

# **Workplace Environmental Management**

WEEK 1 – Basics of Environmental  
Management- 1

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# Objectives

At the end of this topic students will be able to:

1. Define the Key terms
  2. Distinguish the types of Environment
  3. Distinguish the types of EM
  4. State and explain the purpose of EM as well as the policies for EM.
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# Turn and talk

In pair; discuss your understanding on:

1. Environment
2. Management
3. Environmental Management

This activity will take 5 minutes and few students will be called randomly to share with the rest of the class.

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# 1.1 Definition of Environment

- Environment refers to the sum of all the living and non-living elements and their effects that influence human life or simply “everything that surround us”.
  - The living or biotic elements are classified as animals, plants, forests, fisheries, and birds while the non-living or abiotic elements are water, land, sunlight, rocks, and air.
  - Different researchers have provided their definitions, considering various fields of expertise.
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# Definition of Environment cont'd

- Physical perspective calls it surrounding conditions and elements with which a living thing interacts.  
(source: [biologyonline.com/definition/environment](http://biologyonline.com/definition/environment)).
  - Biology definition: The environment is the external conditions, resource, stimuli, etc., with which an organism interacts.
  - From Merriam webster dictionary, one synonym of the environment is “the complex of physical, chemical, and biotic factors (such as climate, soil, and living things) that act upon an organism or an ecological community and ultimately determine its form and survival”
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## 1.2 Management

- It is simply the coordination and organization of operations with actions aiming at contributing to the goals' achievement. Using a resource most effectively and productively is one of the most important aspects of good management.
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## 1.3 Environmental Management (EM)

- It is the process and practice of organizing human activities to limit their impact on the natural environment. It can encompass protection of the land, flora and fauna, bodies of water, and the planet's atmosphere. (defined by safeopedia)
- It also refers to a system that incorporates processes for summarizing, monitoring, reporting, developing and executing the environmental policies.
- It is encouraged to ensure the healthy state of our planet for future generations. It also works towards preserving all forms of life.

<https://www.safeopedia.com/definition/693/environmental-management>

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# 1.4 Types of Environment

- BYJU'S published an article with a title “How many types of environments are there?” (<https://byjus.com/biology/how-many-types-of-environment-are-there/>)
- The article revealed that there are two types of environment
  - ✓ Geographical or natural and
  - ✓ Man-made or built



(<https://www.rema.gov.rw/soe/chap11.php>)

([https://en.wikipedia.org/wiki/Kigali#/media/File:My\\_city\\_kigali.jpg](https://en.wikipedia.org/wiki/Kigali#/media/File:My_city_kigali.jpg))

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## 1.4.1 Geographical environment

