



# Ethiopian TVET-System



## Irrigation & Drainage Construction

Level II

Based on, March 2017 G.C. Occupational Standard

Module Title: Participating in Environmentally  
Sustainable Work Practices

TTLM Code: EIS IDC2 TTLM 0920v2



**This module includes the following Learning Guides**

**LG28: Identify current resource use**

LG Code: EIS IDC2 M08 LO1-LG-28

**LG29: Comply with environmental regulations.**

LG Code: EIS IDC2 M08 LO2-LG-29

**LG30: Seek opportunities to improve resource efficiency.**

LG Code: EIS IDC2 M08 LO3-LG-30

## Instruction Sheet

## Learning Guide -28: Identify current resource use

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Identifying work place environmental issues
- Understanding work place resource efficiency
- Identifying relevant environmental and resource efficiency procedures
- Identifying work place resources
- Documenting and measuring of current use resources
- Recording and filing technologies for documentation and measuring of current usage resources
- Understanding workplace hazards /risks

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, **you will be able to –**

- Identify workplace environmental and resource efficiency issues
- Identify resources used in own work role
- Document and measure current usage of resources using appropriate techniques
- Record and file documentation measuring current usage using technology (such as software systems) where applicable
- Identify workplace environmental hazards and reported to appropriate personnel

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4, Sheet 5, Sheet 6 and Sheet 7” in page 2, 10, 14, 16, 18, 26, and 30 respectively.
4. Accomplish the “Self-check 1, Self-check 2, Self-check 3, Self-check 4, Self-check 5, Self-check 6 and Self-check 7” -” in page 9, 11, 15, 17, 19, 27 and 36 respectively

Information Sheet-1	Identifying work place environmental issues
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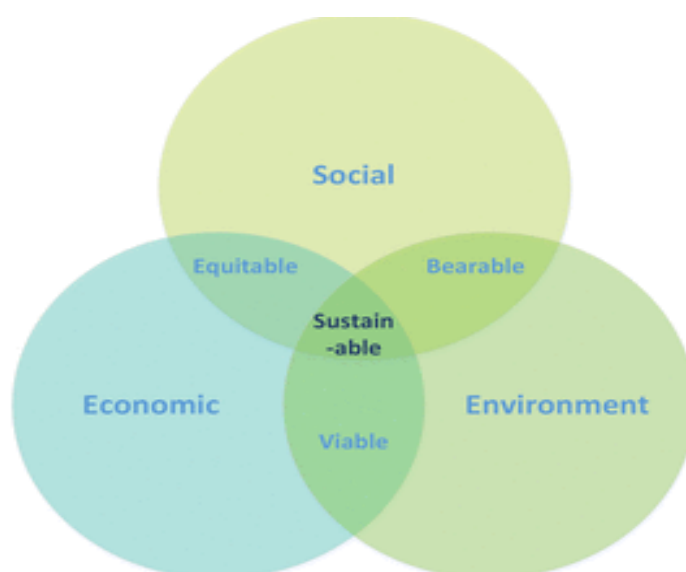
## 1.1. Concept of sustainability

Sustainability is the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainability is the ability to meet the needs of the current generation without compromising the ability of future generations to meet their needs. The environment is the primary but not the only consideration within sustainability; it is important to also consider human welfare. Therefore, a sustainable society is one that protects natural resources while ensuring social justice and economic wellbeing for all. Environmental sustainability is concerned with whether environmental resources will be protected and maintained for future generations.

### 1.1.1 Three pillars of sustainability

The definition of sustainability may be taken further and it is widely accepted that to achieve sustainability we must balance the three pillars of sustainability (economic, environmental and social factors) in equal harmony. This may be illustrated with a sustainability Venn diagram, as shown below:



**Figure-1:** Venn diagram

So, to achieve true sustainability we need to balance economic, social and environmental sustainability factors in equal harmony. These may be defined as:

- **Environmental Sustainability:** Environmental sustainability means that we are living within the means of our natural resources. To live in true environmental sustainability, we need to ensure that we are consuming our natural resources, such as materials, energy fuels, land, water...etc, at a sustainable rate. Some resources are more

abundant than others and therefore we need to consider material scarcity, the damage to environment from extraction of these materials and if the resource can be kept within Circular Economy principles. Environmental sustainability should not be confused with full sustainability, which also need to balance economic and social factors.

- **Economic Sustainability:** Economic sustainability requires that a business or country uses its resources efficiently and responsibly so that it can operate in a sustainable manner to consistently produce an operational profit. Without an operational profit a business cannot sustain its activities. Without acting responsibly and using its resources efficiently a company will not be able to sustain its activities in the long term.
- **Social Sustainability:** Social sustainability is the ability of society, or any social system, to persistently achieve a good social wellbeing. Achieving social sustainability ensures that the social wellbeing of a country, an organization, or a community can be maintained in the long term.

Taking these three pillars of sustainability further if we only achieve two out of three pillars then we end up with:

- Social + Economic Sustainability = Equitable
- Social + Environmental Sustainability = Bearable
- Economic + Environmental Sustainability = Viable

Only through balancing economic + social + environmental can we achieve true sustainability and a truly circular economy.

### 1.1.2 Environmental sustainability

So much of what we buy, do or use every day has an environmental impact or effect. Using petrol in our cars, electricity in our homes and paper in our offices makes an impact on the environment. In our modern lives, it is not realistic to expect that we stop using our cars or our appliances completely. But we can start to use them in a way that reduces their environmental impact.

If something is environmentally sustainable, it can be continued to be used at a certain rate, without interruption. Environmental sustainability means that something can be used or produced without affecting the ability of future generations to either have the same thing, or enjoy the natural environment from which it came or where it was used. Sometimes environmental sustainability means taking things from the natural environment at a slower rate. For example, there are strict rules on how many of particular species of fish may be

harvested each season. This is to ensure that there are enough fish remaining to replenish the population, so there are enough left to harvest in future seasons.

Examples of environmental workplace initiatives include:

- using less paper by printing on both sides
- using less electricity by adjusting computer settings and turning machines off overnight
- using less fuel for transport by adjusting travel requirements
- introducing paper recycling schemes
- encouraging staff to use washable cups rather than disposable ones
- Donating office equipment to other organizations rather than throwing it away when it is upgraded.

## 1.2. Work place environmental issues

The term ‘environment’ is used to describe our surroundings – both the natural physical surroundings such as the land, water, climate, plants and animals that we can see, and the places in which we live with their social, cultural, economic and spiritual dynamics (usually called the human environment). This book focuses on the natural physical environment – the way in which our practices and lifestyles affect it, and the ways in which it affects our lives.

People depend on the natural environment for survival. Our food, medicines, shelter, fuels and clothing are all sourced from it. For example, a farmer’s crop relies on adequate water, sunshine, fertile soil, unpolluted air and soil, and balanced insect life and micro-organisms.

Without any one of these, the crop is threatened and the farmer may not have enough food to feed the family or to sell in the market.

People in urban areas also depend on the environment but perhaps in a less direct way. Their food may come indirectly through markets and shops.

They usually buy rather than collect fuel for cooking. Manufactured products rely on the environment for:

- the raw materials such as wood or plant fibers
- energy – usually from fossil fuels such as oil or diesel, to work the machinery
- water – factories often use a lot of water for manufacturing processes
- Transport – over land by road and rail, across oceans or along rivers to customers.

Environmental issues in the workplace are a growing concern for companies, especially as it relates to employee health and safety. Bad air quality and ventilation as well as broken

asbestos structures can lead to sick building syndrome, which can compromise the health and comfort of your employees. Not only can poor workplace environments reduce productivity, but research has shown they may be linked to asthma, lung cancer and other medical problems.

The environment you work in can have an impact on how well you do your job and how well you feel. Working in a safe, comfortable environment helps to keep you focused on what's important: doing your job. But if your work environment causes stress or makes you feel ill, you're likely to focus more on what's causing the discomfort than working.

### **A. Stress**

A high-stress work environment can lead to health problems and work errors. These issues are compounded if employees feel pressured into skipping vacations or working through illnesses rather than taking sick days. Fatigue and frustration can set in, reducing the quality of work getting done. Safety can also be affected when mistakes become accidents. It's not just the employees who suffer from high-stress environments. Their employers are also impacted. Companies in which stress-related problems are a cultural norm could suffer financially from poor-quality work and high rates of employee turnover.

### **B. Air Quality**

Poor air quality isn't just a problem in manufacturing or heavy-duty work sites that emit pollutants. Office buildings that are sealed up tight and rely on air circulation systems can end up circulating viruses, molds, allergens and even gases or residue from toxic cleaning chemicals. Environments with low humidity levels contribute to sinus and dry eye issues, while high humidity introduces biological pollutants. As with a high-stress environment, a work environment with poor air quality can affect the health of employees and, subsequently, their quality of work.

### **C. Noise**

A noisy work environment can cause headaches in the short term. Repeated exposure over a long period of time can lead to hearing loss and heart disease. As with a high-stress environment, employees can find it hard to concentrate when noise levels reach the point where normal conversation becomes difficult, and the quality of work being done can suffer as a result.

### **D. Ergonomics**

Insufficient lighting and uncomfortable desk chairs are examples of workplace ergonomics that can lead to health problems, fatigue and reduced productivity and work quality. Poor

lighting causes eye strain and can also affect employee decision making. If an employee must visually inspect products, poor lighting can lead to judging a bad product good or a good product bad. Uncomfortable desk chairs can lead to poor posture and the development of musculoskeletal disorders, which could increase health care costs and employee absenteeism.

Environmental issues in the workplace are a growing concern for companies, especially as it relates to employee health and safety. Bad air quality and ventilation as well as asbestos-riddled structures can lead to sick building syndrome, which can compromise the health and comfort of your employees. Not only can poor workplace environments reduce productivity, but research has shown they may be linked to asthma, lung cancer and other medical problems.

Employers need to take affirmative steps to ensure the health and welfare of their workers. Confronting the problem makes business sense by way of health management savings as well as low absenteeism and contained insurance premiums. To make sure they are in compliance, employers should consult EPA and OSHA guidelines and follow directives. If necessary, consult an environmental consultant to determine cost-effective ways to handle workplace environment issues. Here are things that you as an employer can do to combat health issues in the workplace:

- Consult governmental guidelines to ensure compliance and reduce risk exposure.
- Hire an environmental consultant to manage workplace environmental issues.
- Train your employees about work environmental issues.

Self-Check -1	Written Test
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**Directions:** Choose the best answer for the following questions. Use the Answer sheet provided:

- Which pillar of sustainability need to balance economic and social factors. (3 pts)
  - Social sustainability
  - Environmental sustainability
  - Economic sustainability
  - Resource efficiency
- One of the following environmental issue is occurred by insufficient lighting and uncomfortable desk chairs. (3 pts)
  - Stress
  - Noise
  - Aire quality
  - Ergonomics
- A true sustainability and a truly circular economy can be achieved by: (3 pts)
  - economic + social + environmental sustainability
  - Social + Economic Sustainability
  - Social + Environmental Sustainability
  - Economic + Environmental Sustainability
- Equitable sustainability is: (3 pts)
  - economic + social + environmental sustainability
  - Social + Economic Sustainability
  - Social + Environmental Sustainability
  - Economic + Environmental Sustainability

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

- 1.
- 2.
- 3.
- 4.

## Understanding work place resource efficiency

Getting the most out of what you have. This can be beneficial in many ways such as reducing the amount of material used and/or manufacturing costs, reducing waste materials and compliance to environmental legislation. It also reduces your impact on the environment.

Resource efficiency isn't only valuable because it is essential for sustained economic growth. Reducing environmental impacts also contributes to well-being derived outside the market economy, notably the quality of life that comes from living in a healthy, attractive environment. Moreover, promoting resource efficiency can increase the competitiveness of industry, create jobs, stimulate innovation, boost sectors such as recycling and resource recovery, and help ensure secure supplies of key resources.

When resource efficiency is understood in the sense outlined above, it is clear that decision-makers seeking to promote resource efficiency will need to draw on a substantial knowledge base. To understand resource efficiency, policymakers first need indicators of the extent and nature of resource inputs and their relationship to economic outputs globally, nationally and at smaller scales of production, such as individual sectors. Consumption-focused indicators, which measure the resources used in products and services across their whole life cycle, are also valuable, particularly for understanding and designing policy to address resource use embedded in international trade.

Having identified the trends and drivers of resource use, policymakers need to determine how to enhance resource efficiency. The challenge is enormous and decision-makers in all sectors need information on the policies, tools and technologies that can be deployed within the economy (at national, regional and other scales) to extract more value from resources, while minimizing waste and emissions.

A common inertia that prevents progress towards resources efficiency is the time and effort in completing a Life Cycle Analysis. Thereafter researching alternatives and possibilities

Organizations that want to improve performance in the areas of resources efficiency, environmental management and sustainable development, but find themselves constrained by budgets and resources, should strive to find other solutions. Doing nothing is only storing up problems for the future.

