

7 Information on Effects on Health/Environment

All Regions/Countries, Parties of the Basel Convention

UN Region: Africa

Cameroon

2003 Information on the generation and monitoring of hazardous waste is hard to come by considering the fact that most of the wastes are not previously separated before collection and dumping by the few companies that collect and dump wastes in open air dumps. Major companies that collect and dump or eliminate wastes are HYSACAM, TOTAL Ecolub, BOCOM.

Djibouti

2003 - Réalisation d'une étude d'impact sur les POPs
- Inventaires des pesticides et sites contaminés par les POPs
- Etude d'impact de l'incinérateur de l'hôpital Général Peltier

Egypt

2003 Data is not available.

Ethiopia

2003 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

2003 Information is not available.

Madagascar

2003 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

2003 Information is not available.

Morocco

2003 Statistics are not yet available.

Mozambique

2003 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.

Niger

2003 Contaminated soil by obsolete stocks of POPs pesticides (Source: DPV Niger, POPs inventories/Implementation of the Stockholm Convention). Skin lesions have been noticed in workers of electricity companies responsible for the maintenance of electric transformers, contaminated by PCBs.
Following of this information are develop in the framework of NIPs of the Stockholm

and Basel Conventions.

Seychelles

2003 No study has been conducted yet.

South Africa

2003 None.

Tanzania (United Republic of)

2003 Information is not available.

Tunisia

2003 None.

Uganda

2003 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.

Zambia

2003 Effect of lead/cadmium on residents of Kabwe town from mining operations of lead/zinc mine (University of Zambia) 1995, Professor Cernak, Chemistry Department/UNZA, Box 32379, Lusaka; Lusaka Groundwater Monitoring Project (ECZ/CIDA) 1999; and Libala Dumpsite closed based on findings of above study.

UN Region: Asia and Pacific

Azerbaijan

2003 State Statistical Committee of Azerbaijan collects data on generation, neutralization, transportation, recovery of toxic wastes and publish this information in annual bulletins.

Bangladesh

2003 Information is not available.

Brunei Darussalam

2003 Environmental Sanitation Health Brunei, Ministry of Health, Negara Brunei Darussalam. Telephone: +673 2 381640

Cambodia

2003 Information is not available.

Cyprus

2003 Information is not available.

Indonesia

2003 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

2003 Information is not available.

Kyrgyzstan

2003 Information can be obtained from research-and-production association "Preventive medicine" under Ministry of Health Care, phone: (996-312) 544578.

Lebanon

2003 None.

Maldives

2003 Ministry of Health
Ameeni Magu
Male'
Phone: (960) 328887
Fax: (960) 328889
Email: moh@dhivehinet.net.mv

Pakistan

2003 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.

Philippines

2003 None.

Singapore

2003 Information is not available.

Sri Lanka

2003 Sri Lanka is formulating the national inventories on PCBs, Pesticides, dioxins and Furans under UNEP/GEF assistance, for the preparation of the NIP under the Stockholm Convention. This Project is implemented by the Ministry of Environment and Natural Resources.

Thailand

2003 In 2000, it was reported that many cases of illegal lead smelters, using spent batteries as raw materials, were found in several countryside areas, such as Prachuabkhirikhun, Rachaburi and Kanchanaburi etc. in Thailand. These case have threatened human health and the environment in the surrounding area because the backyard smelter processes were operated without the pollution control and management in the environmental sound manner. In their processes, the acid containing lead, arsenic, zinc, antimony and ferrous was directly discharged into soil and water resource. Lead was smelted in the huge pans, which emitted the lead dust and acid fume and generated enormous amount of slag containing lead in which such slag were unstable and contaminated the environment as well as are eventually harmful to the human health.

In 2003, there were three incidents regarding the illegal dumping of hazardous wastes as described below:

-Asia Fructose Ltd. illegally dumped and open-burned wastes, containing sulfur on the hill nearby the water reservoir in Kanchanaburi Province. People living in surrounding area were exposed by Sulfurdioxide and the surfacewater in such area became medium-acid, caused by the contamination of sulfur. In cooperation of Pollution Control Department and the local authorities, the company was regulated to remove and dispose all wastes and contaminated soil in the environmentally sound manner.

