

ENVIRONMENTAL MANAGEMENT

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ENVIRONMENTAL MANAGEMENT

- It is the practice of organizing human activities in order to limit their impact on the natural environment.
- It is concerned with understanding the structure and the functioning of the Earth, and how humans fit in.
- In this module, you will learn about the environment, impacts of human activities on the environment, and how to mitigate/solve mentioned problems for proper management of the environment.

Are you excited to learn about all this?

THE ENVIRONMENT

- The environment can be defined as all the things surrounding us with which we interact with. These include living things such as animals, plants, forests, fungi, etc. and non-living things such as continents, oceans, clouds, soil, rocks etc.
- Living things are also called "Biotic" and non-living things are "Abiotic".

Task: Each member in the group to mention at least one living/non-living thing.



ENVIRONMENTAL DEGRADATION



- Environmental degradation is the deterioration of the environment through depletion of resources such as quality of air, water and soil; the destruction of ecosystems; habitat destruction; the extinction of wildlife; and pollution. It is defined as any change or disturbance to the environment perceived to be deleterious or undesirable.

Key Environmental Problems in Africa

CLIMATE CHANGE



POLLUTION



DEFORESTATION



HUMAN
ACTIVITIES



DID YOU KNOW?

Africa contributes the least to greenhouse gases emission yet 5 of the 10 countries most impacted by climate change are in Africa.

A: Climate Change

- Climate change refers to long-term shifts in temperatures and weather patterns. These shifts may be natural, such as through variations in the solar cycle (United Nations, .
- Climate change is a long-term continuous change (increase or decrease) of average weather conditions such as average temperature.
- Climate is sometimes mistaken for weather. But climate is different from weather because it is measured over a long period of time, whereas weather can change from day to day, or from year to year.
- The climate of an area includes seasonal temperature and rainfall averages, and wind patterns.
- Different places have different climates.
- A desert, for example, is referred to as an arid climate due to little waterfalls, as rain or snow, during the year. Other types of climates include tropical climates, which are hot and humid, and temperate climates, which have warm summers and cooler winters.



Human-induced causes of climate change

01 Burning Fossil Fuels

This is the leading factor in climate change. Once fossil fuels such as coal, oil and gas are burnt, they release large amounts of Carbon-dioxide and greenhouses gases into the air. The gas released act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures.

02 Industrial Activities

Industrial production of products and items such as iron, steel and aluminum lead to emission of dangerous gases. Industries are cumulatively responsible for over 5% of all greenhouse gas emissions.

03 Agricultural Activities

Farming and livestock keeping also play a significant role in climate change. Both farming and livestock keeping activities release significant amounts of methane and nitrous oxide which are two powerful greenhouse gases.



Many people think climate change mainly means warmer temperatures. But temperature rise is only the beginning of the story. Because the Earth is a system, where everything is connected, changes in one area can influence changes in all others.

Effects of Climate Change



Almost a quarter of a billion Africans will face water scarcity by 2025 (World Health Organization).

01

Water Shortage

According to the World Health Organization (WHO), 1 in 3 people across Africa already face water scarcity. But by 2025, climate change could have made it even worse, with predictions that close to 230 million Africans will be facing water scarcity, and up to 460 million will be living in water-stressed areas.

02

Severe heat and drought

Heatwaves and droughts have serious effects on people and communities and are bad for human health. There is a limit to how much heat a human body can cope with and any significant change or rise causes illness.

Heat and drought threaten not only human health, but also how much food can be grown leading to famine and global hunger.

Effects of Climate Change



Tropical storms in Southern Africa displaced half a million people in just 3 months in 2022.

03

Storms and Floods

Warming of the oceans' surfaces from climate change is leading to more intense storms. These powerful storms with their gale-force winds cause floods, landslides, damage to homes and buildings, and even kill people. Extreme storms and floods are devastating to poorer nations, and people living in underprivileged communities, also struggle to recover.

