

Environmental Management



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MNO3704

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PREFACE

1 INTRODUCTION

A warm welcome to this Environmental Management module. I trust that you will find it of value in both your work and personal life.

We will begin the journey through this module by explaining the concepts of Environmental and Business Management and the relationship between them. We will talk about the emergence of Environmental Management and highlight the role of cross-functional teams (CFTs).

Businesses do not function in isolation. For this reason, we will explain the link between corporate social responsibility and Environmental Management. Furthermore, we will focus on the principles, costs and strategies that apply to Environmental Management. We will also briefly explain the impact of human activity on the environment.

To clarify the concepts of sustainability and the triple bottom line, we will explain the King II and King III Reports and highlight their differences. Global reporting initiative (GRI) guidelines and the principles of sustainability will give more clarity on the issue of ethics in the South African context.

As it is vital to engage in Environmental Management, you need a basic understanding of the nature and characteristics of the natural environment. Therefore, you will learn about the natural environment and the impact of human activity on it, as well as natural driving forces influencing change in corporate behaviour and related business endeavours to protect the natural environment.




The need for international standardisation started as globalisation became an ever-increasing part of the business environment. We will discuss ISO 14000, as an international standard, with a view to developing an environmental management system (EMS) for a business.

Pollution and waste management, as part of sustainable development, will be focus areas in this module. You will get to know certain applicable legislation pertaining to pollution and waste. We will explain climate change and biodiversity, among other things, so that you have more clarity on the impact of industry and agriculture on the environment.

To end this module, we will focus on integrating Environmental Management with the business environment and deal with the ethics of Environmental Management.

The approach in this module emphasises the importance of interactive learning between you and the information provided. You will continually be engaged in reading specific parts of your prescribed textbook. You will be challenged to implement theoretical knowledge into the practice of your daily work environment.

Mastering the learning outcomes of each learning unit will require consistent dedication. The module outline follows on the next page to orientate you. If you need any clarification of any part of the learning material, do not hesitate to contact me.

Icon	Description
	Activity. This icon refers to activities that you must do to develop a deeper understanding of the learning material.
	Feedback. This icon indicates that you will receive feedback on your answers to the self-assessment activities.
	Study. This icon indicates which sections of the prescribed book or the learning guide you need to study and internalise.

Environmental regards

Ms LB Louw

Learning unit 1

Introduction to environmental management

1.1 INTRODUCTION

1.1.1 Aim of the learning unit

Learning unit 1 is intended to help you understand the important concepts of environmental management. Chapter 1 of the prescribed book (*Environmental management – A business management approach*. Edited by Smit, SJ. 2015. 1st edition. Juta. ISBN 9781485103998) is **Introduction to environmental management**. In this chapter, the main elements that play a role in Environmental Management and its programmes are briefly discussed.

It is important that you know what competencies you need to master when you study the first chapter of the prescribed book. Read through the learning outcomes and ensure that you understand the key concepts in every learning unit that you work through.

In learning unit 1, we define Environmental Management and illustrate how it fits into the larger Business Management environment. All management activities are rooted in teamwork and we will discuss the important members of Cross Functional Teams (CFTs). Environmental Management emerges from the basic constitutional rights of South Africans and has evolved into a very important aspect that all managers need to consider when making business decisions.

You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

1.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed textbook, you should be able to:

- explain what the field of Environmental Management entails
- describe how Environmental Management fits in with Business Management
- list the roles of Cross Functional Teams
- explain the emergence of Environmental Management
- outline the role of corporate social responsibility

1.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics in chapter 1 of the prescribed textbook:

1. Defining Environmental Management
2. Relationship between Environmental Management and Business Management
3. Cross-functional teams
4. Environmental Management – emergence
5. Environmental Management and corporate social responsibility

After reading and thinking about the contents of chapter 1 of the prescribed textbook, you will have to demonstrate that you understand the concepts of Environmental Management and their context in the light of Business Management.

1.1.4 Key concepts

The following key terms are important in this learning unit:

- Environmental Management
- Business Management
- National Environmental Management Act, 107 of 1998 (NEMA)
- Environmental Management System (EMS)
- POLC cycle
- PDCA cycle
- ISO 14000
- CFTs
- Constitution of the Republic of South Africa, 1996 (the Constitution)
- Sustainable development
- Interested and affected parties
- Corporate social responsibility

After working through the learning unit, you should be able to explain all of the abovementioned concepts. These concepts are all explained or defined in the prescribed textbook and this learning unit.

1.2 DEFINING ENVIRONMENTAL MANAGEMENT



Study the section entitled **Defining environmental management** in the prescribed textbook.

Before starting the journey into Environmental Management, it is important to first define exactly what Environmental Management is. That is the focus of this section. In any field of study, definitions are important since they explain the exact scope of study. In other words, we are studying Environmental Management, which focuses on the environment and Business Management. Although Environmental Management and Business Management are both related to other business functions, such as operations management or financial management, those business functions are not the core focus

of this area of study. Once the area of study has been defined, we can start to look at how it relates to other fields of study. You will see that some parts of the prescribed textbook take a very specific look at the importance of CFTs as well as the impact of other business functions on Environmental Management and vice versa.

According to the prescribed textbook, **Environmental Management** is defined as the way in which businesses deal with environmental aspects. Environmental aspects are regarded as any element of the activities, products or services of an organisation that interacts with raw materials or resources in the environment.

The term “natural world” is also defined in this section. The natural world is an environment that comprises numerous natural sources that are available to be used by the manufacturing industry as raw materials.

NEMA is the acronym for the National Environmental Management Act No. 107 of 1998. It is important that all environmental managers be acutely aware of the contents of NEMA. NEMA defines the environment as the immediate and remote surrounding within which individuals and organisations exist. This includes the atmosphere, water, land, micro-organisms, fauna, flora, any section, combination or interrelationship between these elements, such as the physical, chemical and cultural properties and conditions of these elements that may affect human and organisational wellbeing. In addition to NEMA, there are also specific environmental management Acts (SEMA) that focus on a specific area of expertise, for example the National Environmental Management: Waste Act No. 59 of 2008 (NEM:WA).

Management is defined as human endeavour to understand and describe the ways natural, human, financial and man-made resources are supposed to be utilised in order to reach specified goals, objectives and targets while giving full recognition and application to the economic principle of economic efficiency.

An environmental management system (EMS) is a structured management system that helps a business organisation to achieve both its economic and its environmental goals. This means that an EMS uses planning, doing, checking and actin tools to meet environmental and economic requirements. The relation between EMS and ISO standards is discussed in this section.

1.3 RELATIONSHIP BETWEEN ENVIRONMENTAL MANAGEMENT AND BUSINESS MANAGEMENT



Study the section entitled **Relationship between environmental management and business management** in the prescribed textbook.

This section illustrates the similarity between Environmental Management and Business Management. The differences between these two management sciences are also explained in this section.

Important terms discussed in this section include business management, the POLC cycle (plan, organise, lead, control), the PDCA cycle as well as the focus of Environmental Management. The PDCA cycle (plan, do, check, act) is also known as the Deming cycle.

1.4 CROSS-FUNCTIONAL TEAMS



Study the section entitled **Cross-functional teams** in the prescribed textbook.

To achieve the most effective workplace environment, CFTs are vital. The prescribed textbook highlights the following disciplines and experts that should be included in CFTs:

- Line managers
- Environmental manager
- Safety practitioner
- Occupational health experts
- Ergonomics
- Engineering for safety
- Human resource manager
- Financial manager
- Enterprise safety risk manager
- Maintenance department staff
- Training department staff
- Fauna, flora and marine experts
- Water, air and soil experts
- Experts in the general psychological and social wellbeing of humans
- Quality management
- Special services

Pay attention to the role of each CFT member as discussed in the prescribed textbook.