-N Technology Consultant Ltd. was hired to transport 10 tons of KCE International Ltd.'s wastes, containing PCB/copper dust and wastewater sludge, in order to incinerate in TPI Polene Public Ltd.'s incinerator. All of wastes were illegally dumped on the uninhabited land nearby Bang Pu Industrial Estate, which affected the contamination of PCB in the soil in such area. Such waste transporter was arrested and

preceded the legal action in this case.

-Fifty tons of metal polishing powder waste, liberated ammonia gas in contact with water, were illegally dumped on the public area in Kanchanaburi Province. People living in surrounding areas had got the strong smell and little irritate with their eyes.

Viet Nam

2003 According to the results of some inventory projects, there are some storages of over-dated and/or illegal pesticides (eg. In Danang) which currently have effects to environment and human health of surroundings.

UN Region: Western Europe and Others

Andorra

2003 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

2003 Information may be obtained from the following websites:

<http://www.deh.gov.au/>

<http://www.environment.act.gov.au/ie4/>

<http://www.search.nsw.gov.au/environment.asp>

<http://www.nt.gov.au/ntg/environment.shtml>

<http://www.env.qld.gov.au/environment/environment/legislation/epa.html>

<http://www.sa.gov.au/environment/protection/>

<http://www.service.tas.gov.au/Nav/Topic.asp?Topic=Environment%2C+land+and+water>

http://www.vic.gov.au/subindex.cfm?link_ID=14

<http://www.viron.wa.gov.au/>

Belgium

2003 - 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
- Dossiers about specific pathologies related to the 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>;
- Dossiers about heavy metal intoxication, endocrine disturbance, featal disease, chemical effects on the respiratory apparatus. The statistics results concerning these topics are only available with formal permission; and
- A report on problems concerning the PCB topic was published, i.e. "PCB's, a model for thinking and action" (les Cahiers de L'IBGE 18, 195 pp, 2001).

Canada

2003 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 2003 statistics
http://www.ec.gc.ca/press/2004/040920_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

Finland

2003 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).

France

2003 Information can be obtained from (33-1) 4219-1555 (Ms. Le Mouellic).

Germany

2003 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 3-503-05973-3) and English (ISBN 3-503-06668-3). The latest edition has the sub-title "The State of the Environment in Germany 2000", published by Erich Schmidt Verlag, Berlin. A new edition is in preparation.

Greece

2003 Information is not available.

Israel

2003 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.

Luxembourg

2003 Information is not available.

Monaco

2003 Information is not available.

Netherlands

2003 Information can be found on: www.rivm.nl, www.minvrom.nl, www.aoo.nl

New Zealand

2003 The Ministry for the Environment currently is developing a national indicators programme to monitor the health of the New Zealand Environment. Indicators for hazardous waste have been confirmed and initial collection of information using these indicators is underway.

Norway

2003 Information is not available.

Spain

2003 Information is not available.

Sweden

2003 Information is not available.

United Kingdom of Great Britain and Northern Ireland

2003 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 Enviro 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.

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 and www.doh.gov.uk/comeap/index.htm;

An investigation undertaken around the Nant-y-Gwyddon landfill site in Wales by Fielder and co workers was published in 2000. The study compared congenital abnormalities in a potentially 'exposed' population living close to the site compared with those living further away, both in the years preceding and following the opening of the site. The authors concluded that the area surrounding the landfill site had an increased rate of reported congenital malformations, which predated the opening of the landfill and also that further studies of the reproductive risk in such communities are needed to examine the safety of waste disposal sites;

A study published in 2000 by Knox considered childhood cancer deaths in relation to residence close to municipal solid waste incinerators in the UK. However as the study relates to possible exposures between 1937 and 1980 it is therefore mainly of historical interest. Incinerators now meet stringent emission standards and most of the incinerators considered in the study have now closed;

IPPC: A Practical Guide for Health Authorities dated August 2001 produced by the Chemical Hazard Management and Research Centre (CHMRC), University of Birmingham. This is a practical guide for Health Authorities and it identifies the principles that should underpin Health Authority input and suggests key components of a public health assessment for IPPC applications; and

EUROHAZCON study of chromosomal congenital anomalies in populations living near hazardous waste landfill sites in Europe – the study considers residents living within 0-3km and 3-7km of hazardous waste landfill sites. The report of the study, was published on 25 January 2002 in Lancet and can be found at <http://www.thelancet.com/journal/vol359/iss9303/contents>.

