospitable wastes management, transportation of hazardous wastes, legal requirements over polluting reduction, processing and treatment, state emergency plans. Study over Hazardous Wastes in Latin America and the Caribbean, Colombia. It includes the evaluation of the generation and management of hazardous wastes in Bogota, made by the National Planning Department in 1993. This study presents the hazardous wastes management in Bogota, involving production aspects, and treatment, administration and control systems. It also presents a management and disposal evaluation of biomedical and health-care waste. Guide for the Management of biomedical and health-care Solid Wastes of the "Pablo Tobón Uribe" Hospital in 1998. This guidebook includes a management plan for hospitable residues, with the purpose to reduce its risks to health and the environment. It can be found at the Library of the Ministry of Health of Colombia. "Impact of Industrial Wastes: Worker's Health and the Environment". This was a research carried out by the CENSAT and the Social Security Institute in 1996. Ninety-six industries from Yumbo and Cazuca were involved, and the main industrial wastes, the generating spots and the possible control mechanisms could be determined by a survey. This document can be found at the Documentation Center of the CENSAT. As for final disposal: An environmental permit is required in Colombia for the "Construction and operation of the management systems, treatment and final disposal of solid, industrial, domestic and hazardous wastes, of territorial entities under the jurisdiction of the Regional Autonomous Corporation that are not subject to control by virtue of treaties, convention and international protocols..." (Decree 1753 of 1994, art. 8, par. 16). This means that any person, entity or municipality that wishes to construct or operate a solid wastes (common or dangerous) disposal system, has to elaborate an environmental impact assessment. This EIA is required to follow criteria set forth in the Basel Convention for providing information particularly on the possible effects on water, air, soil, flora and fauna, and human beings. The main landfills in Colombia are: 1) Doña Juana Landfill in Bogota, subject to the jurisdiction of the Regional Autonomous Corporation of Cundinamarca- CAR; 2) The Curva de Rodas Landfill in Medellín, subject to the jurisdiction of the regional environmental entity in Antioquia. These two regional environmental entities have direct access to the information related to studies, statistics, monitoring, etc, of the landfill. The Ministry of Environment can provide more specific information about these studies through its Regional Environmental Authorities, upon request.

#### **Costa Rica:**

*Information:* At present there are two research centres on state universities, such as CICA (Centro de Investigación en Contaminación Ambiental) at the Universidad de Costa Rica and IRET (Instituto Regional para el Estudio de Sustancias Tóxicas) at the Universidad Nacional (UNA), which can provide information on this topic. The Ministry of Health is in the process of preparing a database related to all the wastes produced by the industrial and agro-industrial sectors that will reveal the current situation of Costa Rica.

#### **Cuba:**

*Information:* None.

#### **Dominica:**

*Information:* No quantitative documentation from studies of the effect of hazardous waste disposed of into the environment, but in the absence of effective management systems, it is evident that pollution of marine waters and soil contamination occurs.

#### **Dominican Republic:**

*Information:* The lead acid batteries project revealed some interesting results in respect of the percentage of lead present in the blood of communities exposed to lead contamination. There are also some areas where lead is found in the blood of the surrounding population.

#### **Ecuador:**

*Information:* Research about the effects of the generation, transportation and disposal of clinical wastes on human health and the environment by Fundacion Natura, Av. República 481 y Almagro, Quito - Ecuador, (593 2) 503391, e-mail: natura@fnatura.org.ec.

#### **Guyana:**

**Information:** Mercury Effects on Human Health Contacts Ms Karen Livan (Environmental Manager) Guyana Geology and Mines Commission 592 225 2862/227 1232 Ms. Sonia Roopnauth (Permanent Secretary) Ministry of Health 592 227 1316 Sectoral Analysis of Solid Waste in Guyana Contacts Ms. Sonia Roopnauth (Permanent Secretary) Ministry of Health 592 227 1316 PAHO Guyana 592 225 3000/225 7170