Activity:

CFTs consist of individuals that bring their own expertise to a project. Even in a study group you will see that every person has a different frame of reference, different histories and different expertise. In the space that follows, write down which CFTs you have been part of at work or in your studies. What expertise did each member of this team bring to the project?

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1.5 THE EMERGENCE OF ENVIRONMENTAL MANAGEMENT



Study the section entitled **Environmental management – emergence** in the prescribed textbook.

Pay attention to the route that Environmental Management followed from being summarised as a section in the Constitution to specific environmental management Acts.

The Constitution of the Republic of South Africa Act No. 108 of 1996 contains the fundamental rights of all South African citizens. One of these fundamental rights is the right to an environment that is not harmful to their health or wellbeing. This right forms the basis of any Environmental Management endeavour. It is the reason why we do what we do in an environmentally responsible manner.

1.6 ENVIRONMENTAL MANAGEMENT AND CORPORATE SOCIAL RESPONSIBILITY



Study the section entitled **Environmental management and corporate social responsibility** in the prescribed textbook.

In this section, we define sustainable development. You need to understand the importance of sustainable development and corporate social responsibility, not just in terms of the legislative requirements, but also from a moral perspective.

In NEMA, sustainable development is defined as the integration of social, economic and environmental factors whenever a business plans and implements its activities. This includes making decisions in order to ensure that the business undertakes development that will not only serve the present generation but also future generations.

Another important concept that is discussed in this section is interested and affected parties. This term is also defined in NEMA: “any person, group of persons or organisation interested in or affected by such operation or activity; and any organ of state that may have jurisdiction over any aspect of the operation or activity”.

1.7 SUMMARY OF LEARNING UNIT

This learning unit provided an overview of the most important definitions relating to Environmental Management. You learnt about the relationship between Environmental Management and Business Management as well as the importance of CFTs. We highlighted the emergence of Environmental Management and its role in corporate social responsibility.

1.8 LEARNING UNIT ASSESSMENT

1. Define Environmental Management and list the main elements.
2. Explain the similarities between Environmental Management and Business Management.
3. You are responsible for constructing a shopping mall in an ecologically sensitive area. A river runs through the proposed construction site and this river feeds areas downstream that are home to threatened species of fauna and flora. List the members you would include in a CFT and briefly explain the role of each member in this specific situation.
4. Explain how Environmental Management emerged.
5. How does Environmental Management fit in with corporate social responsibility?

Learning unit 2

Natural, cultural and socioeconomic environments

2.1 INTRODUCTION

2.1.1 Aim of the learning unit

In learning unit 2, we continue to work through chapter 1 of the prescribed textbook.

This learning unit provides an overview of the different elements that comprise the environment as well as the principles of Environmental Management. We will investigate environmental costs and Environmental Management strategies. After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed textbook to see how well you have mastered the content of this learning unit.

2.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to

- illustrate the components of the environment and describe each of them in detail
- explain the principles and costs of Environmental Management
- explain the different strategies that apply to Environmental Management
- describe the impact of human activity on the environment

2.1.3 Content of the learning unit

You will cover the following topics in this learning unit:

1. Components of the environment
2. Principles of Environmental Management and environmental costs
3. Environmental strategies
4. The impact of human activity

2.1.4 Key concepts

The following key terms are important in this learning unit:

- Substance
- Safety hazards
- Natural environment
- Man-made environment
- Social environment

- Common goods
- Outside-in strategy
- Inside-in strategy
- Inside-out strategy
- Urbanisation
- Public sector

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

2.2 COMPONENTS OF THE ENVIRONMENT



Study the section entitled **Components of the environment** in the prescribed textbook.

The environment consists of three components: the natural environment, the built (man-made) environment and the social environment. Each of these components has its own characteristics that you need to understand.

2.3 PRINCIPLES OF ENVIRONMENTAL MANAGEMENT AND ENVIRONMENTAL COSTS



Study the section entitled **Principles of environmental management and environmental costs** in the prescribed textbook.

Common goods are defined as all resources that are found in nature such as land, water, plants, animals and air. In many instances, these resources are not paid for and this means that nature can be used and in some cases abused for economic and social gain. Can you think of an example of this abuse?

The specific principles that guide the implementation of an environmental management programme are discussed in this section. These principles as discussed in the prescribed textbook originate from the NEMA.

Environmental costs are also discussed in this section of the prescribed textbook and the four environmental costs that are identified originate from a wide range of activities.

2.4 ENVIRONMENTAL MANAGEMENT STRATEGIES



Study the section entitled **Environmental management strategies** in the prescribed textbook.

Three strategies that an organisation can follow when implementing Environmental Management are the outside-in strategy, inside-in strategy and inside-out strategy.

Are you able to explain each of these strategies and to distinguish between the three of them?

2.5 THE END RESULT OF HUMAN ACTIVITY



Study the section entitled **End result – the impact of human activity** in the prescribed textbook.

As explained in the prescribed textbook, humans impact on natural resources in terms of the size of the population that consumes those resources and the rate at which consumption takes place.

Human activities that impact on the environment include urbanisation, economic activities and public sector activities.

Urbanisation is defined as the process in which the number of people living in cities increases compared to the number of people living in rural areas.

The public sector comprises local government, national government and all other organs of state.

2.6 SUMMARY OF LEARNING UNIT

Now that you have completed this learning unit, you should have a picture of the different elements that comprise the environment and the principles of Environmental Management. In this learning unit we investigated environmental costs as well as Environmental Management strategies. In the next learning unit, we will examine sustainability and triple context.

2.7 LEARNING UNIT ASSESSMENT

1. Describe the components of an environmental management programme.
2. Describe the strategies of an environmental management programme.
3. What are the ten principles of environmental management?
4. What are the various environmental costs that may be incurred?
5. Briefly explain the impact of human activity on the environment.

Learning unit 3

Sustainability and the triple bottom line

3.1 INTRODUCTION

3.1.1 Aim of the learning unit

Learning unit 3 is intended to help you understand the important concepts of sustainability and the triple bottom line. Chapter 2 of the prescribed book, provides an overview of these concepts.

In this learning unit, you will learn about sustainability, the triple bottom line, triple context, the King II and King III Reports, global reporting initiatives and ethics. You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

3.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- discuss the importance of the King Reports and the differences between the King II and King III Reports
- explain the difference between triple bottom line and triple context
- explain the principles for sustainability
- discuss ethics and companies in South Africa

3.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will study the following topics in chapter 2 of the prescribed textbook:

1. Introduction to sustainability and the King Reports
2. The King Reports
3. Triple bottom line versus triple context
4. Principles for sustainability
5. Ethics and companies in South Africa

3.1.4 Key concepts

The following key terms are important in this learning unit:

- Sustainability
- Triple bottom line
- Triple context
- King II Report
- King III Report
- GRIs
- Ethics

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

3.2 THE KING REPORTS



Study the section entitled **The King Reports** in the prescribed textbook.

The development of the King Reports from the King I Report to where we are with the King III Report is summarised in the prescribed book.

As explained in the prescribed textbook, the King III Report embraces the African value system of ubuntu. The most important aspects of this value system are highlighted in this section.

Pay attention to the similarities and differences between the King II and King III Reports.

3.3 TRIPLE BOTTOM LINE (TBL) VERSUS TRIPLE CONTEXT



Study the section entitled **Triple bottom line (TBL) versus triple context** in the prescribed textbook.

Triple context is underpinned by three objectives: economic prosperity, social responsibility and environmental sustainability.

The advantages of triple context and GRI guidelines are discussed in this section.

3.4 THE PRINCIPLES FOR SUSTAINABILITY



Study the section entitled **Sustainability principles** in the prescribed textbook.