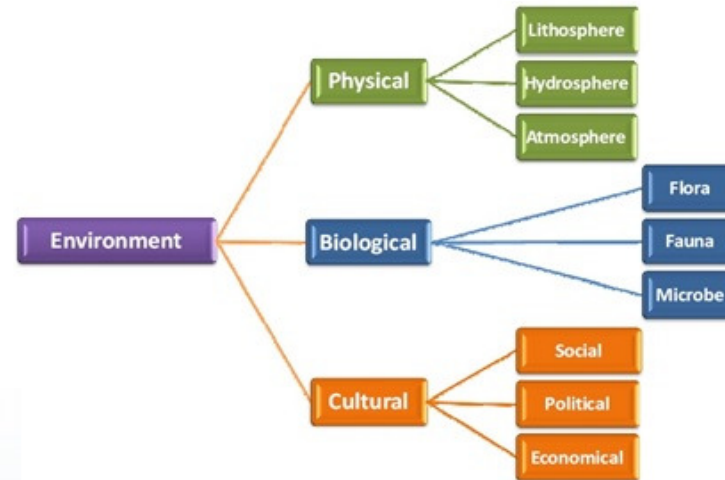
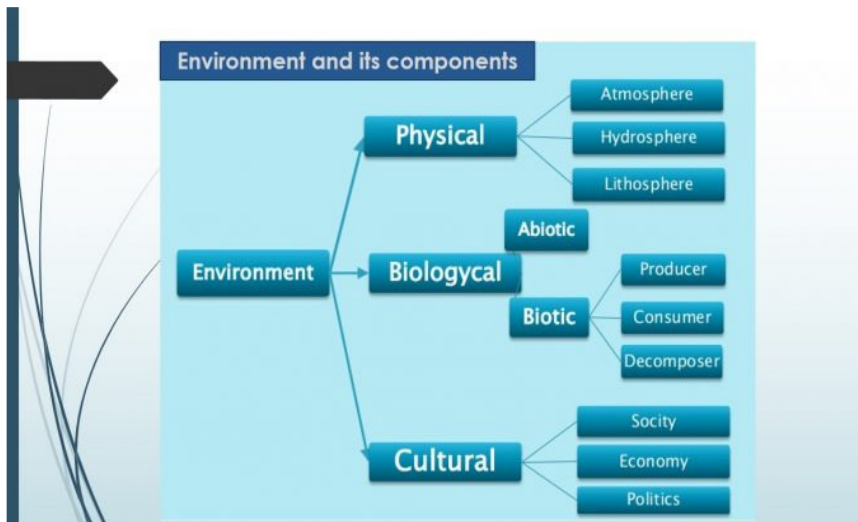
- Geographical refers to all components of nature. This types of environment is often called natural, physical to express physical life.
  - The components of geographical environment are but not limited to the following: natural resources, earth's surface, mountains, plains, land, water, deserts, storms, cyclones, volcanoes, oceans, climatic factors, rivers as well as to biological aspects of plants and animals.
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## 1.4.2 Man-made environment

- Man has created the environment that fulfills his will
  - Controlling the environmental conditions by regulating and monitoring to achieve man's endeavors.
  - It is further subdivided into two inseparable categories due to their correlation;
  - ✓ Inner man-made environment related to the society with traditions, organizations, etc.
  - ✓ The outer man-made environment related to technology leading to the modification of inner environment.
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# Types of environment at large

- Physical elements
- Biological elements
- Cultural elements



(<https://www.onlinebiologynotes.com/environment-and-its-components/>)

(<https://hydropedia.blogspot.com/2015/12/introduction-to-environment-and.html>)

# 1.5 Characteristics of EM

- Recall the EM: a process and practice of organizing human activities to limit their impact on the natural environment.
  - This management has the following characteristics:
    - ✓ Sustainable development support
    - ✓ Cope with multidisciplinary approaches to deal with human effects
    - ✓ Different development viewpoint integration
    - ✓ Natural and social science integration
    - ✓ Short to long-term as well as local to global level integration
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## 1.6 Types of EM

- The types of EM can be seen in various aspects especially when looking on the system at large; Environmental Management System (EMS).
  - In our context, the scope is limited to the business development where EM is integral to maintaining sustainability and minimizing the ecological footprint throughout the lifecycle of a project/business.
  - Each phase of the project has its unique challenges and requires specific strategies to manage the environmental aspects effectively.
  - We will look at three types namely: Construction, Operations and Decommissioning.
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## 1.6.1 Construction EM

- This type focuses on managing environmental impacts during the construction phase of projects. It includes:
    - ✓ **Site Assessment:** Evaluating the environmental conditions of a project site before construction begins.
    - ✓ **Resource Management:** Ensuring efficient use of materials and resources to minimize waste.
    - ✓ **Pollution Control:** Implementing measures to control air, water, and soil pollution.
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## 1.6.2 Operations EM

