

SANITATION COUNTRY PROFILE GHANA

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- A. Basic Sanitation
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- A. Basic Sanitation
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- A. Basic Sanitation
- B. Solid Wastes
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- D. Radioactive Wastes

Cooperation

- A. Basic Sanitation
- B. Solid Wastes
- C. Hazardous Wastes
- D. Radioactive Wastes

Decision-Making:

A. **Basic Sanitation:** A coordinating council, the National Environmental Sanitation Policy Coordinating Council (NESPoCC) has been put in place since January 2000 to expedite the implementation of the National Sanitation Policy. The membership includes the Ghana Health Service /Ministry of Health (GHS/MOH) Ghana Education Service (GES), Ministry of Environment and Science (MES), Environmental Protection Agency (EPA), Representatives of Metropolitan, Municipal, and District Assemblies (MMDAs), Council for Scientific and Industrial Research (CSIR), the Private Sector and Non-governmental Organizations. The national laws, specifically the Criminal Code (Act 29), 1960, and Revised Bye-laws of all the 110 MMDA's have enough laws to support the Environmental Sanitation Service delivery and enforce the compliance of sanitation rules. It is however noted that these laws are not deterrent enough and logistical problems make MMDA's impotent in ensuring clean, safe and healthy environment.

The Ministry of Local Government and Rural Development has published the National Environmental Sanitation Policy since May 1999. The policy looks at the basic principles of environmental sanitation, problems and constraints. The role and responsibilities assigned to communities, ministries, departments and agencies and the private sector impinge on environmental management and protection, legislation and law enforcement and the criteria for specifying services and programmes, funding, equipment and supplies among others. Out of the National Sanitation Policy, the MLGRD has also developed a technical guideline document titled 'The Expanded Sanitary Inspection and Compliance Enforcement (ESICOME) Programme guidelines'. The programme guidelines which are implemented by the MMDA's, routinely looks at 4 broad areas namely; effective environmental health inspections (Sanitary Inspections), dissemination of sanitary information (Hygiene Education), pests/vector control and law enforcement. All MMDAs have developed waste management and environmental health plans to help solve the numerous sanitation problems.

Generally, the NESPoCC is responsible for coordinating the policy and ensuring effective communication and cooperation between the many different agencies involved in environmental management in their respective Districts.

B. **Solid Wastes:** General Waste Management in Ghana is the responsibility of the Ministry of Local Government and Rural Development, which supervises the decentralized Metropolitan, Municipal and District Assemblies (MMDAs). However, regulatory authority is vested in the Environmental Protection Agency (EPA) under the auspices of the Ministry of Environment and Science. The Metropolitan, Municipal and District Assemblies are responsible for the collection and final disposal of solid waste through their Waste Management Departments (WMDs) and their Environmental Health and Sanitation Departments. The policy framework guiding the management of hazardous, solid and radioactive waste includes the Local Government Act (1994), Act 462, the Environmental Protection Agency Act (1994), Act 490, the Pesticides Control and Management Act (1996), Act 528, the Environmental Assessment Regulations 1999, (LI 1652) the Environmental Sanitation Policy of Ghana (1999), the Guidelines for the Development and Management of Landfills in Ghana, and the Guidelines for Bio-medical Waste (2000). All these Acts and Regulations emanate from the National Environmental Action Plan.

The only guidelines, which indirectly discourage unsustainable practices and promote sustainable consumption and production, are those on the Environmental Impact Assessment. Standards relating to pollutants into the atmosphere (air, water and land) have also been prepared to ensure that production/consumption activities are sustainable. Environmental Impact Assessment is a requirement under legislation (Act 490) and guidelines have been prepared through the Environmental Protection Agency with private sector collaboration. These guidelines and standards are mandatory for the execution of all major projects in the country.

C. **Hazardous Wastes:** With respect to Hazardous Waste Management, there are currently no clearly distinguishable methods for the disposal of hazardous waste. However, the Environmental Protection

Agency (EPA) is responsible for the provision of guidelines for such wastes. A Draft Hazardous Waste Control bill is currently before cabinet for consideration. (See also under Solid Wastes).