UN Region: Central and Eastern Europe

Albania

2003 Information is not available.

Armenia

2003 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.

Belarus

2003 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, NH₄, Cl, SO₄, NO₃, 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.

Bosnia & Herzegovina

2003 Study on "Environmental Protection Assessment of Industrial, Medical and other hazardous wastes in Bosnia and Herzegovina" which contains three technical reports:

Industrial and other Hazardous wastes (IHW and OHW);
Medical hazardous wastes; and
Executive summary.

Bulgaria

2003 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

2003 Information can be obtained from the Ministry of Health, Ksaver 200/a, 10000 Zagreb.

Czech Republic

2003 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

2003 National Waste Management Plan, Yearly statistics, Health Care Waste Management Strategy.

Georgia

2003 Information is not available.

Hungary

2003 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

2003 Information is not available.

Lithuania

2003 Every enterprises pursues the monitoring on local level and it is appreciable like their self-control implement. At this moment there is no information which have been compiled on the effects of the generation, transportation and disposal of hazardous wastes and other wastes on human health and the environment.

Poland

2003 Multi-annual governmental research programme "Environmental and Health" is under way but results will not be available until the end of 2005.

Serbia and Montenegro

2003 The enormous destruction of chemical and power generators and their bombing, was reflected on the quality of the environment. The long-term consequences for the environment in Yugoslavia cannot be fully understood and evaluated at this moment, but it can be said even now that owing to the appearance of slowly decaying hazardous substances such as organochlorine compounds (PCBs, PCDD/PCDFs, EDC and others) and heavy metals (lead and mercury), that there has been a considerable rise in the danger to the plant and animal world and human health in this area. Continuous monitoring, testing and determination of long-term consequences of bombing on the environment and human health in the most endangered parts of Yugoslavia and the region is set up as the priority measure (Federal Government Recommendation, April

2000). Some information on immediate consequences are in publication “The Environment and Health Consequences of NATO Aggression on Yugoslavia (1999)”, Proc. 17th Conference on the occasion of the 99 Days of Institute, Institute of Public Health and Serbian Chemical Society, Belgrade, Yugoslavia.

Slovakia

2003 Information can be found in:

- 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
- www.sazp.sk/COH
- www.europa.eu.int
- Office for public relations established at the Ministry of Environment of the Slovak Republic – a public service.

Slovenia

2003 Information is not available.

Ukraine

2003 This information can be found in the National Report on the State of Environment in Ukraine (for years 1999, 2000).

UN Region: Latin America and the Caribbean

Argentina

2003 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).

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

2003 None.

Bolivia

2003 Estudios realizados en la niñez de la zona de El Alto en el departamento de La Paz, para determinar la cantidad de Plomo y Arsénico en sangre de niños en edad escolar, este trabajo fue realizado con la OPS/OMS, conjuntamente el Ministerio de Salud y Previsión Social el año 1995.

Brazil

2003 In depth studies concerning the contamination of soil, water, air and human exposure to hexachlorocyclihexane (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) 315-2852, (55-61) 315-2273, (55-61) 224-4692; Fax: (55-61) 225-1167; e-mail: ciencia@saude.gov.br

Chile

2003 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

2003 “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

“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 Medellin, 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 Medellin, 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

2003

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

2003 None.

Dominica

2003 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.

Ecuador

2003

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.

Honduras

2003 None.

Mexico

2003 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:

Racío Alatorre Eden-Wynter

Executive Direction of Risks Management

COFEPRIS- Office of the Secretary of Health

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Peru

2003 There are identified effects such as illness resulting from exposure to hazardous wastes during the generation, transport and disposal of wastes.

Lima - Callao

Lead particulate 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

HNO₃ (53%)

None.

Parameters used above for requests:

Activities

Region

Waste (type)

Identified health and Environmental impacts

Trinidad and Tobago

2003 - Lead contamination at Demerara Community in East Trinidad. Soil samples tested and remediated, human blood samples tested in 1991-1999. E.M.A. report 2000.
- 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.