- This type deals with the ongoing management of environmental aspects during the operational phase of a facility or project. It encompasses:
    - ✓ **Energy Efficiency:** Optimizing energy use to reduce environmental impact
    - ✓ **Waste Management:** Developing systems for reducing, reusing, and recycling waste.
    - ✓ **Emissions Management:** Monitoring and managing emissions to comply with environmental standards.
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## 1.6.3 Decommissioning EM

- This type is concerned with the environmental considerations when decommissioning or dismantling a project. It involves:
    - ✓ **Site Restoration:** Returning the site to its natural state or preparing it for future use.
    - ✓ **Material Recovery:** Salvaging and recycling materials from the decommissioned project.
    - ✓ **Environmental Monitoring:** Ensuring that decommissioning activities do not harm the environment.
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# 1.7 Purpose of EM

- Enables an organization to reduce its environmental impacts and increase its operating efficiency
  - Becoming conscious of the effect any business is having on the environment is a great step towards sustainability and benefits the EM.
  - Environmental Management can help you reduce the chances of fines or prosecution, lead to cost savings, improve your reputation and attract more customers.
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## 1.8 Environmental policy or EM Policy

- International environmental policy covers several issues; climate protection, sustainable energy policy, preservation of biological diversity and the conservation of forests, seas and soils.
  - Further related topics are desertification, sustainable waste management and protection against hazardous substances.
  - Environmental policy, any measure by a government or corporation or other public or private organization regarding the effects of human activities on the environment, particularly those measures that are designed to prevent or reduce harmful effects of human activities on ecosystems.
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# Environmental policy cont'd

- The following list provides a list some environmental policies set by various governments and corporations or entities:
    - ✓ Rwanda Environmental Policy. Rwanda Environment Management Authority REMA in 2019.
    - ✓ Marine Protection, Research, and Sanctuaries Act (MPRSA, also known as the Ocean Dumping Act) and Noise Control Act by the U.S. Congress published by U.S. Government Publishing Office in 1972.
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# Environmental policy cont'd

- ✓ National Environmental Policy Act (NEPA) and Occupational Safety and Health (OSHA) by the U.S. Congress published by U.S. Government Publishing Office in 1970.
  - ✓ Nuclear Waste Policy Act (NWPA) by the U.S. Congress published by U.S. Government Publishing Office in 1982.
  - ✓ African Union's Agenda 2063, Agenda 2063: The Africa We Want, African Union Commission, African Union, 2015.
  - ✓ Environmental Safeguards Policy, Environmental Safeguards Policy, African Development Bank Group, African Development Bank, 2013.
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# Environmental policy cont'd

- ✓ European Green Deal, The European Green Deal, European Commission, European Union, 2019.
  - ✓ Environment Action Programme to 2030, Environment Action Programme to 2030, European Commission, European Union, 2020.
  - ✓ Basel Convention on Hazardous Waste, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, United Nations Environment Programme, United Nations, 1989.
  - ✓ Montreal Protocol, Montreal Protocol on Substances that Deplete the Ozone Layer, United Nations Environment Programme, United Nations, 1989.
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Thank you for your good attention  
Q&A

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- Construction environmental management plan (CEMP) Industry Guideline by Environment Protection Authority, EPA South Australia, 2021
  - Operational Manual - OP 4.01, Annex C - Environmental Management Plan, Staff Connections- World Bank Intranet, The World Bank, 1999
  - Decommissioning Environmental Management Plan (DEMP), WKC Group, Abu Dhabi Environment Agency, 2023
  - Rwanda Environmental Policy, Rwanda Environment Management Authority (REMA), Republic of Rwanda, 2019.
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- Marine Protection, Research, and Sanctuaries Act (MPRSA, also known as the Ocean Dumping Act), U.S. Congress, U.S. Government Publishing Office, 1972.
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- Environment- Meaning, Definition, Function, Example, BYJU'S.

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- Introduction to Environmental Science, Hydropedia, 2015.

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- Rwanda State of Environment and outlook report, REMA.

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- Kigali, Wikipedia, Wikimedia Foundation.

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