D. Radioactive Wastes: The Ghana Atomic Energy Commission, recognizing the need to establish the basic requirement for the protection of people against undue radiation exposure from unsafe practices established the Radiation Protection Board (RPB) in 1993 through amendments to the Atomic Energy Act, (Act 204) of 1963 and PNDC Law 308. These Laws have been further strengthened by regulations and Legislative Instrument, (LI 1559 of 1993). The Radiation Protection Board as the sole regulatory authority was mandated to establish an inventory of radiation sources in the country and evolve protection and safety strategies for the control of the radiation sources and safe disposal of radioactive waste. No person, body or institution shall generate or manage waste without a valid license from the Radiation Protection Board. RPB has the power to suspend, revoke any license for waste management if the licensee does not satisfy the terms and conditions for the authorization. Radioactive waste is managed by the National Radioactive Waste Management Centre and the National Nuclear Research Institute of the Ghana Atomic Energy Commission. Radiation and waste safety infrastructure have been developed with the assistance of the International Atomic Energy Agency (IAEA) for the safe use and management of radioactive waste arising from all practices. Ghana has been a member of the International Atomic Energy Agency (IAEA) since 1963. The Parliament of Ghana has approved the ratification of the IAEA Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Since radioactive waste management is an integral part of a safety regime for the utilization of nuclear and nuclear-related applications, the Radioactive Waste Management Regulations were drafted and a National Seminar on “Understanding and Implementation of Regulations on Radioactive Waste Management in Ghana was held from 9-11 October 1996 to receive feedback and responses from stakeholders. The final draft was presented to government for promulgation in 1997 after review by RPB and Attorney General’s Department. One of the key components of the regulation is the establishment of a National Radioactive Waste Management Centre (NRWMC) in 1995 by the Ghana Atomic Energy Commission even though the regulations had not been enacted. The NRWMC serves as a location for collection, segregation, treatment and storage of waste from generators.

Programs and Projects:

A. Basic Sanitation: Most programmes and projects aimed at enhancing the role of local authorities have been initiated at the national level through the MLG&RD, other relevant Ministries, Departments and Agencies. Specific programmes and policies include the World Bank-supported Urban Projects (Urban I–V Projects) in Municipalities and other larger urban centres to manage solid and liquid waste and other important infrastructure such as storm drainage.

B. Solid Wastes: A number of projects that will eventually promote sustainable settlement have been initiated or implemented. Among them is the construction of waste treatment facilities like landfill sites and waste stabilization ponds in over 30 major settlements.

C. Hazardous Wastes: In response to the global mandate for environmentally sound management of hazardous, solid and radioactive waste, Ghana, has, among other things, embarked on a life cycle approach to address chemicals and other hazardous wastes management in an integrated manner. This involves a broad range stakeholder institutions and organizations including non-governmental organizations. In 1997, a comprehensive National Chemicals Management Profile was prepared by the EPA with the assistance of United National Institute of Training and Research (UNITAR) and the Inter-organization Programme for Sound Management of Chemicals (IOMC). Other programmes, which are being undertaken, include the framework for Integrated Coastal Zone Management.

D. Radioactive Wastes: The IAEA assisted-projects relevant to radioactive waste management include the development of Radiation Protection Services, GHA/1/007, GHA/9/004- RAF/9/005 (1980-1994), Model Project on Upgrading Radiation Protection Infrastructure in Africa- RAF/9/024 (1995-2000), Model Project on Upgrading Waste Management Infrastructure- INT/9/144 (and Africa

Regional Co-operative Agreement (AFRA) project 1992-1995), and Model Project on Developing the Technical Capability for Sustainable Radiation and Waste Safety Infrastructure- RAF/9/029 (2001-2002). Management and technical capabilities and infrastructure for protection from ionizing radiation and safety of radiation sources have been established. Available Manpower has been adequately trained under programmed training courses, workshops, seminars and fellowships offered by IAEA.

Under the Model project, INT/9/144, waste management infrastructure has been established including the following the establishment of the first phase of the NRWMS with an interim storage facility for the treatment and conditioning and storage of radioactive waste. The second phase of the development of the NRWMS will include the development of a central waste repository for the final disposal of radioactive waste. (See also under Hazardous Wastes and under Status and Capacity-Building, Education, Training and Awareness-Raising).

