

UNIVERSITY OF CAPE COAST
ENVIRONMENTAL HEALTH SECTION



ENVIRONMENTAL HEALTH POLICY

1. DEFINITION:

The World Health Organization defines Environmental Health as follows: "Environmental Health comprises those aspects of human health, including quality of life that is determined by physical, biological, social and psychosocial factors in the environment". It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can adversely affect the health of present and future generations.

2. DESCRIPTION:

Having recognized the need for ensuring proper sanitation on the University of Cape Coast campus to enhance teaching and learning at the University in the Cape Coast Metropolitan Assembly.

As a University or Research Institution, it would be proper for the institution to have a document on such activities and operations, that's **ENVIRONMENTAL HEALTH POLICY**, which focuses on the activities of the Conservancy Laborers, Sanitary Laborers and Cleaners and also the operations of the Environmental Health Section at the University of Cape Coast.

3. PURPOSE OF THE POLICY:

The Environmental Health Section, formerly Sanitary Section, was established in the year 1962 to provide Preventive Health Care services at the University.

Environmental Health is a vast, highly interdisciplinary field within Public Health that focuses on the connections and interactions between people and their environment across several facets.

The field extends beyond analysis of the natural environment and investigates where we live, what we eat and drink, how and where we work and the relationships we have with other parts of our ecosystem. Environmental policy and regulations that impact health are formed and enforced across the University.

With such a high degree of intersectionality, it's important to understand what falls under the purview of environmental health, what policy entities regulate and influence environmental factors that impact health, and where there are opportunities for policy improvement.

4. GOAL OF THE POLICY:

The goal of this policy is to document the activities of Conservancy Laborers, Sanitary Laborers, Cleaners and the operations of Environmental Health Section as a work tool and guidelines.

5. OBJECTIVES:

The Environmental Health Section of the University of Cape Coast has the following as its objectives:

- i. Ensuring clean and safe air
- ii. Creating hygienic and stable University environment
- iii. Ensuring a clean and serene University environment to promote academic work, research and peaceful settlement.
- iv. Ensuring a clean and safe food for staff and student's consumption.
- v. Building the most dedicated and highly motivated work-force for delivery of health promotion
- vi. Litter free environment

6. WHAT PRINCIPLE OR DESIGN INFORMED THE POLICY:

This policy establishes the Environmental Health priorities and operations of the University of Cape Coast and provides a framework for the development of services and programmes at the University of Cape Coast. It has been developed in support of the Directorate of University Health Services policy and primarily concerns the role of the University Hospital and Estate Section.

However, Environmental Health is a Cross-Cutting discipline and the policy therefore has implication for other departments and Halls of residence.

7. SANITATION:

Sanitation is somewhat a narrower term and in this document it refers to the safe management of human excreta.

Environmental Sanitation is a subset of Environmental Health and for the purpose of this policy refers to the safe management of human excreta and associated personal hygiene; Solid Waste Management; Drainage; and protection against vermin and other disease vectors.

Environmental Health activity is concerned with:

1. The control of environmental factors that affect health; and
2. The provision of infrastructure and environmental services necessary for health

The latter includes: Waste Collection and Disposal and Cleage Drainage and Sewerage Networks, Conservancy duties, Pest Control and other Sanitary duties.

The road and drainage personnel are the Sanitary Laborers who start work at exactly 5:00am to avoid the morning rush hour of vehicles, unless instructed by the supervisor in consultation with the Head of Environmental Health Section before the Sanitary worker (s) would start work before 5:00am.

Those at the various bungalows and Departments start work at Exactly 6:00am while the litter pickers start at 7:00am and repeat after every two (2) hours. Also cleaners are placed at various offices for cleaning and mopping of those offices and their duty is to ensure that every equipment, furniture etc. are cleaned always and curtains are periodically washed. The cleaners are stationed at the offices always in case of spillage that may arise. The Head may also assign other duties after they have finished their core duties. They also report to work from 4:00am to 5:00am depending on their work load or place of work.

The Conservancy Laborers report to work at exactly 6:00am to clean and disinfect various washrooms that are under lock and those that are open to public. The cleaning of the washrooms is repeated for those under lock every one (1) hour and those open to public every 30 minutes to prevent splashing and odour.

8. SANITATION POLICY STATEMENT

To promote health and quality of life by preventing and controlling disease, injury and disability.

9. FOOD SAFETY HYGIENE:

Food is any substance including drink which is consumed for digestion and assimilation in order to meet the requirement for growth, maintenance and reproduction and the supply of energy required to maintain the correct body temperature for basic functions and performance of work.