### Mexico:

**Information:** The Federal Commission for the Protection against sanitary risks (COFEPRIS) from the Secretary of Health has national vulnerability map of exposure to hazardous wastes, specifically heavy metals. Likewise, COFEPRIS carries out risk evaluation in contaminated sites with hazardous wastes in different federal entities of the country, for example: State of Mexico by chromium waste exposure; Coahuila and Morelos for exposure to lead wastes and San Luis Potosi by wastes of hydrocarbons. The COFEPRIS collaborated with the Secretary of Environment and Natural Resources (SEMARNAT) in the making of the "Official Mexican Regulation for the restoration of polluted grounds", through the development of the basic guidelines for Risk Evaluation to human health by exposure to wastes. Contact point for health Information: Racio Alatorre Eden-Wynter Executive Direction of Risks Management COFEPRIS- Office of the Secretary of Health Tel: (55) 14 8573 Fax: (55) 14 8574 E-mail: rocioal@salud.gob.mx Address: Monterrey 33, 9 Piso, Col.Roma, Del. Cuauhtémoc,México, D.F. 06700.

### Peru:

**Information:** There are identified effects such as illness resulting from exposure to hazardous wastes during the generation, transport and disposal of wastes. Lima - Callao Lead particular matter Population affected: Children aged between 6 months and 10 years. This population of children was identified with values above the permissible limit [10 microgram per dl]. Some 1,000 families affected. Storage of ore concentrates. Cases of acute poisoning, generally accidents as a result of exposure to chemical wastes, have been identified as consequences. Example spillage of mercury, pesticide residues, etc. Mining Highlands Department: Cajamarca Locality: Choropampa Mercury 251 persons suffered acute poisoning by metallic mercury and were treated. Industry Lima - Villa El Salvador HNO<sub>3</sub> (53%) None. Parameters used above for requests: Activities Region Waste (type) Identified health and Environmental impacts.

### Saint Lucia:

**Information:** None.

### Trinidad and Tobago:

**Information:** Lead contamination at Demerara Community in East Trinidad. Soil samples tested and remediated, human blood samples tested in 1991-1999. E.M.A. reports 2000 and 2005. - Asbestos remediation in Schools and Public buildings 1999-2002. Ministry of Health Report; - Illegally dumped spent catalyst was recovered and shipped for regeneration. E.M.A. Incident Report.; - 24 tons of DDT housed in Chaguaramas awaiting final disposal. F.A.O inventory of obsolete chemicals made in 1999; and - Explosion at Chemical Storage Site in South Trinidad, 2005. Preliminary site.

### Venezuela:

**Information:** Fuentes de contacto o información: Ministerio del Ambiente y de los Recursos Naturales (MARN) § Dirección-General de calidad ambiental Tel: (58-212) 806-1455/1255. Fax: (58-212) 408-1118. § Dirección de Manejo de Recursos y Desechos Tel: (58-212) 4081126-/1125. § Dirección de calidad del aire el: (58-212) 4081133-/1134. Ministerio de Salud (MS) § Dirección General de Salud Ambiental Tel: (58-243) 2412989. INPSASEL Tel: (58-212) 5091428/1594/1429

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**Question 7. Effects on Health/Environment****2004. Western Europe and Others. (Parties which did not report are not listed).**

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**Andorra:**

*Information:* The old incinerator plant of the Comella was closed on October 21th of 2002. The closure was due to the elevated dioxin concentration at the emission, which surpass the limit of the 2000/76/CE Directive. The Ministry of Health has started a study to know the effects range of the contamination over the population close to the incinerator. The conclusions of the survey show that the levels of dioxins remain within the fringes observed in other general European populations. The levels of dioxins do not differ amongst the groups defined according to the potential exposition to the incinerator. The employees of the incinerator do not present different levels either. Studies on the effects of the generation, transportation and disposal of hazardous wastes and other wastes on human health and the environment have begun recently. In 1998, a general analysis on the "State of the Environment in Andorra" was published, and chapter V of this Study was dedicated to the problem of waste generation and treatment in Andorra. The chapter provides statistics on the types and amounts of wastes, and also on the existing solutions and the future plans for waste treatment and disposal. Although much remains to be done, and data to be collected, this study has provided the basis for an analysis in the future. English summary of this study is available on demand from the Department of Environment.