There are many ways to improve resource efficiency:

- How you improve your resource efficiency will be influenced by your approach to:

- applying compliance and reporting mechanisms
- investing in technology, infrastructure and design features
- measuring and monitoring to identify issues and targets and improve your performance
- leadership and workplace culture that encourages employees to engage with sustainability practices
- implementing 'lean' systems across the whole business
- training and performance management for your personnel
- Identifying any government funding or incentives for energy and water saving projects.

Self-Check -2	Written Test
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**Directions:** Write short and precise answers for the following questions. Use the Answer sheet provided in the next page:

1. Define resource efficiency. (3 pts)
2. What is the purpose of improving resource efficiency? (4 pts)
3. List the ways used to improve resource efficiency. (5 pts)

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

- 1.
- 2.
- 3.

<b>Information Sheet-3</b>	<b>Identifying relevant environmental and resource efficiency procedures</b>
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### 3.1.Relevant environmental and resource efficiency procedures

Environmental and resource efficiency issues revolve around an organization's efforts to maximize its performance while minimizing its waste and environmental impact. Improving environmental performance may be done as part of good business practice (since it often reduces costs), from a desire to improve the environment to improve relations with employees, customers, local communities and the general public. Here are some ways organizations may seek to improve business environmental performance.

Organizations can profit significantly from efficient resources and efficient waste management, and from improved environmental management practices. Three topics form the main focus: solid waste, energy and transport. The human factor is also considered, such as workforce participation in energy saving schemes and employees' travel to work. This is not an exhaustive guide to organizational resources efficiency.

Gathering information on environmental and resource efficiency systems and procedures that your industry sector has defined is an important part of the investigation process. Once you have identified the relevant resource efficiency systems and procedures, you will know what you need to do to make sure your organization is compliant and efficient.

For example, there may be resource efficiency standards or waste disposal regulations and procedures that could help your organization to improve its environmentally sustainable work practice.

You can determine and gather the relevant information for your organization by:

- contacting industry associations
- searching the internet for examples of environmental sustainability guidelines and procedures developed by other organizations
- Talking to key stakeholders like contractors, sub-contractors, suppliers and employees.

Self-Check -3	Written Test
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**Directions:** Write short and precise answers for the following questions. Use the Answer sheet provided in the next page:

1. List some significant for profit. (4 pts)
2. What is the relevant information for organization? (4 pts)

**Note:** Satisfactory rating - 4 points

Unsatisfactory - below 4 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

- 1.
- 2.

<b>Information Sheet-4</b>	<b>Identifying work place resources</b>
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#### 4.1. Work place resources

Resources are every economy and provide two basic functions; raw materials for production of goods and services, and environmental services. A common classification of natural resources is as follows:

- Nonrenewable and non-recyclable resources such as fossil fuels
- Nonrenewable and recyclable resources such as minerals
- Slowly renewable resource such as forest
- Environmental resources, such as air, water and soil
- Flow resources, such as solar and wind energy

Typical resources that we use or consume at work include things such as energy and water. Energy comes in many forms. The most obvious form is electricity, which we use in the workplace to power up our appliances, and our computers. Gas is another form of energy that we may use in our workplace for heating. There is also fuel that workplaces use for their vehicles.

Water is used in many work environments, obviously in the toilets and bathrooms, and also for drinking. Paper is another typical resource used in the workplace. Paper obviously comes from trees, so it comes from a natural resource. Don't forget also that the building we actually work in, is made up of a variety of things such as bricks, metal and glass. Most of these products have obviously at some stage been mined from the ground, so there has been an environmental impact

Self-Check -4	Written Test
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**Directions:** Match the words in column B with column A and write the letter on the space provided (2 pts each)

### Column A

- \_\_\_\_\_ 1. Nonrenewable and non-recyclable resources
- \_\_\_\_\_ 2. Nonrenewable and recyclable resources
- \_\_\_\_\_ 3. Slowly renewable resource
- \_\_\_\_\_ 4. Environmental resources
- \_\_\_\_\_ 5. Flow resources

### Column B

- A. Forest
- B. Minerals
- C. Fossil fuels
- D. Air, water and soil
- E. Solar and wind energy
- F. Money
- G. Human

**Note: Satisfactory rating - 5 points**

**Unsatisfactory - below 5 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Information Sheet-5	Documenting and measuring of current use resources
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### 5.1 Examining and documenting resources in work area

Maintaining documentation is a very important part of ensuring that Aged Care organizations are meeting the required clinical & legislative standards and operating according to best-practice principles. An effective quality management system ensures that documentation is up-to-date and being used effectively by staff members. However, the failure to maintain documents in an appropriate way can have serious consequences for an organization, from work inefficiencies and miscommunication through to systemic problems that can lead to sanctions, fines or loss of accreditation.

So how does an organization continually keep up-to-date with changing documentation?

- **Identify what documents are needed.** Organizations need to have a good knowledge of what documents are required in order to meet legislative requirements and achieve best practice outcomes. Policies detailing corporate governance, human resources, administration, workplace health & safety and the operational environment, plus clinical procedures are typical documents required by aged care organizations.
- **Determine who is responsible for obtaining information.** One person should be responsible for understanding what the organization needs, what options are available and be able to present to management a range of solutions detailing how to meet the requirements. Every Aged Care organization should also have a person responsible to oversee the process, such as a Quality Manager or Coordinator. It must be determined whether they do much of the leg-work themselves or if it is more advantageous to outsource this function. It is a costly exercise to access the right information and then a time-consuming process to integrate legislative and clinical changes into policy and procedure documentation. We observe that most care organizations spend at least 3 times as much in wages & costs and take at least twice as long to complete document management projects compared to allowing a qualified third party to assist them with the process.
- **Ensure that all documentation complies.** Documentation needs to comply with legislative requirements and should adhere to best-practice principles. The process of compliance is a significant undertaking, particularly if starting without an established on-going document management review framework. Bringing documentation into line with current legislation or best-practice principles requires highly skilled people, with

great attention to detail and the ability to focus for long periods of time on single documents. The reality for most managers working in aged care is that they simply don't have the time, energy or personnel to invest into such a detailed yet important tasks.

- **Establish a document control process.** It is vital that the correct versions of documentation are used by everyone in the organization. Strict use of version control on electronic documents and physically changing over printed documents in a rapid yet organized manner are vital to maintaining an effective quality management system. Cloud-based solutions are now providing a very economical and robust way to achieve up-to-date documentation. This replaces the worrying concern about having different versions of printed material or electronic documents stuck on people's computers.
- **Establish review timelines.** It is recommended that your organization have a team of people charged with the responsibility of reviewing documentation, relevant to their scope of professional practice, on a scheduled basis. This team needs to have the appropriate skills related to the type of documentation in question. Specifically, this relates to your clinical procedures review team and corporate policy review team and that they work through a designated review process chaired by the Quality Manager or nominated delegate. This task could take the form of a Quality Manager working internally with individual managers or an organization working with a trusted external quality team who keep the documentation updated automatically.

Maintaining an effective quality management system in an Aged Care environment is a continuing challenge for many organizations. It requires a significant investment in human and financial resources to be able to stay on top of the legislative requirements, especially at a time when the industry is under-going such significant reform.

## 5.2 Examining invoices from suppliers

An invoice is a commercial document that itemizes and records a transaction between a buyer and a seller. If goods or services were purchased on credit, the invoice usually specifies the terms of the deal and provides information on the available methods of payment. Types of invoices may include a receipt, a bill of sale, debit note, or sales invoice.

Companies may opt to simply send a month-end statement as the invoice for all outstanding transactions. If this is the case, the statement must indicate that no subsequent invoices will

be sent. Historically, invoices have been recorded on paper, often with multiple copies generated so that the buyer and seller each have a record of the transaction for their own records. Currently, computer-generated invoices are quite common. They can be printed to paper on demand or sent by email to the parties of a transaction. Electronic records also allow for easier searching and sorting of particular transactions or specific dates. An invoice must state it is an invoice on the face of the bill. It typically has a unique identifier called the invoice number that is useful for internal and external reference. An invoice typically contains contact information for the seller or service provider in case there is an error relating to the billing.

Payment terms may be outlined on the invoice, as well as the information relating to any discounts, early payment details or finance charges assessed for late payments. It also presents the unit cost of an item, total units purchased, freight, handling, shipping, and associated tax charges, and it outlines the total amount owed.

A pro forma invoice is a preliminary bill of sale sent to buyers in advance of a shipment or delivery of goods. The invoice will typically describe the purchased items and other important information such as the shipping weight and transport charges. Pro forma invoices often come into play with international transactions, especially for customs purposes on imports.

A supplier invoice is the bill issued by a vendor for goods delivered or services rendered to a customer. The recipient of a supplier invoice issues its own invoices to its customers, and so may refer to supplier invoices as vendor invoices to more clearly differentiate them.

### 5.3 Examining relevant information and data

A resources assessment is the process of gathering information about the resources available to address a particular need or risk.

A needs and resources assessment of your community and target population can help you identify the most prevalent community risks, hazards and vulnerabilities, gaps, conditions that call for change, and what community resources are available to assist your efforts. Knowing current needs will help with setting realistic goals and desired outcomes. A need of resources can be assessed by:

- Gathering information on the problems or needs in your community
- Identifying existing resources that address these needs
- Prioritizing needs to select those you can address



- Specifying your target population

### 5.3.1 Data collection

Data can be a powerful resource to guide decisions on selecting and improving financial wellness programs in your workplace. But data can also be easily misused or misunderstood. The first step in leveraging data in the workplace is to make sure you are using the right information.

Without knowing what the financial lives of your employees look like, it's hard to know how to improve their financial wellness. Before asking what, your employees need, it's best to ask, "What are the financial realities our employees face?" Answering this question up front will not only help with program selection, it can pay dividends after program implementation to help measure progress.

A wide range of data can help you develop a picture of the financial lives of your employees. Some are right at your fingertips; others may require some worthwhile time and effort to gather. Here are some options to consider before selecting a financial wellness program. The data will be:

### A. Organizational Data

- **Review data from your Human Resource Information System (HRIS)** such as job characteristics (e.g., wage/salary ranges, full-time/part-time status and benefits eligibility), retirement plan deferral rates (can illustrate employees' ability to save), retirement plan hardship withdrawals/loans (can be an indicator of financial distress) and turnover rates (can indicate job instability).
- **Audit your benefits package** to determine the degree to which your benefits support the four components of financial health: spending, saving, borrowing and planning. For example, high-deductible health plans without employer contributions to employee Health Savings Accounts may create cash flow challenges, especially for lower-wage workers.
- **Interview “on-the-ground” management** such as frontline supervisors and HR professionals. When things go wrong for workers, these are the folks who usually hear

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about it first and they often understand the most common financial challenges employees face. They also understand how workplace policies and practices may impact the financial stability of workers at different worksites or in functional areas and job types.

## B. Employee Feedback

This might require some work to gather but will provide insights to what employees expect from employers.

- **Conduct individual interviews** to get a firsthand account of employees' financial lives or feedback on your financial wellness programs. This can offer insights into employees' most pressing concerns in a private space. For example, you might explore what financial issues keep them up at night, or whether employees are aware of your financial wellness offerings. Remember, employees need to feel comfortable discussing financial topics, so choose interviewers they can trust to keep information confidential and take steps to ensure their privacy is protected.
- **Hold focus groups** to generate ideas on what employers can do to help employees' financial lives or how a new financial program might be rolled out. Group settings are too open for personal conversations that touch on financial matters, but they are great for brainstorming and revealing employee preferences.
- **Field surveys** to understand the financial well-being of employees at scale. This survey is a well-validated tool that can provide insight into employees' perceptions of how financially secure they feel.

### 5.3.2 Putting your data to work

Once you have a solid understanding of employees' financial lives, it's time to start thinking about solutions. Prosperity Now and Washington University in St. Louis created a directory of financial wellness programs to catalog some of the more common financial wellness programs available. While the list is not exhaustive, it can help you compare different types of programs and see the range of options that are available. You also might find existing solutions in some of your current management practices or benefits packages that could help build employee financial well-being. In our next blog, we will discuss these solutions in more depth and offer additional ways to approach workplace financial wellness.



- Feasibility

Self-Check -5	Written Test
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**Directions:** Write short and precise answers for the following questions. Use the Answer sheet provided:

1. How does an organization continually keep up-to-date with changing documentation? (4 pts)
2. Define invoice. (3 pts)
3. What is the difference between resource use measures and efficiency measures? (3 pts)

**Note: Satisfactory rating - 5 points**

**Unsatisfactory - below 5 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

- 1.
- 2.
- 3.

<b>Information Sheet-6</b>	<b>Recording and filing technologies for documentation and measuring of current usage resources</b>
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## 6.1. Electronic and manual record keeping

While some business owners prefer manual record keeping systems, most businesses use an electronic record keeping system - making it easier to capture information, generate reports and meet tax and legal reporting requirements. There are a number of issues you should consider when setting up an electronic or manual record keeping system, as each has certain advantages and limitations.