Sustainable development is defined as development that meets the needs of the present without comprising the ability of future generations to meet their own needs.

3.5 ETHICS AND COMPANIES IN SOUTH AFRICA



Study the section entitled **Ethics and companies in South Africa** in the prescribed textbook.

Ethical conduct by South African companies is regulated by legislation, regulations and directives. This section provides a brief overview of this aspect.



Activity

Companies are supposed to report their ethical policies in their annual report. Do some research and find out if your place of work has a policy on ethical conduct. How is this policy communicated to employees? Is this policy communicated to external stakeholders?

3.6 SUMMARY OF LEARNING UNIT

In learning unit 3, we emphasised sustainability, triple bottom line, triple context, the King Report, GRI and ethics. Learning unit 4 will build on these concepts and provide an overview of the natural environment.

3.7 LEARNING UNIT ASSESSMENT

1. The GRI guidelines specify certain performance indicators. List and briefly discuss these core indicators.
2. Explain the differences and similarities between triple bottom line and triple context.
3. Discuss the differences and similarities between the King II and King III Reports.
4. Explain the principles of sustainability.
5. How do South African companies relate to ethics?

Learning unit 4

The natural environment

4.1 INTRODUCTION

4.1.1 Aim of the learning unit

Learning unit 4 is intended to help you understand the important concepts of sustainability and the triple bottom line. Chapter 2 of the prescribed textbook, provides an overview of these concepts.

This learning unit presents an overview of the nature of the environment, characteristics of safety hazards, origin of environmental risk and the impact of human activity on the environment. You will also learn about the driving forces that influence change in corporate behaviour and business endeavours to protect the environment. To manage the environment successfully, you must understand how its different aspects interact.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

4.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- explain the nature of the general and natural environment
- discuss the characteristics of safety hazard
- discuss the appearance of the natural environment
- explain the origin of safety risk and environmental risk
- elucidate on the impact of human activity on the natural environment
- discuss the natural driving forces that influence change in corporate behaviour
- explain business endeavours to protect the environment

4.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will study the following:

1. The nature of the general and natural environment
2. Characteristics of safety hazards
3. The appearance of the natural environment
4. The origin of safety risk and environmental risk

5. Environmental hazards and environmental aspects
6. The impact of human activity on the natural environment
7. Natural driving forces that influence change in corporate behaviour
8. Business endeavours to protect the environment

4.1.4 Key concepts

The following key terms are important in this learning unit:

- Matter
- Compound substances
- Safety hazards
- Energy
- Environmental hazards
- Aspects
- Environmental impacts
- Urbanisation
- Ecosystems
- Deforestation
- Desertification
- Greenhouse effect
- Corporate consultation

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

4.2 THE NATURE OF THE GENERAL AND NATURAL ENVIRONMENT



Study the section entitled **The nature of the general and natural environment** in the prescribed textbook.

This section deals with human-made and natural elements. Take note of the discussion of matter, substances and compound substances. All of these concepts are important when it comes to understanding the world around us.

4.3 THE CHARACTERISTICS OF SAFETY HAZARDS



Study the section entitled **Characteristics of safety hazards** in the prescribed textbook.

The characteristics of safety hazards relate to the structure of each hazard and the function of these hazards.

Structural characteristics include tangibility, density, size, weight, shape and texture. Functional characteristics include energy, consistency, interaction and human inconsistency.

Pay attention to the explanation of each of these characteristics in the prescribed textbook.

4.4 THE APPEARANCE OF THE NATURAL ENVIRONMENT



Study the section entitled **The appearance of the natural environment** in the prescribed textbook.

This brief section presents a summary of the concepts explained in the previous sections of this learning unit.

4.5 THE ORIGIN OF SAFETY RISK AND ENVIRONMENTAL RISK



Study the section entitled **The origin of safety risk and environmental risk** in the prescribed textbook.

Previously, it was explained that all substances are made up of matter and these substances can be sensed by any of the five human senses: smell, touch, sight, hearing and taste. It was also explained that all substances have energy, both kinetic and potential. When substances come into contact with other substances, they release these energies and it is this release of energy that presents a risk that could have an impact on the environment.



Activity

Read through the example in this section of the prescribed textbook and think of a few examples in your own environment. Write them in the space provided.

4.6 ENVIRONMENTAL HAZARDS AND ENVIRONMENTAL ASPECTS



Study the section entitled **Environmental hazards and environmental aspects** in the prescribed textbook.

A hazard is any tangible object that has the potential to complement or interfere with the performance of a task, possessing closing and collision potential. This definition applies to environmental hazards as well. Environmental hazards just have the additional concepts of any situation or state of events that poses a threat to the surrounding environment.

An aspect is defined as a particular part or feature of a situation. It represents the event that flows from the interaction and energy release of a hazard.



Activity

Read through the example in this section of the prescribed textbook and think of a few examples in your own environment.

Environmental impact is defined as any change that may occur in the environment, whether good or adverse, that may result in dealing with environmental hazards and their energy exchange.

4.7 THE IMPACT OF HUMAN ACTIVITY ON THE NATURAL ENVIRONMENT



Study the section entitled **The impact of human activity on the natural environment** in the prescribed textbook.

This section provides a summary of the impacts that human activity has on the environment. These impacts can be divided into three main sections: depletion of sources in sustaining life, enhancing the quality of life and establishing supremacy via conflicts and wars.

4.8 NATURAL DRIVING FORCES THAT INFLUENCE CHANGE IN CORPORATE BEHAVIOUR



Study the section entitled **Natural driving forces that influence change in corporate behaviour** in the prescribed textbook.

Natural driving forces can be divided into the following sections: excessive energies, lack of specific energies, presence of unwanted energies, societal emphasis to consider human life and human needs.

Deforestation is defined as the removal of forest to use the land for something else. Deforestation includes replacing forests with plantations, agricultural land and urban areas.

Desertification is defined as land degradation in dry or semi-dry areas as a result of natural and human activities. Desertification comes down to a failure to balance supply of and demand for both land and water in dryer areas. Desertification places additional pressure on infrastructure.

4.9 BUSINESS ENDEAVOURS TO PROTECT THE ENVIRONMENT



Study the section entitled **Business endeavours to protect the environment** in the prescribed textbook.

Behavioural changes in the corporate environment include the establishment of corporate policy, compliance with environmental legislation, cross-function teams (CFTs), corporate consultation and corporate culture.

4.10 SUMMARY OF LEARNING UNIT

Now that you have completed learning unit 4, you should understand the nature of the environment, characteristics of safety hazards, origin of environmental risk and the impact of human activity on the environment. We also showed that there are natural and regulatory driving forces that influence change in corporate behaviour and encourage business endeavours to protect the environment.

4.11 LEARNING UNIT ASSESSMENT

1. Define the terms “matter”, “compound substances”, “safety hazard” and “aspect”.
2. Discuss the characteristics of safety hazards.
3. Discuss the appearance of the natural environment.
4. Explain the origin of safety risk and environmental risk.
5. Define environmental hazards and environmental impact.
6. Elucidate on the impact of human activity on the natural environment.
7. Define deforestation and desertification.
8. Discuss the natural driving forces that influence change in corporate behaviour.
9. Explain business endeavours to protect the environment.

Learning unit 5

The history and importance of ISO 14000

5.1 INTRODUCTION

5.1.1 Aim of the learning unit

Organisations do not function in isolation. They are influenced by factors in their internal and external environments (such as global tendencies). Because of advances in technology, among other things, organisations have to be competitive on a global scale. This means that organisations have to be aware of global tendencies. This learning unit contains information about the International Organisation for Standardisation (ISO).

In this learning unit, we aim to familiarise you with the nature and function of ISO. You will learn about the specific ISO 14000 standard from chapter 4 in the prescribed textbook. You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed textbook to see how well you have mastered the content of this learning unit.

