

Workplace Environmental Management

WEEK 2 – Basics of Environmental
Management- 2

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Objectives

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

- Understand the Environmental Management Principles (EMP)
 - Understand the Environmental Management Tools (EMT)
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2.1 Definitions: Environmental Management Principles

- Environmental management is a critical field for taking actions to reduce the negative impacts of human activities on the natural environment.
 - The principles of environmental management: prevention, precaution, integration, conservation, collaboration, and continuous improvement in summary, providing a framework for promoting sustainable practices and achieving environmental goals.
 - By applying these principles, we can help to create a more sustainable future for ourselves and for future generations.
 - Thus, these are set of rules and guidelines that help attain desirable environmental outcomes, procedures that governments, industries, and people should follow.
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2.1.1 Polluter Pays Principle (PPP)

- A principle that suggests the participation of everyone who can cause damage or who creates hazards through their activities.
 - This principle dictates organizations and industry owners to pay for the damage they may cause in relationship with the pollution.
 - Most countries have adopted this principle to ensure companies take up the responsibility according to the damage.
 - It promotes compensation, sustainable development, and proper policy implementation through practical implications and during the process of allocating economic activities.
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2.1.1 Polluter Pays Principle (PPP) cont'd

- Polluter pays principle, ensures the betterment of the global ecosystem by conservation of all types of life.
 - It should include the price for any damage to the environment
 - The polluter pays principle aims to discourage activities impairing environment and punish any person who violates regulations. Any person demonstrating behaviour or activities that cause or which may cause adverse effects on environment is either punished or ordered to make restitution. If the restitution is not possible, they are ordered to rehabilitate it. (Official Gazette no.Special of 21/09/2018, Environmental law, Republic of Rwanda, 2018, page 18.)
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2.1.1 Polluter Pays Principle (PPP) cont'd

- Rwanda Environmental policy, point 1.2 states that “Environment and Vision 2020”
 - It explains that particular attention will be paid to the integration of the environmental dimension in all educational, sensitization and development policies and programmes and at all levels of decision making.
 - That is in line with the integrated principles of **generations** and **gender equality**, precaution and polluter pays while disseminating environment friendly technologies in the country, the regional and globally with the aim of protection and management of environment. (Rwanda Environmental policy, republic of Rwanda, 2003, page 6.)
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2.1.2 User Pays Principle (UPP)

- The user is responsible for some charges to pay on the consumed services given while utilizing resources and treatment services whenever the resources are consumed and used.
 - It is therefore connected to the polluter Pays Principle because the organization provided access to resources which cause pollution at a certain level and users also should be responsible for any harm they may cause to the environment through the consumption of resources, services and any materials utilized which harm the environment.
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2.1.2 User Pays Principle (UPP) cont'd

- Some examples are:
 - Payment of water consumed for household or big companies.
 - Payment for land use.
 - Payment for public cleaning because of some plastic materials and some chemicals which may harm the environment and they are either thrown by users or resulted from the waste.
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2.1.3 Precautionary Principle (PP)

- Precautionary approach is a guiding principle to help organization to evaluate their activities in the levels of damage which may occur from what organizations are doing.
 - So, Companies and industries are advised on methods to implement which will not affect the environment so much throughout their daily activities.
 - Organizations should take a precautionary approach to environmental management by anticipating and preventing potential environmental impacts before they occur.
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2.1.3 Precautionary Principle (PP) cont'd

- If a product, an action or a policy has a suspected risk of causing harm to the public or to the environment, protective action should be supported before there is complete scientific proof of a risk”. (Food Safety Assurance Systems: Food Safety and Ethics, Nina Veflen Olsen and Yasmine Motarje mi, 2014.)
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2.1.4 Principle of Responsibility

- Responsibility is required for safe environment. This principle is regarded with what organizations should consider to comply with the necessary conditions to conserve the environment.
 - Organization should understand the requirements for the environmental performance and should report transparently on their environmental impacts, risks, and management practices.
 - People must move about in their daily life with a sense of responsibility of keeping the environment safer, cleaner, and more sustainable, the same is applicable for companies and organisations who pollute the environment.
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2.1.5 Principle of Effectiveness and Efficiency

- Organizations should comply with all relevant environmental regulations and requirements and should continuously monitor and assess their compliance status.
 - Therefore, governments and all countries should ensure that well-structured policies and procedures are put in place for essential waste management to avoid diseases, soil problems, chemical build-ups, and water-borne diseases.
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2.1.5 Principle of Effectiveness and Efficiency cont'd