### 6.1.1. Electronic record keeping

Most businesses use accounting software programs to simplify electronic record keeping, and produce meaningful reports. There are many other advantages to using electronic record keeping, as listed below.

#### Advantages

- Helps you record business transactions, including income and expenses, payments to workers, and stock and asset details.
- Efficient way to keep financial records and requires less storage space.
- Provides the option of recording a sale when you raise an invoice, not when you receive a cash payment from a client.
- Easy to generate orders, invoices, debtor reports, financial statements, employee pay records, inventory reports.
- Automatically tallies amounts and provides reporting functions.
- Keeps up with the latest tax rates, tax laws and rulings.
- Many accounting programs have facilities to email invoices to clients, orders to suppliers, or BAS returns to the Australian Taxation Office.
- Allows you to back up records and keep them in a safe place in case of fire or theft.

## 6.2. Electronic backup

Set up a secure electronic backup system to ensure records are safely stored and regularly backed up. Daily backups are recommended, particularly for important records. Make sure the backup copies are stored in a separate location to your business in case of fire, theft or a natural disaster.

For small businesses, the cheapest backup options are CDs and memory sticks. If your business has large amounts of data, external hard drives are a popular backup option.

### 6.2.1. Cloud backup

Cloud computing provides a way for your business to manage your computing resources and records online. The term has evolved over recent years, and can be used to describe the use of a third party for your storage and computing needs.

Cloud backup services are becoming more popular and can be automated for your convenience, but you should make sure the method you choose protects the privacy and security of your business and customers.

### 6.2.2. Manual record keeping

Some business owners may want to use a simple, paper-based record keeping system. There are certain advantages to using manual record keeping, as listed below.

#### Advantages

- Less expensive to set up.
- Correcting entries may be easier with manual systems, as opposed to computerized ones that can leave complicated audit trails.
- The risk of corrupted data is much less.
- Data loss is less of a risk, particularly if records are stored in a fire-proof environment.
- Problems with duplicate copies of the same records are generally avoided.
- The process is simplified as you don't need to be familiar with how accounting software calculates and treats your information.

### 6.2.3. Streamline your manual record keeping

- Sort and store all paperwork, receipts and payments in 12 separate months.
- Keep all original documents and date all correspondence.
- Record all transaction dates and payment amounts.
- Save all online financial transactions by month and financial year in your inbox and in a separate folder on your hard drive.
- Backup all electronic records on an external hard drive or other storage device other than your computer's internal hard drive.
- Capture nearly all of your income and expenses in statements from both your bank and credit card accounts.
- Request that all statements and bills be sent on a monthly basis - allowing you to reconcile all financial records each month.

Self-Check -6	Written Test
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**Directions:** Write short and precise answers for the following questions. Use the Answer sheet provided:

1. Explain the difference between electronic record keeping and manual record keeping? (4 pts)
2. List the advantages of electrical record keeping (3 pts)
3. Write the advantages of manual record keeping? (3 pts)

**Note: Satisfactory rating - 5 points**

**Unsatisfactory - below 5 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

1.

2.

3.

## Understanding workplace hazards /risks

The meaning of the word hazard can be confusing. Often dictionaries do not give specific definitions or combine it with the term "risk". For example, one dictionary defines hazard as "a danger or risk" which helps explain why many people use the terms interchangeably. There are many definitions for hazard but the most common definition when talking about workplace health and safety is:

A **hazard** is any source of **potential** damage, harm or adverse health effects on something or someone.

- **Harm** - physical injury or damage to health.
- **Hazard** - a potential source of harm to a worker.

**Risk** is the chance or probability that a person will be harmed or experience an adverse health effect if exposed to a hazard. It may also apply to situations with property or equipment loss, or harmful effects on the environment.

- **Risk** – the combination of the likelihood of the occurrence of a harm and the severity of that harm.
- **Likelihood** – the chance of something happening.

Risk assessment is the process where you:

- Identify hazards and risk factors that have the potential to cause harm (hazard identification).
- Analyze and evaluate the risk associated with that hazard (risk analysis, and risk evaluation).
- Determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control).

## 7.2 Environmental and resource hazards/risks

### 7.2.1 Environmental hazards/risks

Environmental health hazards, like occupational health hazards, may be biological, chemical, physical, biomechanical or psychosocial in nature. Environmental health hazards include traditional hazards of poor sanitation and shelter, as well as agricultural and industrial contamination of air, water, food and land.

We face countless environmental hazards every day. To better understand them, we can think of them as falling into four categories:

- **Physical hazards** are physical processes that occur naturally in the environment. These include natural disaster events such as earthquakes, tornadoes, volcanoes, blizzards, landslides, and droughts. Not all physical hazards are discrete events - some are ongoing, like ultraviolet radiation. UV radiation is considered a hazard because it damages DNA and can cause human health issues like skin cancer and cataracts.
- **Chemical hazards** can be both natural and human-made chemicals in the environment. Human-made chemical hazards include many of the synthetic chemicals we produce, like disinfectants, pesticides and plastics. Some chemical hazards occur naturally in the environment, like the heavy metals lead and mercury. Some organisms even produce natural chemicals that are an environmental hazard, such as the compounds in peanuts and dairy that cause allergic reactions in humans.
- **Biological hazards** come from ecological interactions between organisms. Viruses, bacterial infections, malaria, and tuberculosis are all examples of biological hazards. When these pathogens and diseases are transferred between organisms, it's called an **infectious disease**. We suffer from these diseases and pathogens because we're being parasitized by another organism, which, while hazardous, is also a natural process.
- **Cultural hazards**, also known as **social hazards**, result from your location, socioeconomic status, occupation, and behavioral choices. For example, smoking cigarettes is hazardous to your health, and this is a behavioral choice. If you live in a neighborhood with lots of crime, this is a hazard based on your location. Similarly, your diet, exercise habits, and primary mode of transportation all influence your health and the health of the environment around you.

### 7.2.2 Resource hazards/risks

The employer is responsible for the safe condition of tools and equipment used by employees. Employers shall not issue or permit the use of unsafe hand tools. Employees should be trained in the proper use and handling of tools and equipment.

Employees, when using saw blades, knives, or other tools, should direct the tools away from aisle areas and away from other employees working in close proximity. Knives and scissors must be sharp; dull tools can cause more hazards than sharp ones. Cracked saw blades

must be removed from service. Wrenches must not be used when jaws are sprung to the point that slippage occurs. Impact tools such as drift pins, wedges, and chisels must be kept free of mushroomed heads. The wooden handles of tools must not be splintered.

Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Where this hazard exists, spark-resistant tools made of non-ferrous materials should be used where flammable gases, highly volatile liquids, and other explosive substances are stored or used.

Employees work with machines, tools and equipment every day. Workplaces couldn't operate without them; however, interacting with them has potential for serious injuries or fatalities if they are not used and maintained properly.

The potential hazards are numerous, and include:

- Safety hazards
  - ✓ Contact with moving parts
  - ✓ Contact with electricity, heat, fire, cold, and other energies
  - ✓ Contact with pressurized gas or liquid
- Health hazards
  - ✓ Contact with harmful chemicals or biological hazards
  - ✓ Contact with harmful noise, radiation, and/or vibration
  - ✓ Exposure to ergonomic or MSD hazards

A safe environment is a productive workplace. Health and safety is not simply a legal obligation: it is a business opportunity. You can boost your bottom line by improving health and safety performance, which reduces the costs associated with avoidable losses and lost-time injuries, and leads to higher productivity.

Machinery and other workplace equipment can be dangerous if not used properly. Anyone using equipment in the workplace needs to be thoroughly trained in its operation and kept up to date. Here are other ways to help staff stay safe when using equipment.

- Keep the work area clean, tidy, well swept/washed, and well lit; floors should be level and have a non-slip surface.
- Do not remove any guarding devices; make sure that they are in position and in good working condition before operating.
- Follow lock-out procedures before measuring, cleaning or making any adjustments.

- Check and adjust all safety devices before each job.
- Wear appropriate personal protective gear as prescribed, including CSA-approved safety glasses with side shields (prescription eye wear is *not* a substitute).
- Ensure that all cutting tools and blades are clean and sharp; they should be able to cut freely without being forced.
- Ensure there is enough room around the machine.
- Ensure that all stationary equipment is anchored securely to the floor.
- Keep hands away from the cutting head and all moving parts.
- Avoid awkward operations and hand positions: sudden slips could cause the hand to move into the cutting tool or blade.
- Do not leave machines unattended: turn the power off.
- Avoid distracting an operator; horseplay can lead to injuries.
- Avoid wearing loose clothing, gloves, neckties, rings, bracelets or other jewelry that can become entangled in moving parts; confine long hair; do not use rags near moving parts of the machine.
- Return all portable tooling to their proper storage place after use.
- Clean all tools after use.
- Do not use cutting fluids to clean hands.
- Use a vacuum, brush or rake to remove any cuttings.
- Do not use compressed air to blow debris from machines or from worker clothes.

### 7.3 Reporting Environmental hazards/risks

You should report it immediately to your supervisor. You do not need to wait for an inspection team to come by. In fact, health and safety legislation requires employees to report hazards to their supervisor.

The immediate hazard reporting process allows employees to report hazardous conditions or practices as they notice them. This procedure allows for prompt reporting and subsequent corrective action without waiting for the next round of regular inspections. Hazards can be reported verbally or by filling a simple form available at bulletin boards or other conspicuous places. The following is an example of such a form.

**Table -1: Hazard report form**

<b>Hazard Report Form - Example</b>	
Name:	Date:
Location:	
Equipment:	
Description of the hazard:	
Suggested corrective action:	
Signature:	
Supervisor's remarks:	
Corrective action taken:	
Signature of Supervisor:	Date:

Self-Check -7	Written Test
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**Directions:** Match the words in column B with column A and write the letter on the space provided (2 pts each)

Column A	Column B
____ 1. Result from your location, socioeconomic status, occupation and behavioral choices	A. Harm
____ 2. The chance of something happening	B. Hazard
____ 3. A potential source of harm to a worker	C. Risk
____ 4. Physical injury or damage to health	D. Likelihood
____ 5. Both natural and human-made chemicals in the Environment.	E. Cultural hazards
____ 6. Ecological interactions between organisms	F. Biological hazards
____ 7. Chance or probability that a person will be harmed	G. Chemical hazards
____ 8. Occur naturally in the environment	H. Physical hazards
	I. Health hazards
	J. Safety hazards

**Note: Satisfactory rating - 8 points**

**Unsatisfactory - below 8 points**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Answers

1		5	
2		6	
3		7	
4		8	

<b>Instruction Sheet</b>	<b>Learning Guide -29: Comply with environmental regulations</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Following work place procedures
- Ensuring environmental compliance
- Reporting breaches/potential breaches
- Environmental legislation, regulations and codes of practice

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Follow workplace procedures to ensure compliance
- Report breaches or potential breaches to appropriate personnel

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4,” in page 2, 12, 16 and 21 respectively.
4. Accomplish the “Self-check 1, Self-check 2, Self-check 3 and Self-check 4” in page 11, 15, 20 and 29 respectively

<b>Information Sheet-1</b>	<b>Following work place procedures</b>
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## 1.1 Work place Procedures

Workplace policies often reinforce and clarify standard operating procedure in a workplace. Well written policies help employers manage staff more effectively by defining acceptable and unacceptable behavior in the workplace, and set out the implications of not complying with those policies. A workplace policy consists of a statement of purpose and one or more broad guidelines on action to be taken to achieve that purpose. The statement of purpose should rarely exceed one page in length and should be written in simple terms free of jargon. The length of the policy may vary depending on the issue it addresses.

A policy may allow discretion in its implementation and the basis of that discretion may be stated as part of the policy. A policy may be required where there is a diversity of interests and preferences, which result in vague and conflicting objectives among those who are directly involved. Not all workplace issues require a policy. Many routine matters can be dealt through simple procedures

The employees need to follow the rules and policies while working for the organization. By implying such rules at the workplace, there will be some kind of discipline and seriousness among employees which can result in greater productivity. This indirectly helps in the growth of the business. If the rules and policies are broken, then it will have a strong negative impact on the organization. Violation of rules can result in diminishing the culture and ethics of the organization. To get a broader idea regarding the importance of rules and policy at work, let us see what is a policy and procedure and the differences between them.

### 1.1.1 Policies and procedures

- **Policy:** A policy can be defined as a principle of action which is directed towards a particular business goal and objective. In simple terms, it is a plan of action that needs to be carried to achieve the goal of the organization through daily operations. In other terms, it is also a guideline about how employers and employees need to behave at the workplace.
- **Procedure:** Procedure can be defined as a clear step-wise process to implement a policy. A proper procedure helps in clearing out all odds and obstacles arising while working on a task to achieve the goal.



### 1.1.2 Difference between policies and procedures

Both policies and procedures are important elements that are required for performing the operational activities of an organization.