**Australia:**

*Information:* Information may be obtained from the following websites: <http://www.deh.gov.au/>  
<http://www.environment.act.gov.au> <http://www.epa.nsw.gov.au/>  
<http://www.nreta.nt.gov.au/www.epa.qld.gov.au> <http://www.epa.sa.gov.au>  
<http://www.service.tas.gov.au/Nav/Topic.asp?Topic=Environment%2C+land+and+water>  
<http://www.epa.vic.gov.au/> <http://www.environment.wa.gov.au>

**Austria:**

*Information:* No specific information is available. General information can be obtained from the Federal Environment Agency via the Internet: <http://www.ubavie.gv.at/umweltregister/toc.htm> A meta-database (environment data catalogue) is available under: <http://193.170.161.213:8080/wwwudk/html/de/start.html>

**Belgium:**

*Information:* Flanders - Concept for practical guidelines to perform ecological risk assessment in Flanders, VITO, 2003 - Health risk assessment of dioxin emissions from municipal waste incinerators, VITO, 2001 - Waste management plans in Flanders about sludge, biological waste, household waste, demolition waste, industrial waste in small enterprises, high calory waste, shipping waste - Measurements of the dioxines emission values of car traffic, OVAM, 2003 - Research of endocrine disrupters in Flemish waters, 2003 Brussels - The interface health-environment keeps up to date the information available on illness, their symptoms and possible links with the environment, direct or indirect exposure to wastes and toxic substances (i.e. saturnism, lung diseases, micronutrient deficiencies, fertility problems etc.). Data available on <http://www.ibgebim.be>. - Statistical results concerning heavy metal intoxication, endocrine disturbance, fetal disease, chemical effects on the respiratory apparatus are only available with formal permission.- A report concerning PCB related topics was published, ("PCB's, a model for thinking and action" - Cahiers de L'IBGE 18, 195 pp, 2001). - Info concerning the 'green ambulance' is available on <http://www.ibgebim.be>.

**Canada:**

*Information:* Information on the relationship to hazardous wastes on human health and the environment can be found within recent Canadian statistics and studies including: Canadian news release of 2004 statistics [http://www.ec.gc.ca/press/2005/050817\\_n\\_e.htm](http://www.ec.gc.ca/press/2005/050817_n_e.htm) Priority Substances List Assessment Reports containing waste information <http://www.ec.gc.ca/substances/ese/eng/psap/final/main.cfm> National Pollutant Release Inventory; provides substance information containing on-site releases and transfers for disposal and recovery. [http://www.ec.gc.ca/pdb/npri/npri\\_si\\_e.cfm](http://www.ec.gc.ca/pdb/npri/npri_si_e.cfm)

**Finland:**

*Information:* The requirements for the monitoring of e.g. the emissions and effects of industrial facilities (including waste disposal and recovery facilities) are specified case-by-case in the environmental permits granted for such facilities. With regard to landfills, for example, the monitoring shall include at least monitoring of quantity and quality of landfill water and surface water, quality and level of groundwater, and accumulation and migration of landfill gas. The monitoring reports are provided to the supervisory authorities. There are no specific national statistics etc. available on the effects of hazardous wastes on human health and the environment. However, in the Finnish environmental administration, there are some 40 national environmental monitoring programmes in operation

concerning, for example, emissions and discharges to the environment, state of the environment (air, water courses, groundwater, soil), generation and management of wastes and hazardous wastes, use of chemicals, natural resources, and biodiversity. The health of the Finnish population is also regularly monitored by the health authorities (see e.g. [www.ktl.fi](http://www.ktl.fi)).

**France:**

*Information:* Information can be obtained from (33-1) 4219-1555 (Ms. Le Mouellic).

**Germany:**

*Information:* There is a great variety of environmental monitoring in Germany which covers all environmental media (air, soil, sea, inland waters) and many different types of monitoring (e.g. Environmental Specimen Bank, integrated environmental monitoring, population studies). There is also a huge amount of waste analyzes data which have been collected in a waste analyzes database. Data about all environmental issues are published in "Data on the environment" which is available in German (ISBN 3-503-09057-6). A complete English translation is in preparation.