Food Hygiene is therefore the science and actions which prevent contamination and ensure adequate retention of food values during production, transportation, storage, handling, preparation and manufacturing before consumption of food.

Poor food hygiene contributes to infections and poisoning due to microbiological contamination of food and unwise or deficient practices and technologies in food production, processing and storage.

Hawking is not allowed on campus, if you are caught hawking your wares would be ceased. There are some designated places for market activities and also every Hall/Hostel has a market inside or behind it. These markets are allocated and rented by the Estate Officer. The food vending aspect is handled by the Head, Environmental Health Section in collaboration with Environmental Health Department, CCMA.

Also the market activities which are confined in the various Halls/Hostel contribute in making the campus litter free.

10. THE UNIVERSITY FRAMEWORK ON FOOD VENDING:

Before any food vendor begins to sell on campus or do any market activities, that person must go through medical screening/examination at UCC Hospital before he/she would be allowed to sell on campus.

All handlers of food must undergo medical examination annually to ascertain whether they are medically fit to handle or prepare food for consumption on campus.

The medical examination is done in collaboration with the Environmental Health Department at the Cape Coast Metropolitan Assembly.

Step 1: The vendor should request for the medical examination form from the Environmental Health Department, CCMA or Environmental Health Section, UCC.

Step 2: The form should be filled with the vendor's details then proceed to UCC Hospital for laboratory examination with the filled form.

Step 3: The vendor then proceed with the results and filled form to a designated medical doctor at the hospital for consultation.

Step 4: After completion of the filled form by the designated medical doctor, the vendor proceed with the completed form to the Head, Environmental Health Department, CCMA for the Health Certificate endorsed by the Environmental Health Officer.

Step 5: The vendor present the endorsed Health Certificate to the Head, Environmental Health Section, UCC for inspection and further endorsement.

Note: All medical examinations shall be conducted by the University Hospital only. The Environmental Health Section, UCC shall not accede to any request from a different source.

Also, periodical workshops should be conducted for the occupant of the market/restaurant on campus about market/restaurant activities and food handling and preparation which should be paid by participants.

To maintain a hygienic environment in the market/restaurant, periodic disinfection/spraying, washing and scrubbing of market's and restaurant floors should be done by the sprayers and Sanitary Laborers in order to safeguard the health of the people.

The Environmental Health Section, UCC will have a taskforce for monitoring and enforcing of rules and regulations pertaining to food vending.

11. FOOD PREPARATION AND HANDLING:

While most micro-organisms do not cause disease, dangerous micro-organisms are found in soil, water, animals and people. These organisms are carried on hands, wiping cloths and utensils, especially cutting boards and the slightest contact can transfer them into food and cause food borne disease.

12. FOUR KEYS TO SAFER LIFE:

- i. Wash your hands before handling food and often during food preparation
- ii. Wash your hands after going to toilet
- iii. Wash and sanitize all surfaces and equipment used for food preparation
- iv. Protect kitchen areas and food from insect, pets and other animals

13. PEST CONTROL (DISINFESTATION/DISINFECTION)

Disinfestation is the act or process of eliminating insects and vermin, and similar unwanted plagues of pests from human environment or premises.

This process involves the use of chemicals but not limited to; insecticides, anti-snake, Controx 9 etc. and machines like thermal fogger, mist blower, knapsack etc.

Spraying or fumigation are only executed when an M.E.B request form is filled and presented to the Head, Environmental Health Section for further action by the occupants of the University bungalows or rented apartments, department and faculties.

Apart from the individual/department request for fumigation or spraying, the Environmental Health Section is mandated to do annual mass spraying for Halls of residence, UCC Hospital, Basic Schools and Senior High School in collaboration with various stakeholders against mosquitoes, bed bugs etc. Also annual disinfection programme for the markets and surrounding communities against the outbreak of cholera are done.

De-ratting of various Halls of residence and other departments upon request are done to prevent the spread of plague by rodents.

Monthly disinfection of the Compactor (Refuse Truck) and Cesspit Emptier to safeguard the health of the drivers and their conductors. In all disinfection process, chlorine is the disinfectant, used and the alternative is Izal, in most cases dead animals and dead bodies.