## Policies:

- General in nature
- Recognize the organizations rules
- Describe the reason to exist
- Briefs when the rule need to be applied
- Explain who it covers
- Shows the implementation of the rule
- Illustrates the consequences
- Can be explained with the help of simple sentences and paragraphs

### Procedures:

- Find out specific actions
- Inform when the actions need to be taken
- Explain alternatives
- Exhibits emergency procedures
- Includes warning and cautions
- Provides examples
- Shows the way to complete forms
- Usually written using an outline format

Some of the important signs that the organization needs to look regarding their policies and procedures are:

- Higher failures and errors or accidents
- Rise in complaints by the customers
- Inconsistent performance by the employees
- No clear plan of action among employees (chaotic situation)

## 1.2 The Importance of obeying the rules and regulations

Obeying rules and regulations of an organization have much importance such as:

- Rules are the most important as it completes a company:** Companies nowadays are not just a mere entity but they are more than that. Now companies and other organization breathe and live due to the rules and the procedures which bind the employees to follow. I f there would be no rules, there would have been a mess all around and no one would

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			September 2019

know what has to be done and what not. So, to make sure everything goes well, it is important to follow the rules in the company.

- **To create discipline in the company:** Discipline is created by the behavior of the employees within the company. But apart from that, the stern and the official matters cannot be handled just by the behavior of the employees. So, in order to keep everything in discipline, there is an utter need for everyone within the company to follow the rules and the procedures within the company in order to maintain the discipline.
- **In order to promote cooperating environment:** Without rules, the company would be like without limbs. If a man has no limbs, he or she won't be able to work, similarly goes the same for the companies and the organizations. The company works with the authority of rules within it. No rules, no ruler or leader would be there and no cooperating environment would be created. So, in order to promote the cooperating environment within the company, it is important for everyone to adhere to the rules and procedures.
- **To maintain the equity:** Rules are made so that everyone is considered equal in the organization. If there would be no rules, everyone would do what he or she wishes to do and more of authority would be there than output. So, in order to get an output and to maintain equality, there is a need to follow the rules. By following the rules there is no subordinate and superior. Rules are for all and equal. So, to maintain the status of equality in the company, it is essential to follow the rules.
- **To promote harmony among the members of the company:** In order to prevent any messy situation from taking place in the company, it is important to follow the rules. When everyone follows the rules, harmony is maintained in the company. So, if the company wishes to promote a good work environment within the organization, it is important to follow the rules and most importantly it is vital for every organization to set the strict rules and regulations.
- **To ensure everyone works for a common goal:** The Company is run by the employees and if the employees themselves will not work as per the company norms then how will there be a common goal for all. The rules help set a common objective to be achieved by the employees working within the company. Every individual has their own goals but in order to make everyone work towards one common objective, it is essential to have rules as they help the entity to set equal goals that are to be achieved by the employees.
- **The rules set a fine tone for the culture of the company:** The procedures and the rules within the company help in setting a fine tone for the work culture of the company. The entity without the rules is said to be having a bad and uncooperative work culture and

no one wishes to work in that sort of the company. So, the rules also set the tone of the company's culture and if they are followed accordingly, they assist in building a healthy work environment as well; hence attracting more skilled employees.

- **Helps in the overall growth of the company:** It is important to follow the rules because due to the set rules, the work is done in a well-organized manner and the organized work always leads to the growth of the company as well as the employees. So, if you want to become organized and orderly, just make sure you are following the rules and working as per them.
- **No pending work is left:** When you work as per the rules and the procedures, the work is done on time as the strict rules act as a stern teacher and guide. No work is left pending and all work is done in proper time. So, if you were a rule breaker earlier, then be one to make sure you are now a changed and orderly disciplined person. As, following rules will help you complete your office work in time, leaving with no tensions and worries for the pending work to be completed.
- **Everyone knows the fundamental duties:** Through the adherence of the rules and procedures, everyone comes to know about their own individual duties and the responsibility which are indeed a good thing. Knowing your own duty that too by own self is a great deal and makes a person self-responsible as no one is left to remind you of the duties in the office hours. So, it not only reminds you of your duties and work but also makes one responsible human being. So, if you also wish to be one, then it is important to follow the rules and regulations as per lay by the company itself.
- **Rules tend to bring the vision to life:** Whatever is the company's vision is brought to life through the rules set by the company itself. If all the employees follow the rules properly, the company's vision through their work is ultimately reflected and brings lots of respect and credibility to the company. So, following the rules is good for the employees as it automatically helps the company to grow by adhering to the regular rules and procedures.
- **It sets the limits for all:** The rules within the company also set limits for the employees. What employees are supposed to do and what not is all defined by the rules and the procedures of the company. So, it is important for all to follow the set rules and regulations as it will help you to know your limits for working and non-working. The limit is defined for all the levels in the organization and also sets the consequences which are good for the future of both the organization as well as the employees.

- **It gives the direction to the required changes in the company:** The rules and the procedures also help in bringing the required change within the company if it has to bring in somehow. The company brings changes by comparing the previous rules and procedures. Whatever rule is not liked, is not carried forward further and whichever is liked is taken forward. By this way, the rules help in setting the rules and procedure for the future too. So, for this reason, also it is important for the employees to follow the rules as set by the company itself.
- **Rules also define the nature of the employees:** By the rules, the varied nature of the employees is also known. This is because, through the set rules, the patience of the employees gets tested. The companies use their rules and procedures to test the real nature of the employees. So, if you really want you to put the best foot forward in front of the boss, then it is better to follow the rules and the regulations of the company without creating any chaos.
- **The procedures cover the activities within the company:** Whatever activity is taking place within the company, is all covered or one can say the check is maintained on it with the help of the set procedures by the company. So, in order to keep an eye on day to day activity, it is important for all the companies to have proper procedures to be followed by the company as well as the employees.
- **Improves the performance of both the employees as well as the company:** If the company functions without any set code of conduct, the company would not work for too long. Rather it will have a direct impact on its working and the output. But if the proper rules are followed, there is a proper code of conduct; the performance will improve as all the employees would work for a single common goal. No one would go in different directions to attain a goal. So, for improving the performance, the values need to form an integral part of the company.
- **For smooth functioning of the company:** No company would stay in the market with chaos within, for a longer time. This is because there are companies which work with stern rules and values. Like if a company demands formal dressing within, the employees ought to follow that. If the employees do not follow the rule of proper dressing, it would ultimately affect the image of the company within the market. So, in order to make a company run in a smooth manner, the values need to be an important part of both the employees and the company itself.
- **Provides an edge to compete with the other companies in the market:** Every company needs to have the amiable environment and at the same time, it needs to be

stern. Although every company says itself the best, yet not everyone is the same when it comes to market rating. So, if the companies wish to get an edge to compete with other companies at a time, it is essential to do something different by not forgetting to tread the path of strict rules and procedures.

- **Projects a positive image to the customers:** the Company's procedures help in projecting a positive image not just in front of the employees within the company but also to those who are outside the company. The positive culture within the company attracts more employees and also prevents the robust of the existing employees from the company. Also, it attracts many customers. A uniform enforcement of the customer service policies can help in the reassurance of the customers within the company. This is because they will come to know that what the company is heading to and they will also be benefited from the rules and the policies of the company.
- **Includes the warning and the caution:** The rules and the procedures of the company help in setting the limits which further gives the warning and the caution to the employees as well as the external ones. The rules act as a savior to the individual especially the employees as they get to know their limits and the caution. They do not cross the limits which mean no breaking of the rules and this kind of attitude is always appreciates the company as it reflects the positive and the good working environment within the organization. The rules also help in knowing what is right and what is wrong which assist the company from drowning during the difficult times.

### 1.3 Benefits of policies and procedures

As we have got a good idea regarding policies and procedures, let us have a look at some of their benefits as well.

- Key points are very well included in the policies and procedures
- Help the team to clearly understand their responsibilities
- Employers can just manage the employees rather than micro-managing
- It provides all the required legal protection
- Ultimately, your organization wants you to be successful.

#### 1.3.1 Advantages of having workplace policies

- Provide employees with awareness regarding expectations, ex: behaviour, performance standards, etc.
- Providing clear response across the organization when dealing with situations

- Provides rules for better decision making
- Employees will be treated without any bias
- Gives communication information to new employees
- A perfect method to deal with complaints and other issues
- Deliver a clear framework for decision-making delegation
- Being defensive against employer obligations

### 1.3.2. Benefits of having workplace policies

Well-written workplace policies:

- are consistent with the values of the organization and employment legislation
- demonstrate that the organization is being operated in an efficient and businesslike manner
- ensure uniformity and consistency in decision-making and operational procedures
- add strength to the position of staff when possible legal actions arise
- save time when a new problem can be handled quickly and effectively through an existing policy
- foster stability and continuity
- maintain the direction of the organization even during periods of change
- provide the framework for business planning
- assist in assessing performance and establishing accountability
- Clarify functions and responsibilities.

### 1.3.3 Organization policies and procedures list

When implying rules, policies and procedures for an organization make sure that they are based upon the type and size of the organization.

Some of the must-have and important policies which you cannot miss are

- Workplace Health and Safety Policy
- Social Media Policy
- Drug and Alcohol Policy
- Safety planning and objectives procedures
- Workplace Bullying policy
- Communication and consultation procedure
- Sexual Harassment Policy
- Hazard identification procedure

- Smoke-Free Workplace policy
- Internet and Email Usage Policy
- Confidential Information Policy
- Performance monitoring and review procedures
- Risk assessment procedure
- Safety management procedure
- Risk control procedures

Self-Check -1	Written Test
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1. A guideline about how employers and employees need to behave at the workplace is: (3 pts)
  - A. Discipline
  - B. Policy
  - C. Procedure
  - D. Instruction
2. A clear step-wise process to implement a policy is known as: (3 pts)
  - A. Rule
  - B. Regulation
  - C. Procedure
  - D. Policy
3. One of the following is not the advantage of organizational policies. (3 pts)
  - A. Higher failures and errors or accidents
  - B. Rise in complaints by the customers
  - C. Employees will be treated without any bias
  - D. No clear plan of action among employees
4. One of the following is the property of procedure: (3 pts)
  - A. Shows the way to complete forms
  - B. General in nature
  - C. Illustrates the consequences
  - D. Briefs when the rule needs to be applied

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

- |    |    |
|----|----|
| 1. | 3. |
| 2. | 4. |

<b>Information Sheet-2</b>	<b>Ensuring environmental compliance</b>
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## 2.1 Introduction to environmental compliance

Environmental compliance means conforming to environmental laws, regulations, standards and other requirements such as site permits to operate. In recent years, environmental concerns have led to a significant increase in the number and scope of compliance imperatives across all global regulatory environments. Being closely related, environmental concerns and compliance activities are increasingly being aligned with corporate performance goals and being integrated to some extent to avoid conflicts, wasteful overlaps, and gaps.

Compliance to environmental standards means following the laws and regulations governing environmental standards. While this may sound straightforward, for many businesses, even knowing all of these rules requires a considerable amount of study and training. For example, it is not enough for a business to be compliant with merely their state regulations; regulations may differ from city to city, and it is important that every level of regulation from local to national is considered.

Compliance with the above requirements and obligations, requires meeting certain conditions. Typically, these include:

- Managing monitoring programmers or schedules, ensuring that the monitoring required in the permit has been done, at the correct locations, for the correct parameters, and at the correct frequency
- Pre-processing, performing calculations and validating the data for compliance with any alert or reporting levels
- Generating routine compliance reports for authorities.

Environmental compliance is, generally speaking, a legal issue. In order to avoid running into trouble with the law, it is a good idea to follow the rules and regulations dictated by your local, state, and national government. Breaking any of these rules can result in massive fines, often dramatically exceeding the amount one would normally have to pay just to remain in compliance.

## 2.2 Importance of environmental compliance

A common misconception about environmental compliance is that it only benefits the environment. While maintaining environmental compliance does provide numerous

advantages to the local landscape and the world at large, ensuring that your business is compliant with contemporary environmental standards can save you money and time in the long term. Being environmentally compliant is good for your company and your workforce because of the significant overlap between environmental compliance issues and health and safety issues. If a slight leak forms in a pipe, for example, it could release a hazardous chemical into the air. The release of this toxin would obviously put one's business out of compliance, but it also puts the workers of that business at risk as they are now consistently being exposed to a substance with the potential to harm them.

Environmental compliance combats this possibility in two ways. The first, an environmental compliance check will ensure a facility's pipes are leak-, defect-, and irregularity-free, contributing to their long-term efficacy. The second way environmental compliance lowers risk is by identifying leaks and repairing them as soon as possible.

### 2.3 Ensuring environmentally compliant

An environmental compliance audit is the best way to verify that your business is environmentally compliant. Trained auditors will survey your site to identify current and potential issues, and then provide you with information or services to help resolve those issues. Within that inspection, a number of checks and tests can be performed. Non-destructive testing can be completed to survey the state of current equipment without damaging it.

By using these tests and devices, an inspector can offer a comprehensive assessment of the state of one's assets, providing the facility with a detailed list of potential repairs or alterations that must be made so that compliance can be achieved or maintained.

### 2.4 Environmental compliance assurance

Environmental compliance assurance describes all the ways in which public authorities promote, monitor and enforce compliance with such rules. It is part of environmental governance.

