

HORTICULTURAL CROPS PRODUCTION

Level-III

Learning Guide-81

Unit of Competence: Maintain and monitor environmental work practices

Module Title: Maintaining and monitoring environmental work practices

LG Code: AGR HCP3 M16 LO1-LG-81

TTLM Code: AGR HCP3 TTLM 0120v1

**LO1 Maintain workplace
environmental procedures**

Instruction Sheet	Learning Guide #81
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Recognizing and following workplace procedures and work instructions
- Recognizing relevant legislation, codes and national standards

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 –

- Recognize and follow workplace procedures and work instructions
- Recognize relevant legislation, codes and national standards

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 6.
3. Read the information written in the “Information Sheets 1, and 2”.
4. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
5. Accomplish the “Self-check 1, and 2”.
6. If you earned a satisfactory evaluation from the “Self-check” proceed to next.

Information Sheet-1

**Recognizing and Following Workplace Procedures
and Work Instructions**

Instructions are a very important form of communication in the workplace. Clear and concise instruction before the work starts will help and guide the worker to finish the assigned task within the given period of time. Furthermore, it also reminds the workers about the safety while performing the job.

In the occupation of agriculture especially the horticulture sector, some of the jobs are health risk and also it possesses threat to the environment. There are so many work procedures that can affect our environment. The following are work procedures that can affect the biodiversity of the environment:

1. Land preparation
2. Cultural management of the Crops
3. Control of plant pests, diseases and disorder
4. Planting of few kinds of crops in a large area.
5. Irrigating the field

Land preparation: Most of the soil erosion and destruction of the soil life happens in stage of crop production. Even the biodiversity of the plant species was destroyed to give way for the most important crop that has great economic value for the food production of the human being. But this is very important procedure to have a full protection of the young plant in the field. That is the reason why the horticulturist prefers to employ this method for the food security.

Cultural management of the crops: This also affects the biodiversity of the agricultural ecosystem. Some farmers prefer not to see another kind of plant aside from the main crop because it will compete in all the aspect in the growth and development of the crop. Because there is no other plant present in the field the minor insect pest will become a major pest, and the few species of major pest will be added with another species.

Control of plant pests, diseases and disorder: Using pesticides alone to control the pest is not the right method because it can affect the species diversity; in worst case scenario pest can create resistance to the pesticides. The most affected in using pesticides is the

small species of the insects, because the effectiveness of the poison it depends to the body weight of the target species.

Irrigation: Irrigation is very important in crop production so that the soil nutrients will be absorbed by the plants at the same time it also causes soil erosion if the implementation is not supported or mitigated by some method of soil conservation and sediment control.

To have a balance ecosystem it is important to preserve the biodiversity of the environment. In farming it is not just to produce food for the human being but also we have to consider the different micro organism that is present in the environment as well as the ecology. This principles is the foundation of the natural farming system, even we will practice the mono cropping we should conserve the microorganism in the soil ecosystem and also the organic matter of the soil. There are so many methods in the in farming system which can conserve the ecosystem of the agricultural environment. The following are work procedures that can preserve and maintain the balance of our ecosystem in the farm environment.

1. Prepare organic fertilizer.
2. Soil and water conservation
3. Erosion and sediment control measures
4. Prepare value-added compost-based products

Prepare of organic fertilizer: This procedure is very important in adding the organic materials in the soil. In the event of extensive and intensive crop production some of the organic materials was used by the plants and if these materials will not be replenish in the long run the soil organic materials will be depleted. For the continuous use of the land, the possible scenario that will happen, only the rocks and stone will be remaining in the field. Organic fertilizer added with commercial fertilizer is the best soil fertilization practices. The farmer's should not be dependent to the commercial fertilizer they should adopt the organic fertilizer should that the organic matter in the soil shall be maintained and for the continuous use for a long period it can increase the fertility of the soil even the farmers practiced the extensive and intensive crop production.

Soil and water conservation: It is very important especially in a place where rain fall is seasonal. There should be a small impounding or water reservoir within the farm area. Water



reservoir will also serve as a catchment basin for the eroded soil and also a source of water for the farm operation. Soil conservation is important to preserve and minimize the soil erosion and prolong the usage of the land for food production. At this time there are so many technologies that can be utilized for soil conservation, like filing stones along the contour lines of the hill, or simply adopting the Hilly agricultural land technology. This technology can conserve soil in the sloping agricultural areas.

Soil Erosion and sediment control measures: This procedure is related to the soil conservation. In this procedure it involves the monitoring and applying the control measures in minimizing the soil erosion. Soil erosion is very common in the hilly areas especially if there is always rain fall. According to the soil conservation expert, “the best way to preserve the soil is to cover it all year round”. It means that there should be vegetation in the soil all year round because the plant residues can help to increase or make it balance the organic matter of the soil and also it has enhance the life system of the microorganism that helps maintain the fertility of the soil.

Prepare value-added compost-based products: Value-added compost based products is very important for the media of a potted plants. In the potted plants it needs an intensive supply of organic matter to support the growth and development of the plants. This is also the combination of the compost and the commercial fertilizer to increase its advantages and nutrients to be supplied to the plants.