04

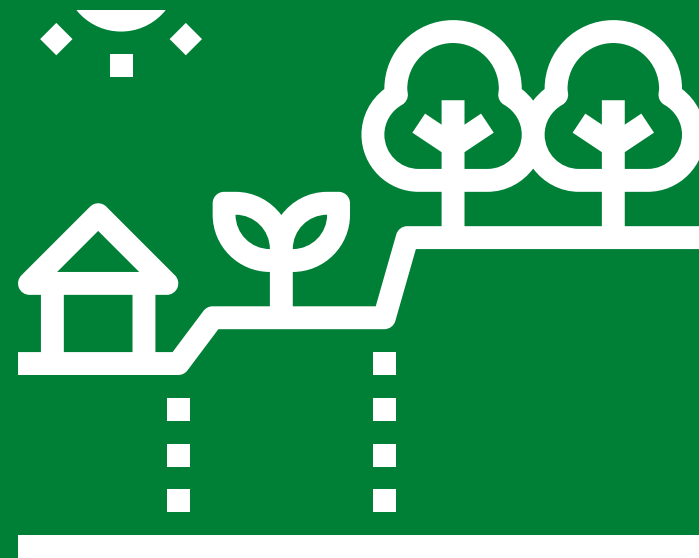
Loss of Biodiversity

Biodiversity refers to the various species and individual organisms within a given habitat or geographical area. Loss of biodiversity therefore refers to a decrease of the number of species within an ecosystem. Delicate ecosystems that are home to insects, plants and animals are severely damaged putting one million species at risk of extinction.

How to fight Climate Change



Adopting to cleaner,
safe and eco-friendly
technologies



Effective land use &
planning to avoid
forest degradation



Developing
renewable energy

Group Task/Activity



In groups of 15 to 20 members, dig vegetable plots that you will plant, grow, monitor and water your organic vegetables that when harvested will be used in;

1. In the school cafeteria for your fellow classmates to eat with school meals.
2. Help those in need during the blessing's campaigns at school.
3. Can also help start a club business by selling to the outside community.

Note; Club coordinator/s will be assessing each groups vegetable plot progress.

B: Pollution

- This is the introduction of harmful materials into the environment.
- These harmful materials are called pollutants.
- Three major types of pollution are air pollution, water pollution, and land pollution.
- All living things, from the smallest organisms such as insects to large whales depend on Earth's supply of air and water. When these resources are polluted, all forms of life are threatened.



Causes of Air Pollution

01

Industrial Activities

These emit dark smoke which contain harmful chemicals such as carbon monoxide, hydrocarbons and chemicals into the air making it have severe effects.

02

Burning Fossil Fuels

fossil fuels such as coal, oil, and natural gas which are burned to power cars and trucks produces carbon monoxide, which is a very harmful gas. City traffic produces highly concentrated carbon monoxide.



03

Natural Disasters

Disasters such as volcanic eruption eject volcanic ash and gases into the atmosphere. Volcanic gases, such as sulfur dioxide, can kill nearby residents and make the soil infertile for years.



04

Global Warming

Human activities lead to the emission of harmful greenhouse gases which in turn pollute the atmosphere and also lead to global warming. Global warming is a result of the depletion of the ozone layer

Causes of Water Pollution



Some polluted water looks clean, but is filled with harmful chemicals you can't see or smell.

01

Oil Spills

Oil and natural gas can leak into oceans and lakes from natural underground sources. Polluted water is unsafe for drinking and swimming.

02

Mining Activities

Acid mine drainage (AMD) which a major contributor to pollution of rivers and streams near coal mines. This acid is toxic to humans, plants, fish, and other aquatic organisms and is not fit for domestic use.

03

Human Activities

Human activity also contributes to release of wastes and garbage which are sometimes dumped into waterways. Untreated sewage, wastes and garbage can create a toxic environment for aquatic life.



Causes of Land Pollution

01

Use of Pesticides and Fertilizer

Pesticides and fertilizers from agricultural fields contain chemicals that can harm plants, animals, and sometimes people. These can lead to cancer diseases in human beings.

02

Poor Garbage Disposal

Around the world, paper, cans, glass jars, plastic products, and junked cars often contain dangerous pollutants such as oils, chemicals, and ink. which can leech into the soil and harm animals and plants.

03

04

05

Task: Fill in other causes of land pollution that you know of



How to fight Pollution



Recycle and Reuse
items



Banning the use of
plastic bags



Environmental and
forest conservation

Group Task/Activity

In groups of 15– 20 members, come up with a recycling project from items found in your school (bottles, tyres, buckets, steel, clothes, plastics e.t.c) and make an item that can be used, beautify in your community.

