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Marine Coastal and Delta Sustainability for Southeast Asia (610327-EPP-1-2019-1-DE-EPPKA2-C BHE-JP)



INTEGRATED MARINE POLLUTION CONTROL

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TOPIC

1.0 GENERAL INTRODUCTION TO MARINE POLLUTION

- 1) Definition of pollution
- 2) Major forms of pollution
- 3) Marine pollution
- 4) Terminology of various marine pollutions

SOURCE:

<https://www.slideshare.net/SaraHassan4/oil-spills-final>, by Sara Hassan, published on Dec, 2013 in Technology, Business

<http://www.businessdictionary.com/definition/pollution.html>

<https://www.slideshare.net/Sagnik1/marine-pollution-29021572>

1) Definition of pollution

- What is your Definition?
- Class discussion (from student)
- Video presentation (from student)
- 10 minutes

1) Definition of pollution

- Various definitions
- The introduction of harmful substances or products into the environment.

(source: www.dictionary.com/browse/pollution)

1) Definition of pollution

- Presence of matter (gas, liquid, solid) or energy (heat, noise, radiation) whose nature, location, or quantity directly or indirectly alters characteristics or processes of any part of the environment, and causes (or has the potential to cause) damage to the condition, health, safety, or welfare of animals, humans, plants, or property.

(source:

www.businessdictionary.com/definition/pollution.html

2) Major forms of pollution



2) Major forms of pollution

- a) Air
- b) Land
- c) Water
- d) Thermal (Heat)
- e) Light
- f) Noise
- g) Radioactive contamination



2) Major forms of pollution



a) **Air pollution:**

- Is a mixture of solid particles and gases in the **air**.
- Car emissions, chemicals from factories, dust, pollen and mold spores may be suspended as particles.
- Ozone, a gas, is a major part of **air pollution** in cities.
- When ozone forms **air pollution**, it's also called smog. Some **air pollutants** are poisonous.

2) Major forms of pollution



b) Land pollution:

- Is the deterioration (destruction) of the **earth's land** surfaces.
- Often directly or indirectly as a result of man's activities and their misuse of **land** resources.

2) Major forms of pollution



c) Water pollution:

- Is the **contamination** of **water** bodies (e.g. lakes, rivers, oceans, aquifers and groundwater).
- This form of environmental degradation occurs when **pollutants** are directly or indirectly discharged into **water** bodies without adequate treatment to remove harmful compounds.

2) Major forms of pollution

d) Thermal/Heat pollution:

- Is the degradation of water quality by any process that changes ambient water temperature.
- A common cause of **thermal pollution** is the use of water as a coolant by power plants and industrial manufacturers.



2) Major forms of pollution

e) **Light pollution:**

- Also known as **photo pollution**, is the presence of anthropogenic light in the night environment.
- It is exacerbated by excessive, misdirected or obtrusive uses of light, but even carefully used light fundamentally alters natural conditions. As a major side-effect of urbanization, it is blamed for compromising health, disrupting ecosystems and spoiling aesthetic environments.



2) Major forms of pollution

e) Noise pollution:

- Or **noise disturbance** is the disturbing or excessive noise that may harm the activity or balance of human or animal life.
- The source of most outdoor noise worldwide is mainly caused by machines and transportation systems, motor vehicles engines, aircraft, and trains.

Example:

A [Qantas Airways Boeing 747-400](#) passes close to houses shortly before landing at [London Heathrow Airport](#)



2) Major forms of pollution

e) Noise pollution:

- Outdoor noise is summarized by the word environmental noise.
- Poor urban planning may give rise to noise pollution, since side-by-side industrial and residential buildings can result in noise pollution in the residential areas.



Example: Traffic is the main source of noise pollution in cities.

2) Major forms of pollution

e) Noise pollution:

- Outdoor noise can be caused by machines, construction activities, and music performances, especially in some workplaces.
- Noise-induced hearing loss can be caused by outside (e.g. trains) or inside (e.g. music) noise.

2) Major forms of pollution

e) Noise pollution:

- High noise levels can contribute to cardiovascular effects in humans and an increased incidence of [coronary artery disease](#).
- In animals, noise can increase the risk of death by altering predator or prey detection and avoidance, interfere with reproduction and navigation, and contribute to permanent hearing loss

2) Major forms of pollution



e) **Radioactive contamination pollution:**

- Can be defined as the release of **radioactive** substances or high-energy particles into the air, water, or earth as a result of human activity, either by accident or by design.