- Promote means helping businesses and others to comply;
- Monitor means using inspections and other checks to collect information about levels of compliance and provide solid evidence for enforcement;
- Enforce means stopping those who disregard the rules, sanctioning them and obliging them to rectify the damage.

Promotion covers awareness-raising, guidance and advice. Monitoring covers routine environmental inspections, police investigations and environmental audits by public audit bodies. It also includes examination of complaints from the public. Enforcement covers audit recommendations, official warnings, cease-and-desist orders, administrative fines, criminal prosecutions and demands to take remedial action. Interventions may vary according to what works best.



**Figure-3:** Environmental compliance assurance

Self-Check -2	Written Test
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**Directions:** Choose the best answer for the following questions. Use the Answer sheet provided:

- Conforming to environmental laws, regulations, standards and other requirements is \_\_\_\_\_. (4 pts)
  - Environmental pollution
  - Environmental compliance
  - Environmental degradation
  - Environmental policy
- Routine environmental inspections, police investigations and environmental audits by public audit bodies is known as: (4 pts)
  - Monitor
  - Promotion
  - Enforcement
  - Compliance
- Which environmental compliance assurance way is used to stop those who disregard the rules, sanctioning them and obliging them to rectify the damage? (4 pts)
  - Monitor
  - Promotion
  - Enforcement
  - Inspection

### Answer Sheet

**Note: Satisfactory rating - 8 points**

**Unsatisfactory - below 8 points**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

1	
2	
3	

Information Sheet-3	Reporting breaches/potential breaches
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### 3.1 Personal data breaches

A data breach is an incident that involves the unauthorized or illegal viewing, access or retrieval of data by an individual, application or service. It is a type of security breach specifically designed to steal and/or publish data to an unsecured or illegal location. A personal data breach is a breach of security leading to the accidental or unlawful destruction, loss, alteration, unauthorized disclosure of, or access to, personal data.

Personal data breaches can include:

- Access by an unauthorized third party;
- Deliberate or accidental action (or inaction) by a controller or processor;
- Sending personal data to an incorrect recipient;
- Devices containing personal data being lost or stolen;
- Alteration of personal data without permission; and
- Loss of availability of personal data.

When considering whether a personal data breach has occurred, you should consider the following three factors:

- **Confidentiality:** A confidentiality breach is where there is an unauthorized or accidental disclosure of, or access to personal data. It's not a security breach if, for example, you send information to an address you held for someone, but they then subsequently moved addresses.
- **Integrity:** An integrity breach is where there is an unauthorized or accidental alteration or personal data. This can include hard copies being damaged by fire or flood.
- **Availability:** An availability breach is where there is an accidental or unauthorized loss of access to, or destruction of, personal data. It won't be a data breach if, for example, the personal data is not available due to planned IT maintenance.

When any security incident occurs, you should quickly establish whether a personal data breach has occurred and take steps to address it. However not all three factors need to be present for it to be a data breach. Any one of these factors alone can be sufficient for a personal data breach. Each case will depend on its own facts.

Privacy breaches can happen because of poor policies and training, a misunderstanding of the law, a malicious act, a technical problem or human frailty. The potential for a privacy

breach to occur can be reduced by good policies and practices in handling of personal information and ongoing training of staff in their responsibilities.

Examples of data breaches include:

- When an employee takes paper records, an unencrypted USB stick or laptop out of the office and the information is lost or stolen.
- When an organization mistakenly provides personal information to the wrong person.
- When an organization's database is illegally accessed by staff members or by individuals outside of the organization.
- When an organization experiences a privacy breach, we recommend that they act quickly to investigate and understand the incident, and take appropriate steps to manage any potential consequences for affected individuals.

### 3.2 Reporting a breach/potential breaches

If a personal data breach needs to be reported to the ICO (Information Commissioner's Office), you have 72 hours after becoming aware of it to do so. If you take longer than this, you must give justifiable reasons for doing so. The 72 hours includes evenings, weekends and bank holidays.

When reporting a breach, you must provide the following information:

- a description of the nature of the personal data including how many people it affected and the type of personal data records compromised
- the name and contact details of your data protection officer (if you have one) or other contact point where more information can be obtained
- a description of the likely impact and consequences of the personal data breach
- a description of the measures taken or proposed to be taken to deal with the personal data breach

If a breach is likely to result in a high risk to the rights and freedoms of individuals, you must inform those concerned directly and without undue delay. In other words, this should take place as soon as possible.

### 3.3. What data breaches need to be reported?

Data breaches only need to be reported if they "pose a risk to the rights and freedoms of natural living persons". This generally refers to the possibility of affected individuals facing economic or social damage (such as discrimination), reputational damage or financial losses.

You can focus on assessing the incident, containing the damage and documenting the steps you've taken. From there you can determine whether you need to report the incident. Your report must contain:

**Situational analysis:** You must provide as much context about the breach as possible. This includes the initial damage, how it affected your organization, and what caused it.

**Assessment of affected data:** You'll need to determine the categories of personal data that has been breached, and the number of records affected.

**Description of the impact:** Next, you'll need to outline the consequences of the breach for affected parties. This will depend on the information that was compromised.

**Report on staff training and awareness:** If the breach was a result of human error, you'll need to disclose whether or not the employee(s) involved received data protection training in the past two years. If they have, you should provide details of your staff awareness training programme.

**Preventive measures and actions:** Outline what (if any) preventative measures you had place before the breach occurred. You should also explain what steps have you taken, or plan to take, to mitigate the damage.

**Oversight:** Finally, you'll need to provide the contact details of your DPO (data protection officer) or the person responsible for data protection.

Self-Check -2	Written Test
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**Directions:** Choose the best answer for the following questions. Use the Answer sheet provided:

- An incident that involves the unauthorized or illegal viewing, access or retrieval of data by an individual, application or service is \_\_\_\_\_. (4 pts)
  - Data recording
  - Data formatting
  - Data breach
  - Data protection
- Which factor of personal data breach shows hard copies being damaged by fire or flood? (4 pts)
  - Availability
  - Integrity
  - Alteration
  - Confidentiality
- Data breaches reports should not contain: (4 pts)
  - Description of the impact
  - Assessment of affected data
  - Situational analysis
  - Personal information

### Answer Sheet

Note: Satisfactory rating - 3 points

Unsatisfactory - below 3 points

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

1	
2	
3	

<b>Information Sheet-4</b>	<b>Environmental legislation, regulations and codes of practice</b>
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#### 4.1 Environmental protection

Environmental protection is the practice of protecting the natural environment by individuals, organizations and governments. Its objectives are to conserve natural resources and the existing natural environment and, where possible, to repair damage and reverse trends.

Environmental protection consists of the set of measures that are taken at public and private levels to care for our natural habitat, preserve it from deterioration and contamination. Prevent or limit the felling of trees, give better treatment to the waste, prohibit the hunting of animals in danger of extinction, reduce the consumption of energy, pesticides, fuels and other pollutants, minimize noise, do not throw garbage, recycle it, are some of those measures, which in practice and in the absence of awareness of the population, should be imposed by legal means with the consequent penalties for those who violate the rules of protection.

#### 4.2. Purpose of environmental protection

What are we doing wrong? Mostly the problem is destruction of habitat by:

- industrial pollution
- mining
- farming
- transporting species into habitats where they had not been

What are some of the consequences?

- One billion people in the world have no clean water
- Two billion people have inadequate sanitation
- One and a half billion people (mostly in large cities of newly industrialized countries) breath air that is dangerously unhealthy
- Hundreds of millions of poor farmers struggle to make a living on poor land
- Whole countries are on the verge of famine

People don't like to be ridiculed as "environmental wackos" or "tree huggers." But it is important to care about the environment. Thoughtful people can care about the environment and at the same time see the need to exploit or use nature for resources to satisfy the needs of our species.

- **It's not nice to try to fool Mother Nature.** Ecosystems are complicated. We have seen in these lessons that complexity grows as we move up the ladder from cells to organ systems to ecosystems. The history of our attempts to manipulate ecosystems shows that we often make mistakes and fail to see the unintended consequences of our actions. Rich ecosystems are those with many occupied niches. A change in any one niche is likely to affect other niches and their occupant species. Extinction is forever. We don't get a second chance.
- **Environmental hazards are dangerous.** Especially our lakes and oceans have become dumping grounds for dangerous chemicals (pesticides, herbicides, oil and refinery products, industrial wastes, and heavy metals). Some of these toxins actually concentrate in food webs, such as mercury in fish.
- **Moral obligation.** Our species owes its existence to the living world that we share with other species. We owe the living world a chance to perpetuate the life-creating processes of natural selection, population dynamics, and exchange cycles. We can only pay this debt by protecting the environment.

- **The environment helps in protecting the ecosystem:** Changes affecting the ecosystem put multiple species in the danger of extinction necessitating the need of protecting the environment. Ecosystems are deeply connected to one another.
- **Protecting the environment protects humanity:** Pollution is one of the most hazardous factors affecting the environment. It affects the quality of food leading to the ingestion of toxic substances.
- **Humans have a moral obligation to preserve nature and its features:** Humans are responsible for taking care of the environment. Protecting the environment would be an act of fulfilling their compulsions.
- **Biodiversity is a significant part of life in the world:** Biodiversity not only consists of the animals living on earth but also the forests, grasslands and tundra, which are significant features in maintaining the life-cycle of the eco-system.
- **Forests provide raw materials for various consumer products:** Forests are a significant part of the environment, which helps in providing various raw materials

such as food, rubber, timber and essential oils. Forest management means availability and sustainable use of these natural resources.

- **Forests provide habitats for a variety of species:** Almost half of the species live in forests thus destroying the forests would lead to the destruction of the ecosystem at large.
- **The way in which a person protects the environment reflects their personality:** Just as the way you treat other people reflects your personality, the way you treat the environment reflects who you actually are. A good person will treat the environment responsibly. So treat the environment well and prove that you indeed have a good personality.
- **It is a way to give to your generation:** One will be happier in life if you focus on giving rather than receiving. Treating the environment well is one way to give to the others in your generation. By treating the environment well, you make the planet a better place to live for everyone. You help yourself and others to have higher quality of life.
- **It is a way to give to the future generations:** Not only protecting the environment benefits people in current generation; it will also benefit people in many generations to come. This planet is our legacy to the future generations.
- **It is a way to give back to the planet:** Whether we realize it or not, we can only live by consuming resources provided by this planet. Take energy for instance. We only get the energy by utilizing resources like oil and coal provided by the earth. This is not to mention basic needs like food and water.
- **The environment is effective in generating successful food chain:** The sun provides light for the plants. The plants are food for the animals that are in turn consumed by other animals. Therefore, destroying the environment would destroy the food chain system.
- **The trees that are a significant part of the environment helps in keeping the climate cool:** trees play a significant role in creating shades on the ground. Urban trees help buildings stay cool, reducing the need for electric fans or air conditioners, while large forests can tackle daunting tasks.
- **The environment is useful in maintaining the earth's balance:** Trees also have another way to beat the heat: absorb CO<sub>2</sub> that fuels global warming. Plants need some CO<sub>2</sub> for photosynthesis which is stored in wood, leaves and soil, often for centuries. The forests equally absorb impurities from emissions.

- **A balanced ecosystem results in rain:** large forests have the tendency of influencing the weather patterns hence creating their own microclimates.
- **Trees, a significant part of the environment, play a critical role in the refilling of aquifers:** Forests are like giant sponges, catching runoff rather than letting it roll across the surface, but they cannot absorb all of it. Water that gets past their roots trickles down into aquifers, replenishing groundwater supplies that are important for drinking, sanitation and irrigation around the world.
- **Trees play a significant role in blocking the wind:** Farming near a forest has many benefits, like bats and songbirds that eat insects or owls and foxes that eat rats. Nevertheless, trees can also serve as windbreakers, reducing wind speeds of wind-sensitive crops. In addition, beyond protecting those plants, less wind makes it easier for bees to pollinate them.
- **Trees help in keeping dirt in its place:** A forest's root network stabilizes huge amounts of soil, bracing the entire ecosystem's foundation against erosion by wind or water. Not only does deforestation disrupt all that, but also the ensuing soil erosion can trigger new, life-threatening problems like landslides and dust storms.
- **Many animals need the environment for survival:** As the environment gets destroyed, the more animals in the ecosystem perish. As the environment is degrading, most of the animal species face extinction.
- **Preserving the environment could prevent soil erosion:** Soil erosion is a factor that occurs due to various human activities that have led to environmental degradation. Erosion can occur naturally from the impact of water and wind, or it can be encouraged by irresponsible farming practices.
- **Maintaining the environment slows down global warming:** Deforestation adds more carbon and carbon dioxide that capture and absorb heat, thus speeding up the process of global warming by making the Earth hotter. The forest slows this process down because carbon dioxide is stored in the trees and also converts it to the oxygen.
- **Maintaining the environment leads to the creation of the natural watersheds:** The plants and trees in the forest catch rain and other types of moisture. It helps water to naturally discharge into larger water bodies like the lakes and rivers. This maintains water quality and enables aquatic systems to flourish.
- **The environment provides an excellent source of groundwater:** The Forest Service has reported that 20% of our drinking water comes from forests. In forest

ecosystems, rain and moisture is made into groundwater that is collected as freshwater used for drinking.