5.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed textbook, you will be able to:

- position the International Organisation for Standardisation within the international context
- explain the objectives and scope of ISO 14000
- elicit and define the appropriate terms relevant to ISO 14000
- discuss the rationale behind ISO 14000 registration
- state the applicability of ISO 14000

5.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. Standards and standardisation
2. International Organisation for Standardisation
3. Origin of ISO 14000
4. The basic objectives of ISO 14000
5. Scope of ISO 14000
6. Applicability of ISO 14000
7. Rationale for ISO 14000

5.1.4 Key concepts

The following key terms are important in this learning unit:

- ISO
- ISO 14000
- Environmental management systems (EMSs)
- Deming cycle (PDCA cycle)

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

5.2 STANDARDS AND STANDARDISATION



Study the section entitled **The need for international standardisation** in chapter 4 of the prescribed textbook.

Each organisation, professional body and country has its own environmental and safety requirements. Working according to a set of international, standardised criteria gives organisations the opportunity to be the performance benchmark for their industry.

5.3 INTERNATIONAL ORGANISATION FOR STANDARDISATION



Study the section entitled **The position and purpose of the ISO** in chapter 4 of the prescribed textbook.

ISO is the International Organisation for Standardisation. It plays a vital role in the standardisation of environmental and safety requirements.

5.4 ORIGIN OF ISO 14000



Study the section entitled **Origin of ISO 14000** in the prescribed textbook.

It is important to understand when and why the ISO came into being. This is explained in brief terms in this section.

5.5 OBJECTIVE OF ISO 14000



Study the section entitled **The basic objectives of ISO 14000** in the prescribed textbook.

In short, the basic objective of ISO 14000 is to assist organisations in preventing environmental impacts resulting from business activities and the production of goods and services.

5.6 SCOPE OF ISO 14000



Study the section entitled **Scope of ISO 14000** in the prescribed textbook.

This section identifies the scope that is covered by ISO 14000.

5.7 APPLICABILITY OF ISO 14000



Study the section entitled **Applicability of ISO 14000** in the prescribed textbook.

ISO 14000 is important for any organisation whose business activities or end products can have an impact on the environment.



Activity

This section of the prescribed textbook contains an explanation of the types of organisations that ISO 14000 is applicable to. Do you think that ISO 14000 is applicable to small businesses as well? Why would that be?

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5.8 RATIONALE FOR ISO 14000



Study the section entitled **Rationale for ISO 14000 registration** in the prescribed textbook.

Although the implementation of ISO 14000 is optional, there are numerous advantages of doing so. These are discussed in this section.

5.9 SUMMARY OF LEARNING UNIT

In this learning unit, we gave you some basic principles regarding the ISO. Even though it is not a legal requirement to apply these standards, complying with international standards enables a business to enhance its stature and may assist the business in being globally competitive. Since the community needs to support any business venture for it to be successful, it is advisable to conform to international standards to prove to the community, among others, that the business takes safety, quality and the environment seriously. As environmental standards (ISO 14000) cannot stand alone in any business, it is important to take note of other international standards, such as those on quality (ISO 9000) and safety (OHSAS 18001).

5.10 LEARNING UNIT ASSESSMENT

1. Name the advantages of registering for ISO 14000.
2. Why is it important to conform to ISO standards?
3. On which basis does ISO operate?
4. Briefly discuss the applicability of ISO 14000 to the organisation where you work. If you are not yet employed, ask a friend or family member.
5. Explain the scope of ISO 14000.
6. What are the elements of an environmental management system (EMS)?
7. Why should a business adopt the ISO 14000 EMS?

Learning unit 6

Making sense of ISO 14000

6.1 INTRODUCTION

6.1.1 Aim of the learning unit

Learning unit 6 is intended to help you understand the important concepts of ISO 14000. Chapter 4 of the prescribed book provides an overview of the structure of ISO 14000 and the relationship between ISO 14000 and regulatory requirements.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

6.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed textbook, you should be able to:

- discuss the structure of ISO 14000
- explain the relationship of ISO 14000 and regulatory requirements

6.1.3 Content of the learning unit

To achieve the aims and learning outcomes of this learning unit, you will cover the following topics:

1. Component parts of ISO 14000
2. Relationship of ISO 14000 and regulatory requirements

6.1.4 Key concepts

The following key terms are important in this learning unit:

- International Organisation for Standardisation (ISO)
- ISO 14000
- Environmental Management Systems (EMSs)
- Deming cycle (PDCA cycle)

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

6.2 COMPONENT PARTS OF ISO 14000



Study the section entitled **Elements of ISO 14000 as an International Standard for an EMS** in the prescribed textbook.

The 16 elements of ISO 14000 are discussed in this section. Pay attention to each of these component parts and their discussion.

6.3 RELATIONSHIP OF ISO 14000 AND REGULATORY REQUIREMENTS



Study the section entitled **Relationship of ISO 14000 and regulatory requirements** in the prescribed textbook.

ISO 14000 simply aims at setting guidelines for the effective development, implementation and improvement of the EMS.

6.4 SUMMARY OF LEARNING UNIT

This learning unit contains valuable information about ISO 14000 and EMS. After completing this learning unit, you should understand the structure of ISO 14000 and the relationship between ISO 14000 and regulatory requirements.

6.5 LEARNING UNIT ASSESSMENT

1. What is the relationship between ISO 14000 and legislative requirements?
2. List all the elements of ISO 14000 that set guidelines and directives for effective development and implementation of an EMS.
3. Discuss each element of ISO 14000 briefly.

Learning unit 7

The Environmental management system

7.1 INTRODUCTION

7.1.1 Aim of the learning unit

Learning unit 7 is intended to help you understand the important concepts of an environmental management system (EMS). Chapter 5 of the prescribed book provides an overview of an Environmental Management System (EMS) and the Deming Wheel.

You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

7.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- briefly describe the structure and functioning of an EMS
- depict the elements of an EMS
- explain and illustrate the Deming Wheel
- discuss the scope and requirements of an EMS
- explain the characteristics of an environmental policy
- describe the important issues of the planning function
- describe the most important aspects of the implementation and operations function
- describe the most important aspects of the checking function
- discuss the considerations of management review

7.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. The structure and functioning of the EMS
2. The context of the Deming Wheel
3. Scope of EMS
4. EMS requirements

7.1.4 Key concepts

The following key terms are important in this learning unit:

- Deming Wheel
- EMS
- Management review
- Environmental policy
- ISO 14000

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

7.2 THE STRUCTURE AND FUNCTIONING OF THE EMS



Study the section entitled **The structure and functioning of an EMS** in the prescribed textbook.

The EMS consists of the following elements:

- Environmental policy
- Planning
- Implementation and operation
- Checking and corrective action
- Management review
- Continual improvement

7.3 THE CONTEXT OF THE DEMING WHEEL



Study the section entitled **The context of the Deming Wheel** in the prescribed textbook.

The PDCA (plan, do, check, act) cycle is illustrated in this section. Pay attention to the different aspects of the PDCA functions.

7.4 SCOPE OF THE EMS



Study the section entitled **Scope of an EMS** in the prescribed textbook.

ISO 14001 sets the requirements of an EMS. The scope to which the EMS applies is explained in this section.

7.5 EMS REQUIREMENTS



Study the section entitled **EMS requirements** in the prescribed textbook.

This section is divided into the following topics:

- Environmental policy
- Planning
- Implementation and operations
- Checking
- Management review

Pay attention to the characteristics of an environmental policy, the different aspects of the planning function, the implementation phase, the checking function and management review.

7.6 SUMMARY OF LEARNING UNIT

Now that you have completed learning unit 7, you should understand the Deming Wheel, environmental management systems, management review and environmental policy. Learning unit 8 will focus on a different part of Environmental Management, namely pollution and waste management.