Self-Check 1	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below.

1. Define work instructions and procedures. (5pts).
2. What are factors affecting ecosystem of the environments? (10pts).
3. What are factors balancing ecosystem of the environments? (10pts)

Note: Satisfactory rating - 25 points and above Unsatisfactory - below 25 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-2	Recognizing Relevant Legislation, Codes and National Standards
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The constitution of Federal Democratic Republic of Ethiopia Article 42 Rights of Labour

1. (a) Factory and service workers, farmers, farm labourers, other rural workers and government employees whose work compatibility allows for it and who are below a certain level of responsibility, have the right to form associations to improve their conditions of employment and economic well-being. This right includes the right to form trade unions and other associations to bargain collectively with employers or other organizations that affect their interest.
 - (b) Categories of persons referred to in paragraph (a) of this article have the right to express grievances, including the right to strike.
 - (c) Government employees who enjoy the rights provided under paragraphs (a) and (b) of this sub-Article shall be determined by law.
 - (d) Women workers have the right to equal pay for equal work.
2. Workers have the right to reasonable limitation of working hours, to rest, to leisure, periodic leaves with pay, to remuneration for public holidays as well as healthy and safe work environment.
 3. Without prejudice to the rights recognized under sub Article 1 of this Article , laws enacted for the implementation of such rights shall establish procedures for the collective bargaining process.

Ethiopian Environment Policy

The objectives of the Environment Policy in particularly are aimed at:

- i. ensuring that essential ecological process and life support system are sustained, biological diversity is preserved and renewable natural resources are used.
- ii. Improving the environment of human settlement to satisfy the needs of their inhabitants on a sustainable basis.
- iii. Preventing the pollution of earth, air, and water.
- iv. Ensuring the participation of the people at all levels in environmental management activities; and

- v. Raising public awareness on environmental issues.

Government institutions in shaping and administration of environmental law and policy:

1. **National Radiation Protection Authority (NRPA)** is a newly established autonomus organization accountable to the Ethiopian Science and Technology Commission, which renders radiation protection services.
2. **Institute of Biodiversity Conservation and Research (IBCR)** is responsible for the management, conservation and research of the flora, fauna, and microbial organisms' genetic resources of Ethiopia. It particularly initiates biodiversity policy, legislation, and collect samples for ex-situ conservation.
3. **Ministry of Agriculture** prepares policy and strategies for land use, soils. Landscape as well as conservation, utilization of forest, wildlife, and other natural resources. It also ensures quarantine control on plants, seeds, animal products brought into or taken out of the country.
4. **Environment Protection Authority (EPA)** is responsible for the administration of environmental protection at the federal level and deals exclusively with environment matters. Its task includes the administration of the main environmental issues such as environmental pollution control and environmental impact assessment. It also formulates national environment policy and strategies in consultation with competent agencies. Furthermore, it is also responsible to coordinate actions of other government bodies to ensure the implementation of basic environmental rights provided under 1995 FDRE Constitution and principles set out in the environmental policy of the country.
5. **Environmental Council, which** was re-established upon the enactment of the draft law on **Institutional Arrangement for environmental Protection Proclamation (IAEP)** to ensure integration and harmony of environmental concerns with development policies, strategies and plans. The member institutions are statutorily identified considering their role and relevance to the management of the environmental sector of Ethiopia.

Sources of environmental law in Ethiopia

1. The 1952 Penal Code of the Empire of Ethiopia
2. The 1960 Civil Code of the Empire of Ethiopia

3. The 1995 Constitution of Federal democratic Republic of Ethiopia
4. Environmental Policy of FDRE April 1997
5. Proclamation No. 9/1995 (EPA establishment proclamation)
6. Proclamation No. 79/1993 (Radiation Protection Proclamation)
7. Proclamation No. 120/1998 Institute of Biodiversity Conservation and Research Establishment Proclamation
8. Proclamation No. 94/1994 Forestry Conservation, Development and Utilization Proclamation.

Ethiopia Labour Proclamation No. 377/2003

- I. The definition of contract of employment
 - Agreement: agreement is the basis for employment relation and this automatically excludes forced labor from the ambit of employment relations. Hence a person cannot be compelled to enter into an employment relation.
 - Personal performance of work: the employee is committing him/her/self to render personal service for the benefit of the employer. The employee, as of right, cannot delegate third parties to perform the job in his/her behalf.
 - Duration of employment: a contract of employment could be entered into either for definite period (for six months, for one year etc), or for indefinite period (i.e. for the life of the company), or for a specific assignment (to unload sacks of grain from a truck). However, the Ethiopian Labor law clearly stipulates, in article 9 of the proclamation, any contract of employment shall be deemed to have been concluded for an indefinite period except for the cases provided under Article 10 of the proclamation. The cases where contract of employment for definite period is allowed are the following:
 - the performance of specified piece work for which the employee is employed;
 - the replacement of a worker who is temporarily absent due to leave or sickness or other causes;
 - the performance of work in the event of abnormal pressure of work;
 - the performance of urgent work to prevent damage or disaster to life or property, to repair defects or break downs in works, materials, buildings or plant of the undertaking;