- **The forest, a useful part of the environment, helps us to breathe:** Did you know that more than 10 people can get nourished by oxygen from a single tree? Well, trees are the typical lungs of the earth as they absorb carbon dioxide and change it to oxygen thereby allowing survival on earth.
- **The forest gives us clean air:** The air we breathe is less harmful to us because the forest trees act as a natural filter to remove the harmful particles.
- **Maintaining the environment leads to less solar radiation:** In small doses, the ultraviolet (UV) rays of the sun are good for us and provide a healthy dose of vitamin D. But, when we are exposed to too much sun, it can be uncomfortable and lead to skin cancer or many other health issues. UV rays are made less powerful because the forest has the ability to weaken solar radiation.
- **Maintaining the environment such as growing of forests stabilizes noise pollution:** With the way our ears process sound, the forest actually cuts down much of the noise we hear or makes some sounds so subtle that we barely notice them. Instead, the forest replaces intrusive noises with its own pleasant sounds of birds chirping and leaves softly rustling.
- **Maintaining the environment is critical in providing food for people:** There are many healthy edibles found throughout the forest. Around the world, many people depend on forest food to live.
- **Maintaining the environment leads to availability of food for both animals and plants:** Food from the forest also provides sustenance for animals. Without the forest, many of these animals would perish. Even if we tried, we could not replicate all the foods that are naturally healthy for them in the way the forest can.
- **Environmental protection promotes economic stability:** Many people are employed because of the forest and millions of jobs would be lost without it. The forests simply provide energy and are a source of livelihood for many.
- **Protecting the environment make us happy:** Millions of people head to the forest to find relaxation and renew their spiritual energy. It has also been scientifically proven that the natural elements of the forest can serve as a remedy for emotional and mental distress.
- **Environmental protection encourages better physical health:** The quality of air found in the forest can help to improve lung health and there are many recreational

activities to be found there as well. For example, taking a walk through the forest enhances ones physical endurance.

- **Environmental protection reminds us to appreciate the beauty of nature:** There is nothing quite like spending time in the forests to sightsee and enjoy a day filled with surprises that only nature can afford. The visual splendor of the forest is one of the things that make the Earth especially stunning and unique.
- **Environmental protection awakens our imagination:** The visual and mental stimulation that the forest provides heightens our imagination and inspires our motives.
- **Protecting the environment increases tourism:** Many societies have benefited from funding, support and economic revitalization through tourism. Tourists are mainly attracted to areas such as forests and zoos which are all part of our environment.
- **Medicines can be found throughout the forests and environment:** Medicines are found in the forest that can be used for a wide variety of health disorders. Medicines can be extracted to cure infections and a myriad of health problems.

### 4.3 Environmental Legislation

Legislation is an important instrument in the control of environmental hazards to health, and has been used from the earliest days of public health, for example in the control of water quality and sanitation in the 19<sup>th</sup> century, and in various forms of air quality legislation in the 20<sup>th</sup> century. Legislation may take many forms, including regulation of emissions that may cause environmental pollution, taxation of environment- and health-damaging activities, and establishing the legal framework for trading schemes (e.g. for carbon emissions). Other actions may rely on voluntary agreements. Among major current legislative frameworks are those relating to environmental permitting, and those mandating environment and health impact assessments?

Environmental legislation is the collection of laws and regulations pertaining to air quality, water quality, the wilderness, endangered wildlife and other environmental factors. The umbrella of environmental legislation covers many laws and regulations, yet they all work together toward a common goal, which is regulating the interaction between man and the natural world to reduce threats to the environment and increase public health.

As you might imagine, environmental legislation is a broad topic, mainly because the natural environment encompasses so many different aspects. So, environmental laws need to

consider everything, from the air we breathe to the natural resources we rely on to the plants and animals that share this world with us.

#### 4.4 Environmental regulation

Regulation has a key role in controlling environmental pollution and the associated risks to human health. Among its different forms are:

- **Direct regulation** – which allows control of emissions or abstractions that may cause pollution. Primarily based on use of licenses/permits;
- **Environmental taxation** – an alternative to conventional regulatory instruments aimed at influencing behavior through pricing.
- **Trading Schemes** – a new (and still somewhat controversial) regulatory instrument that can, in theory, provide an efficient mechanism for achieving environmental objectives because participants can choose how best to make the required improvements
- **Negotiated or voluntary agreements** – non-statutory mechanisms that are often preferred to conventional regulation where the parties can agree targets, often to avoid legislation.
- **Education and advice** – helping to meet objectives by raising awareness and encouraging participation among multiple groups.

#### 4.5 Environmental Codes of practice

Codes of practice are designed to assist in the compliance with the general environmental duty and therefore fulfill obligations under the Act and associated environment protection policies. They do this by closely examining an industry or activity, its various aspects and impacts and through a process of negotiation formulates reasonable and practical outcomes and recommended practices to achieve such outcomes. These are outlined as 'musts' and 'should', which are defined as follows:

- **'Must'**, the use of the word 'must' indicate a requirement in this code, which if ignored, is likely to lead to a breach of the Environment Protection Policy.
- **'Should'**, the use of the word 'should' indicate a recommended practice.

Self-Check -4	Written Test
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**Directions:** Match the words in column B with column A and write the letter on the space provided (3 pts each)

### Column A

- \_\_\_\_ 1. Environmental Codes of practice
- \_\_\_\_ 2. Environmental Legislation
- \_\_\_\_ 3. Environmental protection
- \_\_\_\_ 4. Environmental regulation

### Column B

- A. Collection of laws and regulations  
Minerals
- B. Protecting the natural environment  
Money
- C. Key element of environmental public  
health policy
- D. Outlined as 'musts' and 'should',
- E. Indicate a recommended practice

### Answer Sheet

**Note: Satisfactory rating - 8 points**

**Unsatisfactory - below 8 points**

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

1	
2	
3	
4	

<b>Instruction Sheet</b>	<b>Learning Guide –30: Seek opportunities to improve resource efficiency.</b>
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This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics –

- Following organizational plans
- Improving environmental and resource efficiency
- Understanding team work performance to improve work practice
- Suggestions to work place practices

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, **you will be able to –**

- Follow organizational plans to improve environmental practices and resource efficiency
- Perform work as part of a team, where relevant, to identify possible areas for improvements to work practices in own work area
- Make suggestions for improvements to workplace practices in own work area

### Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 and Sheet 4-”in page 2, 5, 8 and 14respectively.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4” ,---”in page 4, 7, 13 and 30respectively

Information Sheet-1	Following work place procedures
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## 1.1 Organizational Planning

Specific strategies to achieve them. It also entails staffing and resource allocation, and is one of the most important responsibilities of a management team. As you develop your strategies, you will plan on three levels: corporate, business (or division), and department (or functional).

The planning process provides the information top management needs to make effective decisions about how to allocate the resources in a way that will enable the organization to reach its objectives. Productivity is maximized and resources are not wasted on projects with little chance of success.

Organizational planning can be intimidating if you don't know the differences between Strategic, Tactical, Operational, and Contingency planning.

There are four types of organization planning and how they relate to each other.

- **Strategic Planning:** Strategic planning covers long-term goals with all the necessary resources to achieve these goals. It typically includes a timeframe from 1 to 5 years. Also, a well thought out strategic plan considers controllable and non-controllable variables, and how to adjust to them.
- **Tactical Planning:** Tactical planning includes activity and implementation details on how your organization will reach strategic goals (a separate document). Also, tactical planning timeframes are typically short (less than one year).
- **Operational Planning:** Operational planning entails specific methods, procedures, and standards for different areas of an organization. For example, you would typically have an operational plan for the Marketing department, HR department, IT department, and so on. An operational plan also includes specific objectives and targets, which are then assigned to employees to carry out.
- **Contingency Planning:** Contingency planning covers alternative courses of action - typically outlining unusual and crisis situations. Rightly so, contingency planning is often associated with risk management, because a good contingency plan will address known and unknown risks.

In situations where we want to encourage preplanning, certain techniques facilitate the process:

- Develop an organizational climate that encourages planning.

- Top managers support lower-level managers' planning activities—for example, by providing such resources as personnel, computers, and funds—and serve as role models through their own planning activities.
- Train people in planning.
- Create a reward system that encourages and supports planning activity and carefully avoids punishment for failure to achieve newly set goals.
- Use plans once they are created.

In order for managers to invest the time and energy needed to overcome resistance to planning, they must be convinced that planning does in fact pay off.

The steps for successful organizational planning are as follows:

- Decide whether it's the right time to plan.
- Look at your mission.
- Assess the external and internal situation.
- Hear from stakeholders.
- Make decisions about goals and strategies to meet them.
- Write the plan.
- Act on the plan.

Self-Check -1	Written Test
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**Directions:** Choose the best answer for the following questions. Use the Answer sheet provided.

- Which types of organizational planning entails specific methods, procedures, and standards for different areas of an organization? (3 pts)
  - Contingency Planning
  - Operational Planning
  - Tactical Planning
  - Strategic Planning
- One of the following is not the purpose of organizational planning. (3 pts)
  - Increase productivity
  - Wise use of resources
  - Provide information for top management
  - Use unlimited resource

Answer Sheet

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

1.

2.

## Information Sheet-2

## Improving environmental and resource efficiency

### 2.1 Increasing Environmental Efficiency

Many of the most effective changes to improve environmental practices and resource efficiency are simple changes that can be made with little or no financial investment. Those that do require investment are often paid back by savings from reducing use of the resources required. You should continually look for opportunities to improve environmental work practices and resource efficiency workplace. Identifying these opportunities gives you and your colleagues the chance to implement them and help reduce the environmental impact of your daily activities.

Most workplaces have a number of opportunities for improvement in environmental work practices and resource efficiency. This can be for various reasons, including that:

- current practices have been in place for a long time and have not been reviewed with the objective of reducing the environmental footprint
- staff changes have meant that procedures designed to reduce environmental impact are not being followed thoroughly
- existing procedures for reducing environmental impact have been successfully introduced, but further refinement will increase their success
- other changes in the organization have created additional opportunities for reducing environmental impact
- there has not previously been a focus on improving environmental work practices or resource efficiency

### 2.2 Environment and resource efficiency policies

Resource efficiency means using the Earth's limited resources in a sustainable manner. We depend on natural resources - metals, minerals, fuels, water, land, timber, fertile soil, clean air and biodiversity - for our survival. They all constitute vital inputs that keep our economy functioning.

Increasing resource efficiency is key to securing growth and jobs. It brings major economic opportunities, drives down costs and boosts competitiveness. For that, we need to find new ways in all steps of the value chain: to improve management of resource stocks, reduce inputs, optimize production processes, management and business methods, improve logistics, change consumption patterns, and minimize waste. We need to develop new products and services. Resource efficiency will help stimulate technological innovation, boost



employment in the fast developing 'green technology' sector, open up new export markets and benefit consumers through more sustainable products. Environment and resource efficiency policies provide opportunities for regional growth and job creation and can boost the attractiveness of a region for businesses, citizens and tourists. Regions need to protect ecosystems and vulnerable landscapes and prevent biodiversity loss in their territories to prevent (further) degradation of these natural assets. The sustainable management and exploitation of the natural environment can also foster sustainable regional development based on so-called ecosystem services.

Enhancing resource efficiency at regional level involves using limited resources sustainably, whilst also avoiding negative impacts for the environment. Efficiency also allows to create greater value from less input, bringing down unit costs for manufacturers and buyers. Regions can play a key role in improving resource use through interacting with consumers and producers, as well as through their own role as energy consumer.

This platform offers participants and other stakeholders a range of ideas and inspiration on how to better protect natural and cultural heritage and use Earth's limited resources in a sustainable manner and thus contribute to meeting environmental and socio-economic objectives. The support is provided through a set of workshops, networking events, examples of good practices and a helpdesk of experts.

Self-Check -2	Written Test
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**Directions:** Choose the best answer for the following questions. Use the Answer sheet provided.

- Using the Earth's limited resources in a sustainable manner is known as: (3 pts)
  - Environmental efficiency
  - Resource efficiency
  - Waste management
  - Lack of resources
- Improving environmental efficiency used to: (3 pts)
  - Avoid negative impact of the environment
  - Create attractive environment
  - Prevent biodiversity loss
  - Protect ecosystems and vulnerable landscapes
  - All
- One of the following is not the advantage of resource efficiency: (3 pts)
  - Brings major economic opportunities
  - Drives down costs and boosts competitiveness
  - minimize waste
  - Optimize production processes
  - Reduce inputs

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Answer

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- 
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Information Sheet-3	Understanding team work performance to improve work practice
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### 3.1 Introduction to teamwork

Teamwork is an essential part of workplace success. Like a basketball team working together to set up the perfect shot, every team member has a specific role to play in accomplishing tasks on the job. It is difficult to arrive at a single definition of teamwork. Several concepts exist and researchers in the field of working conditions differ in their view of what teamwork actually means. Work organization using teamwork can refer to a wide range of possibilities, such as quality circles, cross-functional teams, self-managing teams or virtual teams. Many employers provide teamwork with varying degrees of autonomy.