- Environmental management should involve the participation of all stakeholders, including employees, customers, suppliers, and local communities.
 - Hence, it's essential that through the principle of effectiveness and efficiency, major agencies and councils do everything possible to reduce waste building up and control dump sites for garbage.
 - Organization bodies and agencies are encouraged to decentralize and implement all methods of environmental management with marginal cost.
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2.1.6 Principle of Proportionality

- This refers to striking a balance between development and protecting the environment. Building of basic essential infrastructure through development has been considered a major part of human endeavour, therefore, protecting the environment but so does development. Without the environment which provides land, man would not have where to build homes.
 - But one important key point to take note of is that both must be managed and balanced. Development should not hinder and destroy the environment and environmental protection must happen while allowing development.
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2.1.6 Principle of Proportionality cont'd

- Since all forms of life was created in relation to human, biological diversity as well as non-living organisms should coexist.
 - This principle is very necessary to express the importance of forms of life and how all living and non-living elements in the ecosystem depend on each other and always connected to one another
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2.1.7 Principle of Participation

- Every citizen, person, government, and the firm has a responsibility to participate in environmental decision-making and protection policies. Through collective collaboration in the affairs of the environment, it's easy to foster a shift and wave reflecting the need to protect the environment.
 - In Rwanda, every Saturday of the month, citizens have community works where they perform activities related to the protection of the environment. During this gathering, both citizens and government officials hold a meeting to discuss some issues around which can harm the environment or human settlement while giving due consideration to other forms of species around.
 - Among the activities, people collect solid waste, garbage, plastics and other products that may affect the environment to reduce the impact.
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2.2 Environmental Management Tools

- The tools for environmental management may vary in various organizations and governments but some very important tools and approaches to identify, evaluate, and manage environmental risks and impacts are listed below where five of them are discussed and others will be student's homework:

1. Environmental management systems (EMS)
 2. Environmental auditing (EA)
 3. Environmental labelling (EL)
 4. Life cycle assessment (LCA)
 5. Environmental indicators (EI)
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2.2.1 Environmental Management Systems (EMS)

- EMS is a structured approach to managing environmental impacts and risks, based on a set of policies, procedures, and practices designed to minimize negative impacts and enhance positive impacts.
 - The EMS is a structured and modelled tool which is important for sustainable environment. A PDCA cycle helps to recognise, manage and monitor environmental aspects to avoid negative impacts on the environment.
 - It involves: Planning, Doing, Checking and Acting
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Planning

- All the activities must be planned following the guiding principles for sustainable development and protection for future generation.
 - It requires understanding the organization SWOT analysis and the implication of each factor for the target to be achieved by the organization.
 - Distribution of responsibilities is highly necessary, and everyone should stand in their position being accountable and complying with the set rules and regulations.
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Doing

- This factor puts organization in activities implementation.
 - Required recourses to be utilized should available and people to conduct activities with necessary knowledge and expertise should be available following the EMS compliance.
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Checking

- This factor will help the organization to check all the activities planned and their implementation to conduct self-assessment against the goals which were set.
 - Since all the activities planned were documented; at this stage, there should be a review of the compliance for the rules and regulation being internal or external to the organization to propose some information decisions.
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Acting

- The cycle completes with the actions taken by organizations dealing with whatever was reported to be revised.
 - Compliance should be respected as proposed and actions should be taken when non-compliance is observed to maintain the objectives or goals.
 - The cycle starts again and repeats to ensure continuous development of an organization.
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PDCA Examples for Rwanda

- A tea plantation in Rwanda **Plans** to reduce agrochemical use and implement sustainable farming practices, **Does** train farmers in organic farming techniques and purchase eco-friendly pesticides, **Checks** soil health and analyses the impact on tea quality, **Acts** by adjusting organic farming practices based on results and set new goals for reducing agrochemical dependence.
 - A textile factory in Rwanda **Plans** to minimize water pollution from dyeing processes and comply with national wastewater discharge standards, **Does** invest in water treatment technologies and implement cleaner production methods, **Checks** wastewater quality and conduct environmental audits, **Acts** by upgrading treatment technologies if needed and explore additional water conservation practices.
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PDCA Examples for Rwanda cont'd

- By implementing the PDCA cycle, organizations in Rwanda can systematically manage their environmental impact, contribute to a cleaner and healthier environment, and achieve their environmental objectives.
 - In summary, the PDCA cycle provides a structured approach for continuous improvement in environmental management system (ISO 14001 Implementing Guide, BSI Standards Publication, 2021.)
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2.2.2 Environmental Auditing (EA)

- Environmental audits are systematic reviews of an organization's environmental performance, typically conducted by an independent third party.
- At its core, an environmental audit evaluates a company's environmental performance.
- Environmental audits can be done on specific procedures and operational areas to assess their effectiveness and compliance with environmental rules and regulations. (<https://safetyculture.com/topics/environmental-audit/>).