7.7 LEARNING UNIT ASSESSMENT

1. Describe the basic structure of an EMS.
2. Depict the Deming Wheel and its important aspects.
3. What is the scope of an EMS?
4. List and discuss the characteristics of an environmental policy.
5. Discuss the aspects that should be considered when planning the EMS.
6. Discuss the issues pertaining to the implementation phase of the EMS.
7. Discuss the issues that the checking function focuses on.
8. Management reviews form the basis of all improvement decisions. What are the important considerations of management review?

Learning unit 8

Pollution and waste management

8.1 INTRODUCTION

8.1.1 Aim of the learning unit

Learning unit 8 aims to help you understand the important concepts of pollution and waste management. This learning unit will focus on the important legislation that is applicable to waste and pollution. It will also provide information on important concepts and definitions. Chapter 6 of the prescribed book provides an overview of these concepts.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

8.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- provide an overview of pollution and waste management
- define pollution
- identify the types of pollution
- identify the important aspects of the National Environmental Management: Air Quality Act No. 39 of 2004
- identify the important aspects of the National Water Act No. 36 of 1998 and the Water Services Act No. 108 of 1997
- identify the important aspects of the National Environmental Management: Biodiversity Act No. 10 of 2004
- identify the important aspects of the Environment Conservation Act No. 73 of 1989
- define waste
- identify the important aspects of the National Environmental Management: Waste Act No. 59 of 2008
- explain the concepts of sustainable development
- discuss business strategies to manage pollution and waste
- describe the consequences of polluting practices
- explain the “cradle to grave” principle
- explain the “polluter pays” principle

8.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. An overview of pollution and waste management
2. Definition of pollution
3. Types of pollution
4. National Environmental Management: Air Quality Act No. 39 of 2004
5. National Water Act No. 36 of 1998 and Water Services Act No. 108 of 1997
6. National Environmental Management: Biodiversity Act No. 10 of 2004
7. Environment Conservation Act No. 73 of 1989 Definition of waste
8. National Environmental Management: Waste Act No. 59 of 2008 (10) Sustainable development
9. Business strategies to manage pollution and waste
10. Consequences of polluting practices
11. "Cradle to grave" principle
12. "Polluter pays" principle

8.1.4 Key concepts

The following key terms are important in this learning unit:

- Pollution
- Waste
- NEMA
- NEM:AQA
- NEM:WA
- NEM:BA
- Sustainability
- Integrated Waste Management (IWM)
- Cradle to grave
- Polluter pays

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

8.2 AN OVERVIEW OF POLLUTION AND WASTE MANAGEMENT



Study the section entitled **Pollution and waste management – a brief overview** in the prescribed textbook.

This section deals with why pollution prevention is so important and how it fits in with the Constitution of South Africa.

8.3 DEFINITION OF POLLUTION



Study the section entitled **Definition of pollution** in the prescribed textbook.

This section contains the definition of pollution. This very comprehensive definition is provided by the National Environmental Management Act No. 107 of 1998 – one of the most important pieces of legislation for environmental aspects.

8.4 TYPES OF POLLUTION



Study the section entitled **Types of pollution** in the prescribed textbook.

The major types of pollution include air pollution, water pollution, soil pollution and noise pollution. Pay attention to the definitions of each of these terms.



Activity

Look around in your immediate environment and give an example of each of the four major types of pollution.

Air pollution:

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Water pollution:

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Soil pollution:

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Noise pollution:

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8.5 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT NO. 39 OF 2004



Study the section entitled **National Environmental Management: Air Quality Act 39 of 2004** in the prescribed textbook.

This section provides a brief overview of the focus of this legislation and introduces the concept of an air quality management plan (AQMP).

8.6 NATIONAL WATER ACT NO. 36 OF 1998 AND WATER SERVICES ACT NO. 108 OF 1997



Study the section entitled **National Water Act 36 of 1998 and Water Services Act 108 of 1997** in the prescribed textbook.

This section provides a brief summary of the important aspects of both the Water Act and the Water Services Act.

8.7 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT NO. 10 OF 2004



Study the section entitled **National Environmental Management: Biodiversity Act 10 of 2004** in the prescribed textbook.

This section highlights the importance of the Biodiversity Act in terms of pollution and pollution prevention.

8.8 ENVIRONMENT CONSERVATION ACT NO. 73 OF 1989



Study the section entitled **Environment Conservation Act 73 of 1989** in the prescribed textbook.

This section highlights the importance of the Conservation Act in terms of pollution and pollution prevention.

8.9 DEFINITION OF WASTE



Study the section entitled **Definition of waste** in the prescribed textbook.

In this section you will find a general definition of waste and the definition of waste as stated in the Waste Act. These are important concepts in the field of Environmental Management.

8.10 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT NO. 59 OF 2008



Study the section entitled **National Environmental Management: Waste Act 59 of 2008** in the prescribed textbook.

A brief overview of the aims and important aspects of the Waste Act can be found in this section.



Activity

In this section of the prescribed textbook, you will find a list of activities aimed at reducing waste production. Which of these activities are practically implemented in your home, workplace and community?

8.11 SUSTAINABLE DEVELOPMENT



Study the section entitled **Sustainable development** in the prescribed textbook.

This section defines the terms “sustainability” and “sustainable development”. It also provides an overview of sustainable development in terms of NEMA and the Waste Act. Take note of the implications of pollution and waste on sustainable development.

8.12 BUSINESS STRATEGIES TO MANAGE POLLUTION AND WASTE



Study the section entitled **Managing pollution and waste – business strategies** in the prescribed textbook.

As part of the discussion of business strategies to manage pollution and waste, this section deals with the elements of a waste management plan, waste management activities and integrated waste management.

8.13 CONSEQUENCES OF POLLUTING PRACTICES



Study the section entitled **Consequences of polluting practices** in the prescribed textbook.

Nothing we do happens in isolation. Pollution has consequences and affects other people as well as the environment.

8.14 CRADLE TO GRAVE PRINCIPLE



Study the section entitled '**Cradle to grave' principle** in the prescribed textbook.

Cradle to grave is an important concept for any business. Your responsibility for your products and services does not stop once the product is sold.

8.15 POLLUTER PAYS PRINCIPLE



Study the section entitled '**Polluter pays' principle** in the prescribed textbook.

This section illustrates the practical consequences of pollution.

8.16 SUMMARY OF LEARNING UNIT

Learning unit 8, clearly explains that pollution and waste management are important components of Environmental Management. The learning unit focused on the important concepts of pollution and waste management as well as the legislation that is applicable to waste and pollution.

8.17 LEARNING UNIT ASSESSMENT

1. Explain why pollution prevention is important.
2. Define pollution.
3. List and discuss the types of pollution.
4. Explain the important aspects of the National Environmental Management: Air Quality Act No. 39 of 2004.
5. Discuss the important aspects of the National Water Act No. 36 of 1998 and Water Services Act No. 108 of 1997.
6. Explain the important aspects of the National Environmental Management: Biodiversity Act No. 10 of 2004.
7. How does the Environment Conservation Act No. 73 of 1989 relate to pollution prevention?
8. Define waste.
9. Discuss the important aspects of the National Environmental Management: Waste Act No. 59 of 2008.
10. Define sustainability and explain the concept of sustainable development.
11. What elements should be included in a business's waste management plan?
12. Discuss Integrated Waste Management and explain its importance.
13. Explain the "cradle to grave principle".
14. Explain the "polluter pays principle".

Learning unit 9

Impact of industry and agriculture on the environment

9.1 INTRODUCTION

9.1.1 Aim of the learning unit

Learning unit 9 will focus on the interaction between the environment and industry and agriculture in order to inform you of the implications of these concepts.