The form of teamwork depends on task specificity. A distinctive feature of teamwork at the assembly line is successive work actions to assemble different parts of a product. On the other hand, where the goal is to improve the production process, group teamwork is much more about complexity, communication and integrative work.

### 3.2 Team work performance to improve work practice

Here are the key reasons teamwork is so important in the workplace.

- **Teamwork is efficient work:** A key pillar of the industrial revolution, a foundation of modern civilization, was the division of labor. And that's just another way to say teamwork.

Employee teamwork enables your workforce to:

- ✓ Split difficult tasks into simpler ones, then work together to complete them faster
- ✓ Develop specialized skills, so that the best person for each task can do it better and faster

In a nutshell, teams make work more efficient. That can **lead to better productivity**, reduced costs, greater profitability, and many other benefits.

- **Teams self-monitor:** When one person does a task alone, they have total autonomy — but if that person starts to work slowly or ineffectively, who will set them straight? Nobody, that's who.

In teamwork, many people have responsibility for the same goal. Most significantly, **teammates observe and depend on the quality of each other's work**. When one

team member's performance dips, the others have the knowledge and motivation to help them improve. Without management intervention, effective teams can often regulate their own performance.

- **Teams innovate faster:** For any task or problem, there are usually countless solutions. When one employee tackles a project, they might be able to think of a few different ideas given time. But when a team tackles a problem, the project benefits from **multiple perspectives, skillsets, and experiences all at once**.

A team approach can therefore lead to faster, deeper innovation.

- **Teammates learn from each other:** Imagine you have a workforce of 10 designers all working in separate rooms. Each designer works to their own strengths and suffers from their own weaknesses, with nobody to teach or learn from.

Now put them all in the same room, on the same project. Working together, they'll soon learn each other's strengths and correct each other's mistakes. And everyone's performance will improve.

- **Teamwork can create healthy competition:** But what happens to that same team of 10 designers a year down the line, when they've learnt all they can from each other? They'll soon start to compete with one another, to **prove their ability and chase promotion** or other incentives within your organization.

Provided the right challenge and rewards are in place to promote competition, team performance can keep improving.

- **Teamwork promotes strong working relationships:** Finally, when employees work together and succeed as a team, they form bonds that can turn into trust and friendship. It's human nature. And it's great for your organization, since employees who like and trust each other are more likely to:

- ✓ Communicate well with each other
- ✓ Support and motivate each other
- ✓ Work cooperatively

Below are the key 15 advantages of teamwork in the workplace.

- **Teamwork Maximizes Involvement:** Good teamwork utilizes everybody's strengths and areas of expertise and distributes workloads and responsibility to all. When individuals are part of a team that values individual contributions, everyone feels

motivated to speak up, participate, and share what they know. On the playing field or in the office, teamwork has practical, psychological, and morale-boosting benefits. Staffs are happier, more motivated, and more likely to contribute. On the playing field or in the office, teamwork has practical, psychological, and morale-boosting benefits. Staffs are happier, more motivated, and more likely to contribute. | Source

- **Shared Information:** Information is shared among the team members, maximizing levels of knowledge and learning for the whole organization. The stronger team members effectively improve the weaker.
- **Problem Solving:** A good team can produce a wide range of possible solutions for each specific problem and then work together to ascertain the most effective one, with collective input and interaction. Individuals will tend to be more limited in the solutions they can conceive.
- **Shared Goals:** Teamwork can give people shared goals to aim for. It also gives individuals an interest in and incentive for encouraging and aiding the other members of the team to achieve those shared goals.
- **The Wisdom of Crowds:** A team often produces more accurate, innovative, and practical solutions to problems than an individual could. This phenomenon has been expressed using terms such as “collective wisdom” or “the wisdom of crowds.” Individually they may all be experts at their jobs, but as a whole, the group's collective knowledge can be larger, deeper, more varied, and more dynamic than any single, individual understanding.
- **Improved Outcomes:** Teamwork in general produces better end results. When teams function effectively, they elicit better-quality performances from individual members of the team, and with so many participants thinking, acting, and working in unison, higher
- **A Sense of Ownership:** Teamwork encourages a wider sense of ownership of the organization's objectives, both collectively and individually, imbuing each team member with a sense of personal responsibility and making everyone feel more enthusiastic about the shared goals.
- **A Sense of Security:** Working on your own can be a lonely experience, one that leaves an individual feeling isolated and wondering if they're doing a good job. Workers are more emotionally positive and better at sharing knowledge and responsibilities when they experience the personal security of being part of an effective team.
- **Greater Risk-Taking:** Individuals are more likely to take risks when they securely belong to an effective team. The support and reassurance they receive from the group

gives them mental freedom to think larger and take more risks. This makes more creative and innovative solutions more likely.

- **Decisions Understood:** By utilizing teamwork, an organization's decision-making process can be much better understood by its members. When group members participate equally in discussions, they all feel ownership for and buy into the decisions made.
- **Greater Aptitude for Complex Problems:** A group can sometimes deal with complicated, difficult, deep, and involved problems more effectively than individuals can. That's because the wider, more diverse range of skill sets and experience can tackle larger and more difficult problems.
- **Faster Resolutions:** By generating multiple solutions in a short period of time and through the effective allocation of human resources, teams can complete tasks and solve problems more quickly than individuals.
- **More Involvement with New Ideas:** New ideas and measures can be more effectively introduced through effective teamwork with the whole organization having a sense of involvement.
- **More Inputs Mean More Creativity:** More people inputting their thoughts means a wider range of ideas and a greater chance of varied, playful, creative, unusual, and innovative solutions.

Self-Check -2	Written Test
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**Directions:** Give short answer for the following questions. Use the Answer sheet provided.

1. List the key reasons why teamwork is so important in the workplace. (3 pts)
2. Write at least 6 advantages of teamwork in the workplace. (5 pts)

**Note:** Satisfactory rating - 4points

Unsatisfactory - below 4 points

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

### Answers

1.

2.

<b>Information Sheet-4</b>	<b>Suggestions to work place practices</b>
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#### **4.1. Suggestions to work place practices**

Making suggestions for improvement can benefit the whole workplace, as well as the environment. How you make a suggestion can affect how successful you are in persuading your team or supervisor to participate.

Making suggestions for improvement is part of your role as a member of a team or work group. If you have thought of something that makes your work easier or reduces the amount of resources used, then you should share it so that other members of the team benefit. Your suggestions may help other people in the team and, in turn, they may also make suggestions that can help you.

##### **4.1.1 How to make suggestions**

How you make suggestions will depend on several things, including the type of suggestion, the nature of your work group, the size of your work group and your supervisor's preferences. In a relaxed, relatively informal work group, it may be appropriate to offer verbal suggestions during team meetings, without prior notice. This may work for simple suggestions, with little or no funding required; for example, suggesting that everyone use a cardboard box at their desk for recycling office paper to make it easier than walking to the recycling bin several times a day.

Written suggestions may be appropriate for more-complex suggestions, which may require either a significant set-up effort or initial funding. In this case, you may develop a short proposal to present to your supervisor. Your proposal may include the objective, background, outline, funding, advantages, risks and recommendations. These are described in detail here.

##### **4.1.2 When to make suggestions for improvements**

Deciding how to present a suggestion will depend on your judgment. For example, think about how your supervisor behaves in team meetings. Do they respond favorably to new ideas? Or are they in a hurry to complete the agenda and finish the meeting? Does your supervisor like time to process an idea before deciding what to do? For complex suggestions or those that may require substantial set-up effort or funding, you should generally try to raise the idea with your supervisor privately, before suggesting it to a group. You may still choose your time carefully; for example, don't make a suggestion if your supervisor seems rushed or

under pressure. Wait until they have time to listen properly and consider the suggestion carefully.

If you have a regular private meeting with your supervisor, this is a good time to discuss suggestions. You may choose to raise it briefly with them and then offer to develop a written proposal that gives full details for their approval. Employees who make well-considered suggestions for improvement and follow them through are considered highly by their supervisors and managers.

## 4.2 Improving resource efficiency

Resource efficiency is often a cheap and fast way to solve problems as reducing waste will reduce the size and cost of any subsequent treatment process and/or disposal costs.

Your business can look forward to:

- increased cost saving
- process efficiency
- improved occupational health and safety management
- enhanced shareholder relations
- Improved reputation.

The hints and tips have been grouped for ease of reference and the broad categories are listed below. They are intended to help you focus on specific areas in your business and guide your subsequent actions.

- Waste assessment
- Improve purchasing
- Improve storage
- Conserve energy
- Conserve water
- Preserve waterways
- Reduce waste
- Reduce risk
- Improve information
- Improve systems
- Reduce odor and air emissions

The main principles of resource efficient circular economy are following:

- More sustainable management of natural resources or creating higher value with less materials;

- Involving companies and consumers in the process of becoming more environmentally friendly;
- Implementation of the „polluter pays” principle;
- Gradual elimination of subsidies that are harmful to the environment;
- Green and innovative public procurement;
- Eco-design and eco-innovation.

#### 4.3. Factors for effectiveness of an organization

- **Save:** save the resource in every possible way and in every possible place considering sustainability and environmental impact.
- **Reuse:** increase recycling of materials and reuse the elements of the product.
- **Substitute:** use instead of primary resources as input alternatives with higher efficiency and lower environmental impact throughout its whole lifecycle, incl. safer chemicals.
- **Reduce:** to meet the needs of people use new business models or products and services with lower input resource.
- **Value:** when we learn to value ecosystem services and natural resources and determine their monetary value, this will mitigate the pressure on the environment.

#### 4.4. Improving energy efficiency

Efficient energy use, sometimes simply called energy efficiency, is the goal to reduce the amount of energy required to provide products and services. For example, insulating a home allows a building to use less heating and cooling energy to achieve and maintain a comfortable temperature.

Improvements in energy efficiency are generally achieved by adopting a more efficient technology or production processor by application of commonly accepted methods to reduce energy losses. Energy efficiency and renewable energy are said to be the twin pillars of sustainable energy policy and are high priorities in the sustainable energy hierarchy. In many countries energy efficiency is also seen to have a national security benefit because it can be used to reduce the level of energy imports from foreign countries and may slow down the rate of energy at which domestic energy resources are depleted.

There are many motivations to improve energy efficiency. Reducing energy use reduces energy costs and may result in a financial cost saving to consumers if the energy savings offset any additional costs of implementing an energy-efficient technology. Reducing energy use is also seen as a solution to the problem of reducing greenhouse gas emissions. We talk a lot about energy efficiency around here. It's one of our core values because we can't reach net zero without it. But what is energy efficiency? What does it even mean?

The following are a group of possible impact of energy efficiency on the populations and on the environment:

- **Health and well-being impacts.** This mainly relates to the public health improvements observed as a result of improved heating and cooling of buildings and air quality from more efficient transport and power generation and less demand for both.
- **Poverty alleviation:** Energy affordability and access. As energy demand and bills are reduced for the poor, these households have the ability to acquire more and better energy services, as well as free up income to spend on satisfying other critical needs. In addition, as utilities (notably in developing countries) improve their supply-side efficiency, they can provide more electricity to more households, thereby supporting increased access initiatives which is often an important stated objective of supply-side energy efficiency activities in developing countries.
- **Increased disposable income.** Across all income levels, when energy efficiency improves, reduced energy bills provide increased disposable income for households, individuals, and enterprises. The effect of increased spending and investment can in turn result in positive macroeconomic effects.
- **Industrial productivity and competitiveness.** Benefits for industrial firms from improvements in energy efficiency improvements include reductions in resource use and pollution, improved production and capacity utilization, and less operating and maintenance, which leads to improved productivity and competitiveness.
- **Energy provider and infrastructure benefits.** Improved energy efficiency can help energy providers provide better energy services for their customers, reducing operating costs and improving profit margins.
- **Increased asset values.** There is evidence that investors are willing to pay a rental and sales premium for property with better energy performance. Some values of this premium have been estimated for commercial property.

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pressure on a scarce resource. Similarly, expanding demand for oil etc., is pushing industry to increasingly challenging contexts for extraction (such as deep off-shore and shale oil extraction), with related incremental investment costs and technological and environmental uncertainties.

- **Development goals.** Improved energy efficiency is important in achieving economic and social goals in developing countries, including improved access to energy services, eradicating poverty, improving environmental sustainability, and economic development.

#### 4.5. Preventing and minimizing risks

Some of the most common health risks associated with workplace hazards include:

- breathing problems;
- skin irritation;
- damage to muscles, bones and joints;
- hearing damage;
- Reduced wellbeing.

The best way to protect yourself and your employees from workplace hazards is to identify and manage them and take reasonable steps to prevent their potential to harm.