1. For cholera and overflowing septic tank – Chlorine 20%
2. Refuse Truck, Cesspit Emptier – Chlorine 20%
3. Dead bodies and their burial – Izal or Chlorine 20%

14. WASTE MANAGEMENT PRINCIPLES AND STRATEGIES OF THE UNIVERSITY

Waste is special in that it has a very high potential for infection and injury. Therefore, it has to be handled with safe and sound methods wherever generated. Major obstacles to survival of people in community include infections, sanitary, diseases and the risk associated with ineffective management of waste.

Inadequate handling of waste may have serious public health consequences and impact adversely on the environment.

Waste is any item, material or substance derived from human activities or human or domesticated animal bodily functions which has outlived the purposes for which it was intended and which does not appear to its owner to be useful for secondary purposes. Waste management comprises Solid Waste Management and Liquid Waste Management.

15. WASTE MANAGEMENT COMPONENTS OF THE POLICY

- i. Collection and Sanitary disposal of waste including solid waste, liquid waste, excreta, including industrial wastes, health care and other hazardous wastes.
- ii. Cleaning of thoroughfares, markets and other public spaces.

16. SOLID WASTE MANAGEMENT

Solid Waste Management may be defined as the discipline associated with the control of the generation, storage, collection, transfer and transport, processing and disposal of solid wastes in a manner that is in accord with the principles of public health, economics, engineering, conservation, aesthetics and other environmental considerations and that is also responsive to public attitude.

The University is having only one (1) Compactor (Refuse Truck) coupled with rapid urbanization and high population growth are adversely affecting effective and efficient solid waste management.

The Environmental Health Section uses the house to house (Door to Door) approach for the collection of solid waste on campus and the University properties and rented properties outside campus. Also the Environmental Health has placed both 240L and 120L dustbins at various vantage points, bungalows, Halls of residence and departmental buildings.

Refuse collectors are also stationed at the above mentioned places where they transfer the refuse to their station collection point for transport. Refuse collections are done always whenever there is a breakdown of the compactor, approval is then seek from the Registrar for a private waste collection until our compactor comes on road.

The compactor does not run commercial services. Also the solid waste generated on campus are not segregated but mixed waste and are disposed at a controlled dumping site at Nkanfua for a fee.

17. IMPACT OF POOR SOLID WASTE MANAGEMENT

Below are the impacts when solid waste left uncollected at the University:

A. Public Nuisance Impacts

- Clog sewers and open drains
- Encroaches on roadways
- Diminishes landscape aesthetics
- Causes unpleasant odour
- Causes irritating dust

B. Public Health Impacts

- Ready access to waste by birds and domestic animals
- Potential spread of disease
- Chemical contaminants through the food chain
- Windblown dust may carry pathogens and hazardous materials
- Gases generated during biodegradation may include toxic and potentially carcinogenic volatile materials and typical biodegradation by-products such as methane, hydrogen sulphide and carbon dioxide
- Smoke generated from burning is a significant respiratory irritant and can cause affected populations to have a much increased susceptibility to respiratory illness.
- Breeding of the flies, insects and rodents

C. Direct Impacts

- Contamination of soil, groundwater, surface water and air quality
- Worker hazards when medical wastes are not properly handled.

18. HEALTH CARE WASTE MANAGEMENT

The poor management of health-care waste, and laboratory and pharmaceutical waste degrades the environment and poses serious health risk. This situation is compounded by an inadequate administrative and legal framework, lack of guidelines and inappropriate equipment and technologies to handle the safe disposal of health care waste. The University hospital played its part in addressing these issues by building an incinerator and Otto pit.

The incinerator is for burning of sharp objects and infected items so that they do not come into contact with general waste which is picked up by the Compactor (Refuse Collector) for disposal while the Otto pit is for the disposal of other bodily fluids and parts.

The Environmental Health Section will play its part in addressing these issues by providing appropriate guidelines to help monitor such risks and will also undertake research wherever

possible to devise ways and means to overcome these environmental risks wherever they occur.

19. LIQUID WASTE MANAGEMENT

Faecal Sludge Management (FSM):

When human excrete collects in a pit latrine/septic tank, the solids settle at the bottom and form slurry called faecal sludge. Over time the sludge accumulates and periodically needs to be removed and disposed off. This process presents several challenges because the sludge is often give a potential danger to human health and highly polluting if dumped indiscriminately into the environment. FSM is a set of processes designed to ensure that people and the environment are protected from these hazards. It includes the storage, collection, transport, treatment and safe end use or disposal of faecal sludge. FSM is a significant problem in town and the surrounding communities of the University. Key issues are who is responsible for collecting sludge and where and how it is disposed off.