Learning unit 9 is intended to help you understand the important concepts of industry and agriculture in an environmental context. Chapter 7 of the prescribed book provides an overview of these concepts.

You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed textbook to see how well you have mastered the content of this learning unit.

9.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed textbook, you should be able to:

- define environment, industry, ecosystem, agroecosystem and biodiversity
- give an overview of the impact of industry on the environment
- explain the impact of fisheries and forestry
- describe the impact of mining
- explain the impact of energy and water supply
- discuss the impact of construction
- describe the impact of trade and tourism
- explain the impact of transport
- discuss the impact of agriculture on the environment
- describe the implication of environmental impact by human activity
- explain which business strategies could minimize industry impact on the environment

9.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics in the prescribed textbook:

1. Impact of industry on the environment – important definitions
2. An overview of the impact of industry on the environment
3. Impact of fisheries and forestry
4. Impact of mining

5. Impact of energy and water supply
6. Impact of construction
7. Impact of trade and tourism
8. Impact of transport
9. Impact of agriculture on the environment
10. Implication of environmental impact by human activity
11. Business strategies to minimise industry impact

9.1.4 Key concepts

The following key terms are important in this learning unit:

- Environment
- Industry
- Ecosystem
- Agroecosystem
- Biodiversity
- Pollution
- Habitat loss
- Habitat fragmentation
- Man-made ecosystem
- Biomass
- DfE

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

9.2 IMPACT OF INDUSTRY ON THE ENVIRONMENT – IMPORTANT DEFINITIONS



Study the section entitled **Important definitions** in chapter 7 of the prescribed textbook.

This section provides an overview of the important definitions in this chapter.

9.3 AN OVERVIEW OF THE IMPACT OF INDUSTRY ON THE ENVIRONMENT



Study the section entitled **Impact of industry on the environment: overview** in the prescribed textbook.

This section provides an overview of the impact that industry activities have on the environment.

9.4 IMPACT OF FISHERIES AND FORESTRY



Study the section entitled **Impact of industry on the environment: fisheries and forestry** in the prescribed textbook.

This section provides an overview of the impact that the fisheries and forestry industry activities have on the environment.

9.5 IMPACT OF MINING



Study the section entitled **Impact of industry on the environment: mining** in the prescribed textbook.

This section provides an overview of the impact that the mining industry activities have on the environment.

9.6 IMPACT OF ENERGY AND WATER SUPPLY



Study the section entitled **Impact of industry on the environment: energy and water supply** in the prescribed textbook.

This section provides an overview of the impact that energy and water supply activities have on the environment.

9.7 IMPACT OF CONSTRUCTION



Study the section entitled **Impact of industry on the environment: construction** in the prescribed textbook.

This section provides an overview of the impact that the construction industry activities have on the environment.

9.8 IMPACT OF TRADE AND TOURISM



Study the section entitled **Impact of industry on the environment: trade and tourism** in the prescribed textbook.

This section provides an overview of the impact that the trade and tourism industry activities have on the environment.

9.9 IMPACT OF TRANSPORT



Study the section entitled **Impact of industry on the environment: transport** in the prescribed textbook.

This section provides an overview of the impact that the transport industry activities have on the environment.

9.10 IMPACT OF AGRICULTURE ON THE ENVIRONMENT



Study the section entitled **Impact of agriculture on the environment** in the prescribed textbook.

This section provides an overview of the characteristics of natural ecosystems, agroecosystems and man-made ecosystems. It also contains a discussion on the differences between natural systems and agroecosystems.

9.11 IMPLICATION OF ENVIRONMENTAL IMPACT BY HUMAN ACTIVITY



Study the section entitled **Implication of environmental impact by human activity** in the prescribed textbook.

This section is a brief summary of the impact that human activities have on the environment.

9.12 BUSINESS STRATEGIES TO MINIMISE INDUSTRY IMPACT



Study the section entitled **Business strategies to minimise industry impact** in the prescribed textbook.

Business strategies to minimise industry impact include

- pollution prevention
- design for the environment
- benchmarking and strategic design
- regulatory requirements
- root cause
- training and development
- PDCA
- reducing greenhouse gas emissions

9.13 SUMMARY OF LEARNING UNIT

Learning unit 9 focused on the interaction between the environment and industry and agriculture in order to inform you of the implications of these concepts. You were given examples of how each industry sector in South Africa affects the environment and how this impact can be minimised. Learning unit 10 focuses on climate change and how it is impacting our lives.

9.14 LEARNING UNIT ASSESSMENT

1. Define the terms “environment”, “industry”, “ecosystem”, “agroecosystem” and “biodiversity”.
2. Explain the impact of industry on the environment.
3. Explain the impact of fisheries and forestry.
4. Describe the impact of mining activities on the environment.
5. Explain the impact of energy and water supply.
6. Discuss the impact of construction activities on the environment.
7. Describe the impact of trade, tourism and transport.
8. Discuss the impact of agriculture on the environment by explaining the characteristics of natural systems and agroecosystems.
9. Describe the implication of environmental impact by human activity.
10. Explain what business strategies could minimise industry impact on the environment.

Learning unit 10

Climate change

10.1 INTRODUCTION

10.1.1 Aim of the learning unit

Learning unit 10 is intended to help you understand the important concepts of climate change and the impact of this phenomenon on your daily life. Chapter 7 of the prescribed book provides an overview of these concepts.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

10.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- explain what climate change is
- discuss how the normal climate system works
- identify the causes of climate change
- explain the impact of climate change
- identify the legislation and agreements that are in place to manage climate change

10.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. What is climate change?
2. How the normal system works
3. Causes of climate change
4. Impact of climate change

10.1.4 Key concepts

The following key terms are important in this learning unit:

- Climate change
- UNFCC
- Great ocean conveyor belt

- ENSO cycle
- Carbon emissions
- Kyoto protocol
- SADC

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

10.2 CLIMATE CHANGE



Study the section entitled **Climate change** in chapter 7 of the prescribed textbook.

This section provides a brief overview of climate change. This is a very technical section with lots of scientific concepts. Understanding these concepts is vital in understanding the impact climate change will have on your living environment. You need to be able to explain how the normal system works, causes of climate change, impact of climate change and the legislation and agreements that are in place to manage these impacts.



Activity

After working through all the material in this section of the study guide, watch this video by National Geographic on Climate Change and the Great Ocean Conveyor Belt:

http://education.nationalgeographic.com/education/media/ocean-currents-and-climate/?ar_a=1

After watching the video, summarise what you understand.

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Activity

Mr Al Gore starred in the documentary “An Inconvenient Truth”. This TedEd video is a follow-up on Mr Gore’s mission to combat climate change. https://www.ted.com/talks/al_gore_s_new_thinking_on_the_climate_crisis

Watch his video and make notes of your observations on this matter.

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10.3 SUMMARY OF LEARNING UNIT

In learning unit 10, we explain what climate change is, the causes and impact of climate change, as well as the legislation and regulations in place to manage it.

Climate change is a very real problem and every individual needs to contribute towards finding a solution to this threatening phenomenon.

10.4 LEARNING UNIT ASSESSMENT

1. Explain what climate change is.
2. Discuss how the normal climate system works.
3. Identify the causes of climate change.
4. Explain the impact of climate change.
5. List and discuss the legislation and agreements that are in place to manage climate change.

Learning unit 11

Environmental management and the micro business environment

11.1 INTRODUCTION

11.1.1 Aim of the learning unit

The aim of learning unit 11 is to introduce you to the business environment model, the components of the micro business environment, the impact of environmental issues on the micro business environment and ways of managing this impact.

Chapter 8 of the prescribed book provides an overview of these concepts.

You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed textbook to see how well you have mastered the content of this learning unit.