Status: *Obstacles and Challenges in the Sanitation Sector:* Inadequate funds to pay solid waste contractors who are currently doing about 80% of the collection not paid for by residents;

- Inadequate waste collection vehicles;
- Revenue generated is not sufficient to meet waste collection;
- Inadequate Government financial support on sanitation. The shift of attention has gone to curative instead of the preventive aspect of sanitation;
- Lack of public awareness on the need to pay for sanitation services;
- Indifference of the public towards good sanitary practices;
- Lack of intense and sustained public education on sanitation;
- Problem of land acquisition for public waste disposal;
- Not in my backyard syndrome (Nimby syndrome);
- Inadequacy of law enforcement;
- Need to put in place recycling plants e.g. plastic waste;
- Inter institutional cooperation and collaboration;
- The development and construction of the radio-active waste disposal site being at a stand still for lack of funds.
- Inadequacy of the current staff strength of the NRWMC of two scientists is inadequate. The only technician assisting the scientists has also retired. There is therefore the need for permission to be granted for Ghana Atomic Energy Commission (GAEC) to employ more staff to augment the activities of the centre.

A. Basic Sanitation: The constraints militating against good sanitation are the lack of funding, education, water, proper planning, unwillingness of rural and urban communities to incur cost, (with the children being denied access to facilities) and lack of funds to pay for user systems. These have led to the continued spread of water borne diseases, such as bilharzia, schistosomiasis, guinea worm, yaws and high incidence of diarrhoea affecting mainly children.

B. Solid Wastes: Solid waste is collected and disposed of at designated landfill and waste dump sites by public and private waste management firms. The issue of landfill site location has been a matter of

strenuous negotiations with rising population pressure continuing to impact on waste generation and management. The first phase covering an access road and the construction of a central culvert of the largest landfill to serve the Accra metropolis with a population of nearly three million funded by the Government of the United Kingdom under a grant from the Department for International Development (DFID) has been completed. Funding for the second phase of the project covering design and the actual construction of the landfill is being sourced from the World Bank.

The sustainable use and conservation of marine living resources is encouraged through legislation, regulations, education and awareness creation programmes as well as the enforcement of existing regulation and legislations. Coastal and marine-based industries tend to pollute coastal areas through the discharge of untreated wastes into the marine environment. Priority constraints to implementing effective programmes in these areas include inadequacy of existing legislation, facilities for monitoring and enforcement of policies and legislation, inadequate financial resources for activities in the marine and coastal environment, data on near-shore oceanographic communities and poor interactive relations between various development actions and the environment, particularly biological resources.

C. Hazardous Wastes: The sound management of hazardous, solid and radioactive waste has received serious attention from Government, human settlement planners, real estate developers, environmentalists and many non-governmental organizations. Bio-medical and other hazardous waste are currently being managed through land filling.

D. Radioactive Wastes: Ghana since the early 1950's has been engaged in activities, which make use of ionizing radiation, radiation sources and radioactive materials in medicine, industry, agriculture, research and teaching. The major challenges that face the country are the management of spent sources, orphan sources, and radioactive wastes generated from practices and radiation sources within practices. Since the inception of the 2MW-Research Reactor project in 1963, which remains uncompleted, facilities for safe management of radioactive waste and spent fuel have been constructed. The waste management system consists of a decontaminated unit intended for low and intermediate level waste storage and concrete wells for interim storage of spent fuel. The suitability of these facilities has been assessed for waste storage and processing and their contamination units and wells found to be in good condition for refurbishment for use as waste processing and storage facilities. A new storage facility with a capacity of 100 of 100 litre drums has been constructed to complement the existing structure. The new facility is consistent with current trends in waste management technological development and IAEA standards.

It is expected that this NRWMC, when fully completed and adequately resourced, can manage waste generated from medical, industrial, research and teaching applications in Ghana. Under existing regulations, high activity sources introduced after the promulgation of the legislation and regulations shall be returned to the suppliers after the end of their useful lives.