In order to control workplace hazards and eliminate or reduce the risk, you should take the following steps:

- identify the hazard by carrying out a workplace risk assessment;
- determine how employees might be at risk;
- evaluate the risks;
- Record and review hazards at least annually, or earlier if something changes.

Efficiently managing work health and safety risks within a workplace means having a systematic approach, which involves five key elements.

##### I. Governance

In regard to work health and safety, governance is the organizational framework, procedures, policies and processes a body employs at a strategic level to manage the performance of its work health and safety duties, functions and operations. As part of its governance role, a PCBU will develop organizational work health and safety policies, define key WHS roles and responsibilities, address consultation obligations and define arrangements for working with Compare. Workplace safety culture also falls within this category.

##### II. Prevention

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### III. Response

#### IV. Managing hazards

## V. Recovery

#### 4.6 Reducing emissions of greenhouse gases

## Smart solutions to reduce emissions

In order to effectively address global warming, we must significantly reduce the amount of heat-trapping emissions we are putting into the atmosphere. The good news is that we have the technology and practical solutions at hand to accomplish it.

As individuals, we can help by taking action to reduce our personal carbon emissions. But to fully address the threat of global warming, we must demand action from our elected leaders to support and implement a comprehensive set of climate solutions:

- Expand the use of renewable energy and transform our energy system to one that is cleaner and less dependent on coal and other fossil fuels.
- Increase vehicle fuel efficiency and support other solutions that reduce oil use.
- Place limits on the amount of carbon that polluters are allowed to emit.
- Build a clean energy economy by investing in efficient energy technologies, industries, and approaches.
- Reduce tropical deforestation and its associated global warming emissions.

Burning fossil fuels such as natural gas, coal, oil and gasoline raises the level of carbon dioxide in the atmosphere, and carbon dioxide is a major contributor to the greenhouse effect and global warming. You can help to reduce the demand for fossil fuels, which in turn reduces global warming, by using energy more wisely.

The following is a list of 10 steps you can take to reduce greenhouse gas emissions:

- Reduce, Reuse, recycle:** Buying products with minimal packaging will help to reduce waste. By recycling half of your household waste, you can save 2,400 pounds of carbon dioxide annually.
- Use less Heat and Air Conditioning:** Adding insulation to your walls and installing weather stripping or caulking around doors and windows can lower your heating costs more than 25 percent, by reducing the amount of energy you need to heat and cool your home. Turn down the heat while you're sleeping at night or away during the day, and keep temperatures moderate at all times. Install a programmable thermostat because setting it just 2 degrees lower in winter and higher in summer could save about 2,000 pounds of carbon dioxide each year.
- Replace Your Light Bulbs:** Wherever practical, replace regular light bulbs with compact florescent light (CFL) bulbs. Replacing just one 60-watt incandescent light bulb with a CFL will save you \$30 over the life of the bulb. CFLs also last 10 times longer than incandescent bulbs, use two-thirds less energy, and give off 70 percent less heat. If every Canadian family replaced one regular light bulb with a CFL, it would eliminate 90 billion pounds of greenhouse gases, the same as taking 7.5 million cars off the road.
- Drive Less and Drive Smart:** Less driving means fewer emissions. Besides saving gasoline, walking and biking are great forms of exercise. Explore the York Region Transit system and check out options for carpooling to work or school.

When you do drive, make sure your car is running efficiently. For example, keeping your tires properly inflated can improve your gas mileage by more than 3 percent. Every gallon of gas you save not only helps your budget, it also keeps 20 pounds of carbon dioxide out of the atmosphere.

- E. Buy Energy-Efficient Products:** Home appliances now come in a range of energy-efficient models, and compact florescent bulbs are designed to provide more natural-looking light while using far less energy than standard light bulbs.
- F. Use Less Hot Water:** Set your water heater at 120 degrees to save energy, and wrap it in an insulating blanket if it is more than 15 years old. Buy low-flow showerheads to save hot water and about 350 pounds of carbon dioxide yearly. Wash your clothes in warm or cold water to reduce your use of hot water and the energy required to produce it. That change alone can save at least 500 pounds of carbon dioxide annually in most households.
- G. Use the "Off" Switch:** Save electricity and reduce global warming by turning off lights when you leave a room, and using only as much light as you need. And remember to turn off your television, stereo and computer when you're not using them. It's also a good idea to turn off the water when you're not using it. While brushing your teeth, shampooing the dog or washing your car, turn off the water until you actually need it for rinsing.
- H. Plant a Tree:** If you have the means to plant a tree, start digging. Trees absorb carbon dioxide and give off oxygen. A single tree will absorb approximately one ton of carbon dioxide during its lifetime.
- I. Get a Report Card from Your Utility Company:** Many utility companies provide free home energy audits to help consumers identify areas in their homes that may not be energy efficient. In addition, many utility companies offer rebate programs to help pay for the cost of energy-efficient upgrades.
- J. Encourage Others to Conserve:** Share information about recycling and energy conservation with your friends, neighbors and co-workers, and take opportunities to encourage public officials to establish programs and policies that are good for the environment.

## 4.7. Reducing use of non-renewable resources

There are two major categories of resources -- namely renewable and non-renewable. As opposed to non-renewable resources, which diminish with their constant use, renewable resources do not. Non-renewable resources, if not managed properly might become non-existent. This is because the rate at which they are used is much higher than the rate at which they are replaced. Renewable resources include water, geothermal energy and wind energy. Non-renewable resources include coal, natural gas and oil

### 4.6.1 Renewable Resources

Trees are one of the most useful renewable natural resources. We use trees to produce almost 8,000 different things, like this cardboard box. Wood is used to make most of these products. Tree wood is in our homes, furniture, paper, and on and on. Tree chemicals are also used to produce things like rayon cloth, food, medicine, and rubber. By-products are things made out of leftovers. For example, when a tree is cut down and sawn up for wood, the leftover sawdust can be used for fuel, making particle board like in the picture, or animal bedding. These are by-products. Another by-product from harvesting trees is bark mulch for gardens.

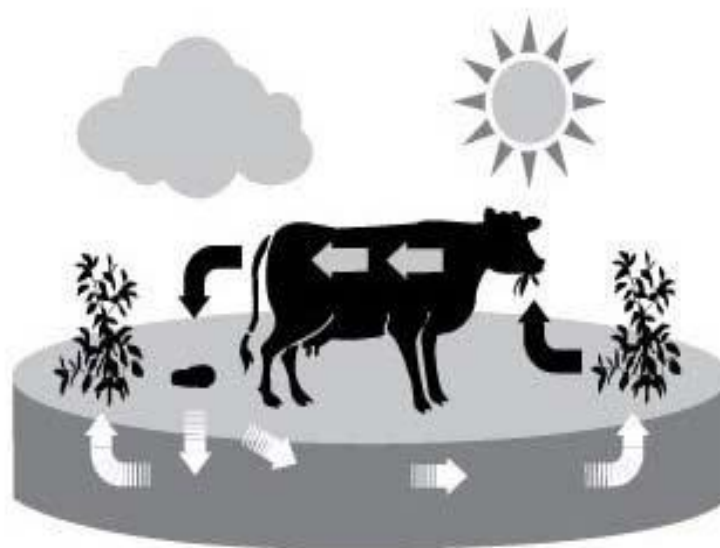


**Figure-4:** Recycling a cardboard box

Air and water are renewable natural resources too. They don't regrow like trees or have babies like animals. But, they are always being renewed. They move in cycles. They go from one place to another, and often back where they started, again and again. This is a good thing, because all living things need air and water to survive. There is one other type of

renewable natural resource. It includes sources of power like sun and wind energy. These are never ending. Finally, remember this: renewable resources can regrow or be replaced within a person's lifespan.

Nutrients are chemicals that living things need. They are renewable natural resources. They move round and round in cycles and never run out. When an animal like this cow eats a plant, it takes in nutrients. The nutrients are used in the animal's body and then many come out as waste, which returns the nutrients to the soil. When the animal dies, nutrients will return to the soil as well. Plants take up the nutrients in the soil and continue the cycle.



**Figure-5:** Nutrients cycle

#### 4.6.2 Nonrenewable natural resources

They are found in the ground. There are fixed amounts of these resources. They are not living things, and they are sometimes hard to find. They don't regrow and they are not replaced or renewed. They include the fossil fuels we burn for energy (natural gas, coal, and oil). Minerals, used for making metals, are also nonrenewable natural resources. Nonrenewable natural resources are things that take longer than a person's lifespan to be replaced. In fact, they can take millions of years to form.

Fossil fuels such as oil, coal, and gas will not last forever. They are nonrenewable. People are trying hard to find new fuels that are clean and will provide the power we need. Wind, solar, and hydrogen power are renewable resources that offer hope for the future.

People use both types of natural resources to produce the things they need or want. Our homes, clothing, plastics, and foods are all made from natural resources. Let's look at each one of these to be sure.

Your home is in a building. Buildings are made out of wood and minerals. Wood is from trees. Minerals are mined from the ground. Bricks, cement, and metals are made from minerals. How about your clothes? Most of your clothing is made from cotton, polyester, or nylon. Cotton comes from cotton plants. Polyester and nylon are made from oil. Plastics are made from oil too. How about your food? People eat grains, fruits, and other parts of plants. You may also enjoy dairy products and meat from animals. Everything we have or use is made from a natural resource. Which of those mentioned here are renewable? Which are nonrenewable?

- Are ears of corn a renewable or nonrenewable resource?
- What about coal? Is it renewable or nonrenewable?
- Are rocks and minerals renewable or nonrenewable resources?
- Is wood a renewable or a nonrenewable resource?

All-natural resources should be used wisely. We must conserve natural resources. Conserve means to not use up, spoil, or waste things. This is especially true for the nonrenewable resources. However, even some renewable natural resources can run out if they are all killed or overused. We must also protect our natural resources from pollution. Pollution occurs when people put harmful chemicals and other things into nature. Oil spilled in water, toxic chemicals in the air, or garbage dumped on the side of the road are examples of this problem.



**Figure-6:** Nonrenewable natural resource

#### 4.6.3 Take care of natural resources

You can reduce, reuse, and recycle! For example, turn off the lights when you are not in a room. This will reduce the use of fossil fuel used to make electricity. Ride your bicycle and walk more, to reduce the amount of gasoline used to transport you. You can reuse things. Things like plastic jugs, jars, paper, and bags can be reused. Each time you reuse something, you conserve the natural resources that would have been used to make new ones.

Finally, you can recycle. Recycle means to reuse a natural resource or product to make something new. It also means to collect and send these things for reuse. Items that can be easily recycled include: glass, some plastics, paper, cardboard, aluminum, and steel. Some plastics and metals are hard to recycle. They are often made from mixtures of materials. Mixtures can be hard to separate. Try to buy and use things that you can recycle.

Where does your garbage go when you throw it away? One place it goes is to a landfill. A landfill is a place made for safely putting garbage. Garbage must stay closed in the landfill so it doesn't pollute the ground, air, or water. Another place that garbage can go is into an incinerator. An incinerator is a large oven that burns garbage down to ashes. The ashes are then put in a landfill. A third place that some types of garbage can go is into a compost pile. A compost pile is made from natural garbage such as food scraps, leaves, and grass clippings. Compost piles help this garbage rot. After it rots, it can be put back on the earth to fertilize plants. The movement of garbage from a home or community to one of these places, like a landfill, is called the waste stream. Natural resources, both renewable and nonrenewable, are important to all of us. We must conserve and carefully use natural resources. Our future depends on them.



**Figure-7: Recycle of natural resources**

Self-Check -4	Written Test
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**Directions:** Choose the best answer for the following questions. Use the Answer sheet provided.

- What can an organization do to become more resource efficient? **(3 pts)**
  - Save the resource
  - Increase recycling of materials and reuse the elements of the product
  - Use alternatives with higher efficiency
  - Meet the need of people lower input resource
  - All
- One of the following is not the impact of energy efficiency on the populations and on the environment.(3 pts)
  - Decreased asset values
  - Increased disposable income
  - Poverty alleviation
  - Health and well-being impacts
  - All
- Which one of the following is the cause to increase greenhouse gas emissions? (3 pts)
 

A. Reduce, Reuse, recycle	C. Deforestation
B. Drive less and drive smart	D. Encourage others to conserve
- One of the following is nonrenewable resource. (3 pts)
 

A. Trees	C. Nutrients
B. Minerals,	D. Air and water

**Note: Satisfactory rating - 6 points**

**Unsatisfactory - below 6 points**

### Answer Sheet

Score = \_\_\_\_\_

Rating: \_\_\_\_\_

- 
- 
- 
-

# IT Has No reference Book List

**TTLM technical quality evaluation and editing and finalizing has done by FTA experts**

No	Name	Level	Region	College	Email	Mobile
1	Mesay Aklilu	B	Oromia	Woliso PTC	Mesayh20@gmail.com	0911923394
2	Kefalew	B	Amhar	BehirDar PTC		
3	Merawi Tekle					
4	Muluken					

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August 8 2020