11.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed textbook, you should be able to:

- discuss the business environment model
- explain components of the micro business environment
- describe the impact of environmental issues on the micro business environment
- discuss how to manage the impact of Environmental Management issues on business activities

11.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will focus on the following topics:

1. The business environment model
2. Components of the micro business environment
3. Impact of environmental issues on the micro business environment
4. Managing the impact of Environmental Management issues on business activities

11.1.4 Key concepts

The following key terms are important in this learning unit:

- Business environment model
- Micro business environment
- Market business environment
- Macro business environment
- Business functions

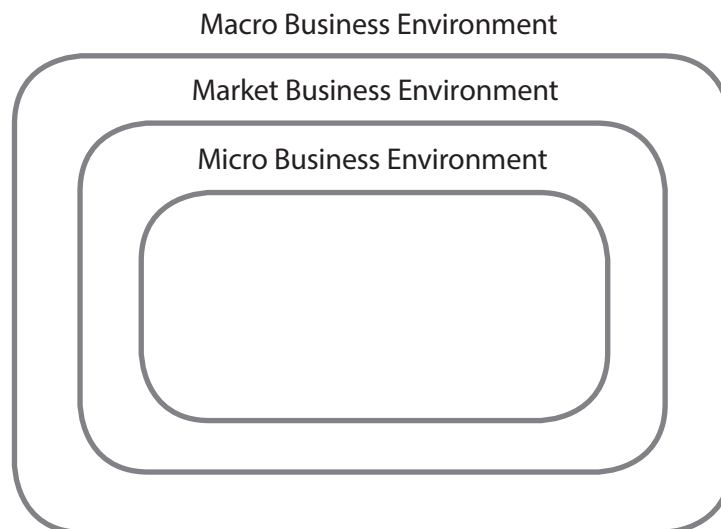
After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

11.2 THE BUSINESS ENVIRONMENT MODEL



Study the section entitled **The business environment model** in chapter 8 of the prescribed textbook.

The business environment can be illustrated as follows:



The business environment model

Pay attention to the role and function of each of these environments as well as their interaction with one another, as discussed in the prescribed textbook. It is also important to note the interaction between business and the environment in this discussion.

11.3 COMPONENTS OF THE MICRO BUSINESS ENVIRONMENT



Study the section entitled **Components of the micro business environment** in the prescribed textbook.

The micro business environment consists of the following business functions:

- General management
- Operations management
- Administrative management
- Marketing management
- Human resource management
- Financial management
- Purchasing and supply chain management
- Public relations management

11.4 IMPACT OF ENVIRONMENTAL ISSUES ON THE MICRO BUSINESS ENVIRONMENT



Study the section entitled **Impact of environmental issues on the micro business environment** in the prescribed textbook.

This section summarises the impact of environmental issues on each of these management functions.

11.5 MANAGING THE IMPACT OF ENVIRONMENTAL MANAGEMENT ISSUES ON BUSINESS ACTIVITIES



Study the section entitled **Managing the impact of environmental management issues on business activities** in the prescribed textbook.

An overview of the activities that can be used to minimise the impact of environmental issues is given in this section of the prescribed textbook.

11.6 SUMMARY OF LEARNING UNIT

In this learning unit, we introduced you to the business environment model, and we discussed the components of the micro business environment, the impact of environmental issues on the micro business environment and ways of managing this impact. The next two learning units build on this business environment model and will focus on the market business environment and the macro business environment. In addition, these units will focus on how these business environments interact with the natural environment.

11.7 LEARNING UNIT ASSESSMENT

1. Illustrate and briefly describe the business environment model.
2. List the components of the micro business environment and provide a brief description of each.
3. Explain how environmental issues impact on the micro business environment.
4. How can you manage the impact of environmental issues on your business activities?

Learning unit 12

Environmental management and the market business environment

12.1 INTRODUCTION

12.1.1 Aim of the learning unit

The aim of learning unit 12 is to introduce you to the components of the market business environment and to discuss the impact of environmental issues on the market business environment and ways of managing this impact in order to create business opportunities.

Chapter 8 of the prescribed book provides an overview of these concepts.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

12.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- discuss the components of the market business environment
- explain the impact of Environmental Management issues on the market business environment
- explain how Environmental Management challenges can be turned into business opportunities

12.1.3 Content of the learning unit

To achieve the aims and learning outcomes of this learning unit, you will cover the following topics:

1. Components of the market business environment
2. Impact of Environmental Management issues on the market business environment
3. Turning Environmental Management challenges into business opportunities

12.1.4 Key concepts

The following key terms are important in this learning unit:

- Market business environment
- Consumers
- Competitors
- Intermediaries
- Suppliers
- Environmental self-assessment

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

12.2 COMPONENTS OF THE MARKET BUSINESS ENVIRONMENT



Study the section entitled **Components of the market business environment** in chapter 8 of the prescribed textbook.

The components of the market business environment are:

- consumers
- competitors
- intermediaries
- suppliers

12.3 IMPACT OF ENVIRONMENTAL MANAGEMENT ISSUES ON THE MARKET BUSINESS ENVIRONMENT



Study the section entitled **Impact of environmental management issues on the market business environment** in the prescribed textbook.

This section of the prescribed textbook deals with how environmental issues have changed and influenced the market environment.

12.4 TURNING ENVIRONMENTAL MANAGEMENT CHALLENGES INTO BUSINESS OPPORTUNITIES



Study the section entitled **Turning environmental management challenges into business opportunities** in the prescribed textbook.

There are many opportunities to be found in change. Changes caused by environmental issues are no different. Pay attention to the environmental self-assessment in this section.

12.5 SUMMARY OF LEARNING UNIT

In learning unit 12, we introduced you to the components of the market business environment and discussed the impact of environmental issues on the market business environment and ways of managing this impact in order to create business opportunities. Learning unit 13 will focus on the final, and largest, of the business environments discussed – the macro business environment.

12.6 LEARNING UNIT ASSESSMENT

1. What are the components of the market business environment?
2. Explain the impact of Environmental Management issues on the market business environment.
3. Explain how Environmental Management challenges can be turned into business opportunities.

Learning unit 13

Environmental management and the macro business environment

13.1 INTRODUCTION

13.1.1 Aim of the learning unit

The aim of learning unit 13 is to introduce you to the components of the macro business environment, to identify global Environmental Management incidents and to explain the correlation between globalisation and global environmental incidents.

Chapter 8 of the prescribed book provides an overview of these concepts.

You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed textbook to see how well you have mastered the content of this learning unit.

13.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- discuss the components of the macro business environment
- explain global Environmental Management incidents
- discuss globalisation and global environmental disasters

13.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. Components of the macro business environment
2. Global Environmental Management incidents
3. Globalisation and global environmental disasters

13.1.4 Key concepts

The following key terms are important in this learning unit:

- Macro business environment
- Political environment
- Economic environment
- Social environment

- Physical environment
- International environment
- Technological environment
- Globalisation

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

13.2 COMPONENTS OF THE MACRO BUSINESS ENVIRONMENT



Study the section entitled **Components of the macro business environment** in the prescribed textbook.

The macro business environment comprises the following:

- Political and institutional environment
- Economic environment
- Social environment
- Physical environment
- International environment
- Technological environment

Pay attention to the description of each of these components, as well as their integration with Environmental Management.

13.3 GLOBAL ENVIRONMENTAL MANAGEMENT INCIDENTS



Study the section entitled **Global environmental management incidents** in the prescribed textbook.

This section in the prescribed book provides a few examples of the major global incidents that occurred in recent years.

13.4 GLOBALISATION AND GLOBAL ENVIRONMENTAL DISASTERS



Study the section entitled **Globalisation and global environmental**

This section of the prescribed textbook illustrates how globalisation contributed to the occurrence and increased frequency of global environmental disasters.