Generally, an environmental audit aims to:

- Identify which environmental management practices are working effectively;
 - Find various areas of improvement when it comes to environmental compliance;
 - Assess any new and potential risks to the environment.
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2.2.3 Environmental Labelling (EL)

- Environmental labelling and certification programs provide consumers with information about the environmental impacts of products and services and help to encourage sustainable consumption and production practices.



The eco labelling ensures that the product is not toxic, environment friendly and sustainable. Thus consumers are aware when purchasing that no harm or little impact to the environment has the product.

The products certified with these labels are considered as environmentally friendly products.

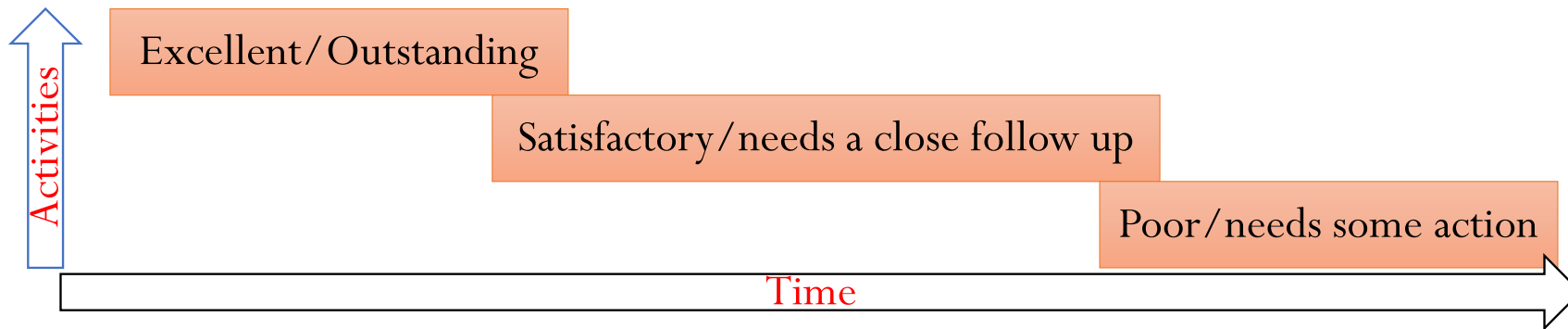
(<https://theinvestorsbook.com/eco-labelling.html>)

2.2.4 Environmental Life Cycle Assessment (LCA)

- LCA is a method for assessing the environmental impacts of a product, service, or process over its entire life cycle, from extraction of raw materials to disposal.
 - It involves the evaluation of performance on environmental impacts, towards various systems and technologies all over their time of existence.
 - It provides measures that point out how to improve continuously as the production take a lifetime for an organization's operations.
 - As per the PDCA cycle which is for continuous improvement, this tool plays a vital role to assure that improvement.
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2.2.5 Environmental indicators (EIs)

- Any good management should have metrics which help in the process of self-evaluation and decision making, the EIs are the metrics for environmental management performance.
- EIs are quantitative performance measures utilized to evaluate an organization's environmental performance over time.
- The main purpose for Environmental Indicators is to contribute to the organisation's performance by considering quantity and quality with time.



Additional note!

- Some tool work to complement the above discussed to accomplish and tackle the following considerations:
 - Some policies should be followed, checked and implemented to ensure compliances and accountability.
 - Reporting should always be attached to the implementation of the signed agreements, set and achieved targets for sustainable development as result.
 - Impacts on proposed project or development should be assessed and ways to minimize or mitigate those impacts should be clearly put into consideration.
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Additional note! Cont'd

- Green procurement prioritizes environmental sustainability of products and services.
 - Cleaner production optimizes production processes minimizing waste and pollution.
 - Education and communication inform employees, stakeholders, youth and the public about environmental issues, impacts, and solutions through awareness, engagement and support for environmental management initiatives.
 - All are for comprehensive environmental management strategy for unique needs and challenges of a particular organization or situation.
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Thank you for your good attention
Q&A

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