Capacity-Building, Education, Training and Awareness-Raising:

A. Basic Sanitation: The Environmental Health and Sanitation Unit of the Policy Division of the MLGRD has 2,240 strong staff stationed in all the 110 MMDAs, ensuring safe, clean and healthy human settlements throughout the country. These staff are made up of Sanitary Engineers, Environmental Health Technologists, Environmental Health Officers and Environmental Health Assistants. Most of these officers still require some amount of training though, especially in areas like Environmental Health Inspections, Prosecutions, Waste Management, Information Management and Report Writing. There are three Training Institutions namely; Accra, Ho and Tamale Schools of Hygiene which turn out about 150 students per year. These officers are then absorbed by the MLGRD and posted to the MMDAs. The MLGRD lacks the basic logistical support to use the popular media to disseminate information on sanitation. This is crucial because sanitation is more of an attitudinal problem. The MLGRD and the MMDAs need to be strengthened to take up this role effectively. Meanwhile, annual National/District Sanitation Weeks are celebrated in the month of August every year by the MLGRD and MMDA's to create awareness using the print and electronic

media. The field officers in the various MMDAs as part of their routine responsibilities educate the households on sanitation. Reporting formats and monitoring forms have been developed for their use. Field officers use these for their day to day inspections and activities. These are then captured on a District Summary Forms and reported to the Regional level once a month and the Region summarizes the District Reports and reports to National level once a quarter. The MLGRD has no official website. Relevant documents available as reference material are: Act 462 of 1993 (Local Government Act), Legislative Instruments establishing the various MMDAs, the National Sanitation Policy of 1999, the ESIOME guideline document and the Local Government Digest (a bi monthly publication).

The EPA is developing training manuals on waste management to train the District Assemblies and Health Care Practitioners on the proper management of waste in the country

B. Solid Waste: There is substantial injection of public resources into the District Assemblies in the form of waste collection vehicles and tools and funds.

C. Hazardous Wastes: Brochures on “Safe Handling of Chemicals” and “Storage and Disposal of Chemicals” have been developed and distributed to the public for awareness creation. It is expected that these brochures would be translated into the major Ghanaian languages and used to improve current practices of farmers and consumers. (See also under Decision-Making).

D. Radioactive Wastes: Plans are afoot for the recruitment and training of scientists and technologists to augment the staff level of the National Radioactive Waste Management Centre. Guidelines on radioactive waste disposal are also being developed by the Radiation Protection Board.

Information:

A. Basic Sanitation: The EPA has been training and raising awareness of the public about the need for Environmental Impact Assessment of new development projects to ensure sustainable development. (Also refer to Decision-Making (D))

B. Solid Wastes: There are plans to raise the awareness and capacity of the District Assemblies regarding the need for proper waste management. Awareness has also been created for the need to prepare their own waste management plans.

C. Hazardous Wastes: (See under Capacity-Building, Education Training and Aware-Raising)

D. Radioactive Wastes: From the Regulatory Authority Information System, the inventory sources of radioactive wastes include spent sealed sources used in industry and medicine, spent unsealed sources used in medicine, 110mg Ra-226 needles used for brachytherapy, waste and spent sources used for research and teaching and waste management associated with the operation of the 30kW Research Reactor. Others are the management of spent Co-60 and Cs-137 sources associated with the operation of radiotherapy centers in Ghana, the management of spent Co-60 sources associated with the operation of the Gamma Irradiator and waste to be generated from future nuclear installations, plants, and other practices for the socio-economic development of the country.

The inventory of radioactive waste in storage are the encapsulated and conditioned 110mg of Ra-226 decommissioned from the Radium Therapy Centre of the Komfo Anokye Teaching Hospital, conditioned sealed spent Sr-90 sources used in the tobacco industry, low activity spent sealed sources used for laboratory work in industry and at the Universities and low-level liquid radioactive wastes from nuclear medicine practices and veterinary research.

Research and Technologies: There is no research unit in this sector. There is the need to establish one.

A catalogue of toilet technologies has been developed.