Note: Club coordinators and leaders will assess each groups recycling project.



C: Deforestation



- Deforestation is the purposeful clearing of forested land.
- Throughout history and into modern times, forests have been razed to make space for agriculture and animal grazing, and to obtain wood for fuel, manufacturing, and construction.
- Today, the greatest amount of deforestation is occurring in tropical rainforests, aided by extensive road construction into regions that were once almost inaccessible.
- Building or upgrading roads into forests makes them more accessible for exploitation.

Causes of Deforestation

Forest Fires

- Each year, fires burn millions of hectares of forest worldwide. Fires are a part of nature but degraded forests are particularly vulnerable.
- These include heavily logged rainforests, forests on peat soils, or where forest fires have been suppressed for years allowing unnatural accumulation of vegetation that makes the fire burn more intensely.

Mining Activities

- The impact of mining on tropical forests is growing due to rising demand and high mineral prices.
- Mining projects are often accompanied by major infrastructure construction, such as roads, mining pits and power stations, putting further pressure on forests and freshwater ecosystems.

Causes of Deforestation

Illegal and Unsustainable Logging

Illegal logging occurs in all types of forests across all continents destroying nature and wildlife, taking away community livelihoods and distorting trade.

Harvesting of firewood for fuel

Over-harvesting of trees for firewood for domestic use or for commercial trade in charcoal significantly damages forests.



Effects of Deforestation

1

**Biodiversity Loss and
Extinction of species**

2

Desertification

3

Soil Erosion

4

**Low rainfall patterns
and low crop yields**

2

Flooding

3

**Global warming and
climate change**

How to Solve Deforestation

1. Educational Campaigns

It is possible to combat deforestation through awareness. Educational campaigns can be an excellent example of awareness about deforestation. This can be done by teaching people about the importance of trees and forests.

Educational campaigns may include ads, public service announcements, social media campaigns, and educational materials distributed in schools. These campaigns can be targeted to different age groups and cultures, and should be designed to raise awareness of the issue of deforestation and its impact on the environment.



2. Reforestation

This is one of the best preventive measures of deforestation. It helps in restoring the forest cover that has been lost due to any reason. It also provides a number of benefits like reducing erosion, improving water quality, providing habitat for wildlife and many more. We all need to understand the importance of reforestation and implement it to save the environment.

How to Solve Deforestation

3. Use of renewable energy sources

We need to grow trees as a source of wood from secondary growth forests. Using sustainable local wood sources and charcoal for cooking or heating is an excellent alternative to fossil fuels (provided it comes from local authorities).

4. Implementing rules and regulations

There should be strict rules & regulations against those who are involved in deforestation activities by any means. People should follow these rules & regulations because it is everyone's responsibility to save the environment.

5. Reduce paper consumption

To reduce the wastage of paper, we can make a habit of taking a printout on both sides of a paper and even writing on both sides of our notebook. If we can limit the use of paper products, we can reduce the reasons for deforestation to some extent.



Task/Activity

1. In groups of 6 to 8 members, plant a tree (fruit or shed) in your school compound, water and monitor it's progress and growth. In case, the school doesn't have enough territory for tree planting agree with school administration to go on field trips and plant in neighborhood schools (primary or senior secondary), local parks or community backyards as part of the blessings campaign.

Note: Coordinator will be monitoring group members participation in taking care of their tree.



Task/Activity

1. In groups of 10 members, come up with an eco-friendly cleaning system that will be an alternative and safe systems of cleaning your dormitories, classrooms, school and home surroundings without destroying the environment and present it to all club members or school parade.

Note: Coordinator/s and all school members will decide if the cleaning system presented is safe and eco-friendly.

Task/Activity: Green Marathon

1. Unite Club should prepare a GREEN MARATHON DAY tournament where members will be competing in different activities such as;
2. - Essay writing on all things environment and how to save our planet.
3. - Jogging/running, sack hopping race, tug of war competitions
4. - Presenting and sharing group environmental management projects that have been done in club sessions to the school members and other teachers.

Unite Environmental Activities



Unite Environmental Activities



Thank You

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