**Greece:**

*Information:* Information is not available.

**Ireland:**

*Information:* - Report of the Investigation into the Presence and Influence of Lead in the Silvermines Area of County Tipperary. Department of Agriculture, Food and Rural Development, 2000. Available from [www.irlgov.ie](http://www.irlgov.ie); - Inventory and tracking of dangerous substances used in Ireland and development of measures to reduce their emissions/losses to the environment. To be published by EPA in 2001, available from EPA Publications ([www.epa.ie](http://www.epa.ie)); - Endocrine disrupting substances in the Irish aquatic environment (2000-MS-2-M1) – Research project commenced in 2000. Final report, when available, from EPA Publications ([www.epa.ie](http://www.epa.ie)); - Methodology for assessment of hazardous waste disposal sites (2000-MS-12-M1) – Research project commenced in 2000. Final report, when available, from EPA Publications ([www.epa.ie](http://www.epa.ie)); and - Inventory on dioxin and furan emissions (2000-DS-2M1) – Desk study commenced in 2000. Final report, when available, from EPA Publications ([www.epa.ie](http://www.epa.ie)). For further information, documents and reports please see [www.epa.ie](http://www.epa.ie).

**Israel:**

*Information:* Effect on Human Health and the Environment: Several studies were conducted at the Ramat Hovav National Hazardous Waste Treatment Site and the surrounding industrial area. The studies were conducted as part of the Ministry of the Environment's plan for the remediation of the site, and the following surveys are available at the Hazardous Substances Division of the Ministry, in English: historical survey, field study, and the masterplan for the remediation of the site. Air quality and hydro-geological surveys were also carried out at the Ramat-Hovav Industrial Zone, however, they are available in Hebrew only.

**Liechtenstein:**

*Information:* None.

**Luxembourg:**

*Information:* Information is not available.

**Monaco:**

*Information:* Information is not available.

**Spain:**

*Information:* Information is not available.

**Sweden:**

*Information:* Information is not available.

**Switzerland:**

*Information:* For this item information is not reported.

**Turkey:**

*Information:* For this item information is not reported.

**United Kingdom of Great Britain and Northern Ireland:**

*Information:* The Prime Minister's Strategy Unit, in its report "Waste not, Want not", recommended that an independent body should bring together the literature and evidence on the relative health and environmental effects of all the different waste management options; relative both to each other and to other activities affecting health and the environment. The Government made a commitment in the pre-budget report 2002 to commission a review. This has been a two stage process. The first stage has been an assessment of the scientific evidence of the physical health and environmental effects of options to manage municipal solid waste and similar wastes, and a report was published in May 2004. An economic study completes the second stage. This report presents the findings of a study conducted by Enviros Consulting in conjunction with Economics for the Environment Consultancy (EFTEC) to provide an assessment of the external costs and benefits to health and the environment of waste management options valued in monetary terms. Both studies are available at : <http://www.defra.gov.uk/environment/waste/research/health/index.htm>. Small Area Health Statistics Unit (SAHSU) epidemiological study on health effects in human populations living close to landfill sites in the UK – this looks at the rates of birth defects, low birthweight, stillbirths and of certain cancers in populations living within 2km of landfill sites in operation between 1982 and 1997. The report was published in 2001 and can be found at <http://www.doh.gov.uk/envchemh.htm>; Statement by the Committee on Carcinogenicity of Chemicals and Food, Consumer Products and the Environment (COC) entitled 'Cancer incidence near municipal solid waste incinerators in Great Britain'. This is a review of a SAHSU epidemiology study investigating cancer incidence or mortality amongst individuals living in proximity to municipal solid waste incinerators in Great Britain. More information on this and other relevant studies can be obtained from <http://www.doh.gov.uk/envchemh.htm>; [www.doh.gov.uk/coc.htm](http://www.doh.gov.uk/coc.htm) and [www.doh.gov.uk/comeap/index.htm](http://www.doh.gov.uk/comeap/index.htm);

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