20. SEPTIC TANK

A septic tank is an underground and watertight tank made of concrete fiberglass or PVC in which sewerage is collected and partially treated. These are used for water-flushed systems that are not connected to a sewer. Concrete/block septic tanks are commonly used in the University of Cape Coast. Waste water enters the tank remains there for a time and is displaced-out-of-the tank by new waste water coming in. There are no pumps or mechanical parts. The time the waste water remains in the tank is called the retention time and should be a minimum of 24 hours. In this period, the solid matter in the sewage settles to the bottom of the tank, where it is partially degraded by anaerobic micro-organisms.

The liquid above the sludge is relatively free solids, but it does contain dissolved organic and inorganic chemicals that are not treated. Light substances such as oil and grease form position of the outlet ensure that only water from the middle of the tank is displaced outwards. This effluent is disposed off to a soak away, also called a soak pit or seepage pit or to a drainfield.

Soak away is covered, unsealed pit lined with bricks or stone. The waste water from the septic tank seeps into the soil through the base of the pit and through the spaces in the lining material.

Septic tanks need to be dislodged when the sludge depth is approximately two-thirds the depth of the tank. You can estimate this by putting a graduated stick into the tank. Depending

on usage, this is typically once every 12 months. A vacuum truck is usually used to dislodge the sludge out for disposal.

21. PIT/SEPTIC TANK EMPTYING

The process of pit/septic tank emptying is sometimes called dislodging. There are manual and mechanical methods for dislodging and both are done on campus and outside campus by the Environmental Health Section, UCC but the manual removal of faecal sludge from the septic tanks poses server risks to those undertaking the task.

What are the risks associated with manual emptying of septic tanks using buckets, pick axe and shovels?

Reveal Answer:

Whether using manual or mechanical methods, the personal safety of anyone employed in septic tank emptying should be of primary importance. Operatives should wear gloves, masks and protective clothing.

Before the operation of manual methods is engaged, approval is sought through the Head Environmental Health Section to the Registrar, UCC.

22. VACUUM TRUCKS/CESSPIT EMPTIER

Vacuum trucks/Cesspit emptiers are vehicles equipped with a storage tank and pump with a suction hose that is lowered into the tank/pit to suck the effluent and sludge up and out into the storage tank. The effluent/sludge can then be easily transported to a suitable disposal site. Cesspit Emptiers are quick, powerful and efficient, but they are large vehicles and so access to the tanks/pit can be a problem. The size of the truck can limit their use in areas where roads are narrow and twisting.

The Environmental Health Section and Estate Section operate the truck on campus and on commercial basis for both staff of the University and residence of Cape Coast and its environs. For the services we render a fee is charged. Also the service fee is determined by the Finance committee after it has been written by the Estate Officer for a review of the current prices. The following steps are taken for a request for services:

- Step 1: The client book the request at the Estate Section where the details are filled on a dislodging request form.
- Step 2: After the filling of the form, it is taken to the Cash Office for payment
- Step 3: The client then proceed to the Environmental Health Section with the form and receipt of payment for work to be done.

23. DISPOSAL OF THE SLUDGE/EFFLUENT

Several options are available for disposal of the collected sludge/effluent. It can be put directly onto land and used as a soil conditioner, but this is only possible if it has been left untouched for at least two (2) years. Fresh, untreated wet sludge effluent poses high risks for human health and so should not be put on land used to grow crops.

Drying the sludge will kill most pathogens. This can be achieved using drying beds, where sludge is put into shallow tanks to a depth of about 300mm. The base of the tank is sloped and covered with a layer of sand (forming a 'bed') to allow liquid to drain out of the sludge. In a warm climate and without rain, after about a week the sludge will be dry enough to be lifted with by a shovel.

The sludge can also be composted by mixing it with vegetable matter, or biogas can be obtained by anaerobic digestion. However, the EHS takes it's collected sludge /effluent to the controlled dumping site at Nkanfua manage by the CCMA for a fee.

Whichever method is used faecal sludge / effluent disposal must be carefully managed and operated in order to ensure that the associated risks to health and the environment are avoided.

24. STORM-WATER CHANNEL AND DRAINAGE SYSTEMS

The University has a whole system of storm water channels and network of drains on campus to carry both storm-water and waste water to prevent flooding.

The storm-water channels are cleared periodically and the drain systems are cleaned always. Storm water has a polluting potential as well as being a possible cause of flooding. In the

University storm water has been directed into storm-water channels. These channels are kept clear of rubbish and climate change means that many areas are experiencing heavy and prolonged rainfall, leading to flooding when the storm-water drains are unable to cope.