A. Basic Sanitation: There are proposals to convert waste into energy at the various closed and active waste dump sites.

B. Solid Wastes: Clean and environmentally sound technologies are promoted through activities, which ensure that industries meet national environmental standards and at the same time promote the more efficient use of resources. Under the auspices of the Ministry of Environment and Science, a Waste Management Stock Exchange is to be established as a means of identifying and making waste available to other consumers who need such waste materials for their production activities. Through this arrangement, another company for its own production activities could, for instance, identify wastes generated by that company for use. This should help in reducing the quantities and types of waste generated in the country. The country's steel and paper industries, and to some extent the plastic industry, are engaged in programmes of recycling wastes. A number of small-scale aluminium fabrication companies have been assisted to improve on their production systems. Though these programmes were initially meant to address the environmental problems associated with their operations, the improved production systems also led to improved efficiency in the use of materials and reduction in waste from the industries. All programmes for the management of waste relate only to waste generated within the country. The country does not permit the importation of waste processing or disposal. (See also under Hazardous Waste).

C. Hazardous Wastes: The issue of waste management has become a subject for research in many stakeholder institutions. The management of plastic waste is receiving attention. Some technologies have been developed to assist recycling of waste. A number of small-scale plastic waste recycling plants have been set up in the Greater Accra Region. There are plans to set up similar ones in other metropolitan, municipal and urban areas of the country.

The management of other solid and hazardous waste is also being researched at the Ghana Atomic Energy Commission and the Council for Scientific and Industrial Research (CSIR). Exogenous technologies are also being studied for their appropriate adoption and transfer for local use.

D. Radioactive Wastes: The National Radioactive Waste Management Centre is using established techniques for the management of radioactive waste for all the practices currently being employed in the country.

Financing:

A. Basic Sanitation: There are funds from the central Government in the form of District Assemblies Common Fund for sanitation purposes. The main sources of funding for environmental sanitation services are from the national budgetary allocation and bi-lateral and multilateral donor support from World Bank. Funds are also made available to the Districts from the HIPC inflows while MMDAs are expected to use a sizeable portion of their locally generated revenue to handle their own municipal waste.

B. Solid Wastes: (Also refer to (A) above). There are plans to encourage residents from low income high density areas to pay for the cost of sanitation. Meanwhile public education and awareness creation are being pursued to sensitize the public.

C. Hazardous Wastes: There are plans to introduce the polluter pay principle to cover the management of hazardous waste.

D. Radioactive Wastes: Apart from funds from the central Government, financial support is also received from IAEA in the form of equipment, training and expert missions for the development of radioactive disposal sites.

Cooperation:

A. Basic Sanitation: The Government has been cooperating with the Dutch, Japanese, British and German Governments in the areas of training and capacity building.

Under the Urban Environmental Sanitation Programme (UESP), i.e., Urban IV, the heads and the other officers of the MMDAs had training in Waste Management in the Netherlands and Denmark. The duration ranged from 2 weeks to 3 months. Under the Accra Waste Project, DFID assisted the country with 8 refuse trucks and 5 cesspit emptiers and constructed access roads and culvert at the proposed Kwabenya Sanitary Landfill

B. Solid Wastes: Ghana is a party to the following agreements: the International Convention for the Prevention of Pollution of the Sea by Oil, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters and the International Convention on Oil Pollution Preparedness, Response and Co-operation. (See also below).

C. Hazardous Wastes: Financing of hazardous, solid and radioactive management has been a shared responsibility between the Government of Ghana and its development partners, namely, the World Bank, International Development Agencies, beneficiary communities and the District and Metropolitan Assemblies.

Through the ratification of international conventions and protocols, Ghana is obliged to implement decisions on these conventions. The Conventions the country acceded to include the Basel Convention on the Control and Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on Prior Informed Consent (PIC), the Procedure for Certain Pesticides and Chemicals in International Trade, the Stockholm Convention on Persistent Organic Pollutants and the Bamako Convention. Assistance is given by development partners to implement the provisions of some of these Conventions and Protocols and coordinated through cooperation with development partners.

D. Radioactive Wastes: With the requirement by Atomic Energy Act (2000), Act 588, to commercialise, the NRWMS now charges appropriate fees for the management of radioactive waste to support its programmes. GAEC cooperates with the IAEA in the areas of training, development of regulations and guidelines as well as the management of radioactive wastes and disposal. (See also above, under Hazardous Wastes).

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