13.5 SUMMARY OF LEARNING UNIT

In this learning unit, we introduced you to the components of the macro business environment, identified global Environmental Management incidents and explained the correlation between globalisation and global environmental incidents. It is clear that globalisation has led to an increase in global environmental incidents. This is an aspect of globalisation and business that needs to be managed proactively in order to prevent the recurrence of such events.

13.6 LEARNING UNIT ASSESSMENT

1. What are the components of the macro business environment?
2. Explain global Environmental Management incidents.
3. Discuss globalisation and global environmental disasters.

Learning unit 14

Environmental management ethics

14.1 INTRODUCTION

14.1.1 Aim of the learning unit

Learning unit 14 is intended to help you understand the important concepts of ethics and Environmental Management. Chapter 9 of the prescribed book provides an overview of these concepts.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

14.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- explain ethics and Environmental Management
- define ethics
- discuss environmental ethics
- distinguish between instrumental value, intrinsic and prudential values
- explain Environmental Management ethics
- explain environmental resource management

14.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. Introduction to ethics
2. Ethics and Environmental Management
3. Ethics defined
4. Environmental ethics
5. Instrumental value versus intrinsic and prudential values
6. Environmental Management ethics
7. Environmental resource management

14.1.4 Key concepts

The following key terms are important in this learning unit:

- Ethics
- Stakeholder participation
- Environmental ethics
- Etiquette
- Values
- Integrity
- Financial bottom line
- Intrinsic value
- Instrumental value
- Prudential value
- Environmental resource management
- King III
- Triple context

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

14.2 AN INTRODUCTION TO ETHICS



Study the section entitled **Introduction** in chapter 9 of the prescribed textbook.

Pay attention to the definition of ethics and the road stakeholder participation took from the 1960s to where we are today.

14.3 ETHICS OF ENVIRONMENTAL MANAGEMENT



Study the section entitled **Ethics of environmental management** in the prescribed textbook.

This section of the prescribed textbook focuses on some very important aspects of ethics, environmental ethics, instrumental value, intrinsic value and prudential value. Also pay attention to Environmental Management ethics and environmental resource management.

14.4 SUMMARY OF LEARNING UNIT

In this learning unit we introduced you to the concept of environmental ethics. We also discussed instrumental value, intrinsic value and prudential value. The next two learning units will build on the knowledge you have gained in learning unit 14 by focusing on the business and everyday applications of ethics.

14.5 LEARNING UNIT ASSESSMENT

1. Briefly explain the road of stakeholder participation to where we are today.
2. Define ethics.
3. Explain the difference between ethics, etiquette, values and integrity. In view of these distinct differences, discuss how these aspects impact decision making.
4. Discuss environmental ethics.
5. Distinguish between intrinsic value, instrumental value and prudential value.
6. Discuss Environmental Management ethics.
7. Explain the concept of environmental resource management.

Learning unit 15

Applying environmental ethics to business policies

15.1 INTRODUCTION

15.1.1 Aim of the learning unit

Learning unit 15 is intended to help you understand the application of environmental ethics to business policies. Chapter 9 of the prescribed book provides an overview of these concepts.

You will find a list of self-assessment questions at the end of this learning unit. Please attempt to answer the questions without referring to the study guide and the prescribed book to see how well you have mastered the content of this learning unit.

15.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- explain the aspects of sustainable development
- discuss business ethics
- describe ethical dilemmas
- explain corporate governance
- describe the influence of environmental ethics on business policy

15.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. Sustainable development
2. Business ethics
3. Environmental ethics and business policy

15.1.4 Key concepts

The following key terms are important in this learning unit:

- Sustainable development
- Business ethics
- Ethical framework

- Ethical dilemmas
- Corporate governance
- Code of conduct
- Business policy

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

15.2 APPLYING ENVIRONMENTAL ETHICS TO BUSINESS POLICIES AND DECISIONS



Study the section entitled **Applying environmental ethics to business policies and decisions** in the prescribed textbook.

This section of the prescribed textbook contains a discussion of the following concepts: business ethics, ethical framework, ethical dilemmas, corporate governance, codes of conduct and business policy. All of these are important aspects relating to Environmental and Business Management.



Activity

In this section of the prescribed textbook, you are introduced to the concept of ethical dilemmas. Read through the examples of ethical dilemmas in the prescribed textbook and write down some examples of ethical dilemmas you have faced, in work and at home.

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15.3 SUMMARY OF LEARNING UNIT

After studying this learning unit, you should have a clear understanding of sustainable development, business ethics, corporate governance, codes of conduct and ethical dilemmas. We highlighted the influence of environmental ethics on business policy. In learning unit 16, we will show how this new knowledge of business and environmental ethics can be applied to daily lifestyle choices.

15.4 LEARNING UNIT ASSESSMENT

1. Explain the aspects of sustainable development.
2. Discuss ethics in a business environment.
3. Describe the concept of ethical dilemmas.
4. Define corporate governance.
5. Explain the concept of codes of conduct.
6. Describe the influence of environmental ethics on business policy.

Learning unit 16

Applying environmental ethics to lifestyle decisions

16.1 INTRODUCTION

16.1.1 Aim of the learning unit

Learning unit 16 is intended to help you understand the application of environmental ethics to lifestyle decisions. Chapter 9 of the prescribed book provides an overview of these concepts.

After discussing these factors, you will be given a list of self-assessment questions. Please attempt to answer the questions without referring to the study guide and the prescribed textbook to see how well you have mastered the content of this learning unit.

16.1.2 Learning outcomes

After working through this learning unit and the relevant parts of the prescribed book, you should be able to:

- apply environmental ethics to lifestyle decisions
- discuss moral and cultural values
- explain the forms of African value systems
- apply environmental ethics in everyday life

16.1.3 Content of the learning unit

To achieve the aim and learning outcomes of this learning unit, you will cover the following topics:

1. Applying environmental ethics to lifestyle decisions
2. Moral and cultural values
3. Forms of African value systems
4. Applying environmental ethics in everyday life

16.1.4 Key concepts

The following key terms are important in this learning unit:

- Micro ethics
- Market ethics
- Macro ethics
- Moral values

- Cultural values
- Ethical codes
- Ubuntu
- Fraud
- Whistle blowing

After working through the learning unit, you should be able to explain all of these concepts. They are all explained or defined in the prescribed textbook and this learning unit.

16.2 APPLYING ENVIRONMENTAL ETHICS TO LIFESTYLE DECISIONS



Study the section entitled **Applying environmental ethics to lifestyle decisions** in the prescribed textbook.

In this section of the prescribed textbook, we explain the three categories of business ethics, moral and cultural values, African value systems and the application of environmental ethics.



Activity

The Enron bankruptcy saga in 2001 is just one example of businesses failing to act ethically and thereby ruining many lives. The story of Enron was told in the movie "Enron: The Smartest Guys in the Room". There are many books and movies with a similar theme. Have you seen any such movies?

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Feedback

Movies that followed a similar theme include "Erin Brokovich", "The crooked E", "Food Inc." and "Snowpiercer". These stories all have one similarity. There was one champion who decided to stand up for what is right and to fight for the greater good.

16.3 SUMMARY OF LEARNING UNIT

In learning unit 16, you learnt about the following important aspects of environmental ethics: micro ethics, market ethics, macro ethics, moral values, cultural values, ethical codes, ubuntu, fraud and whistle blowing. These are vital concepts for the application of environmental ethics in business and personal decisions.

16.4 LEARNING UNIT ASSESSMENT

1. Business ethics can be divided into three main categories. List and discuss these three categories.
2. Discuss the concept of moral and ethical values.
3. Discuss the forms of African value systems.
4. Explain the application of ethics in everyday life.