- an irregular work which relates to permanent part of the work of an employer but performed on irregular intervals;
 - seasonal works which relate to the permanent part of the works of an employer but performed only for a specified period of the year but which are regularly repeated in the course of the years;
 - an occasional work which does not form part of the permanent activity of the employer but which is done intermittently;
 - the temporary placement of a worker who has suddenly and permanently vacated from a post having a contract of an indefinite period;
 - the temporary placement of a worker to fill a vacant position in the period between the study of the organizational structure and its implementation.
- Wage: The employer will be expected and required to pay wage to the employee. Hence employment relation is not a pro bono service. On the contrary, it is a service in return for wages. The mode of payment for wage could be in cash or in kind though ordinarily payment is effected through cash. As regards to the interval of payment, it could be in daily, weekly, bi-monthly, monthly etc.

II. Non Ethiopian employees

Article 174 of Proclamation Number 377/2003-As a requirement, for a foreigner to be lawfully employed in Ethiopia, he/she needs to possess double permits – Residence Permit & Work Permit. The power to issue Residence Permit is vested on the Security, Immigration and Refugee Affairs Authority; Work Permit is to be issued by the Ministry of Labour and Social Affairs.

III. Legally stipulated minimum working conditions

- Employment security: Article 13 of Proclamation Number 377/2003-Employees are at liberty to terminate the job with or without any cause, provided that they produce prior notice.
- Normal Working hours: Article 61(1) of Proclamation Number 377/2003-normal hours of work shall not exceed eight hours a day or forty eight hours a week”
- Overtime Work: Article 66 & 67 of Proclamation Number 377/2003-overtime work is in principle prohibited. It is only in cases where exceptional circumstances expressly stated by law have occurred that overtime work is allowed. Over-time

may be worked whenever the employer cannot be expected to resort to other measures and only where there is accident, actual or threatened or force-majeure or urgent work or Substitution of absent workers assigned on work that runs continuously without interruption.

- Annual Leave: Article 77 of the Labor proclamation- Provides that 14 working days as an initial leave for the first year of service, and one additional working day for every additional year of service with no maximum limit. Nevertheless, additional annual leave with pay, for workers engaged in a work which is particularly arduous or the condition in which it is done is unhealthy, may be fixed in a collective agreement.
- Safe and Healthy working conditions: Article 92 of the Labor Proclamation- The employer is required to provide safety equipments and train how and when to make use of them. Article 93 of the Proclamation- The employee has also a corresponding duty to make use of the protective tools appropriately.
- Employment Injuries: Article 95 (2) of the Proclamation-Employment injuries could be occupational accident or occupational disease.

Article 97 of the Labor Proclamation-The employee may incur occupational accident, organic injury or functional disorder, in the following instances:

- while carrying out the employer's order at a place and time of work;
- while at the place of work before or after his work or during tea or lunch breaks;
- while the employee is proceeding tool or from place of work in a transport service provided by the employer

Article 98 of the Labor Proclamation-Occupational disease is any pathological condition whether caused by physical, chemical or biological agents which rise as a consequence of:

- the type of work performed by the employee or
- the surroundings in which the employee is obliged to work.
- Strict Liability of the Employer: Article 96 of the Labor Proclamation-The employer will be held liable, irrespective of fault, for employment injuries sustained by his/her worker.

IV. Employment Dispute Settlement Mechanisms

Labor disputes are either individual or collective.

Article 138 of the Labor Proclamation- The following could be taken as Individual Labor Disputes:

- Disciplinary measures including dismissal;
- Claims related to the termination or cancellation of employment contracts;
- Questions related to hours of work, remuneration, leave and rest day;
- Questions related to the issuance of certificate of employment and release;
- Claims related to employment injury;
- Criminal and Petty offences not otherwise stipulated in the proclamation.

Article 142 of the labor Proclamation-the following could be Collective Labor Disputes:

- Wages and other benefits;
- Establishment of new conditions of work:
- The conclusion, amendment, duration and invalidation of collective agreements:
- The interpretation of any provisions of the Labor Proclamation, collective agreements or work rules;
- Procedure of employment and promotion of workers;
- Matters affecting the workers in general and the existence of the undertaking;
- Claims related to measures taken by the employer regarding promotion, transfer and training.
- Claims relating to the reduction of workers.

Individual labor disputes are within the competence of the labor divisions of the ordinary Woreda court while the collective ones are within the power of the Labour Relation Boards. Boards are composed of representatives of the employers' and employees associations in addition to the appointees of the government.

Articles 137-139 of the Labor proclamation-Labour divisions are also established at the Regional Level. Accordingly, the States' First Instance Courts (Woreda Courts) have the jurisdiction to entertain labor disputes.

Arbitration under the labour proclamation

The Labor Proclamation, Art.143;

(1) Notwithstanding the provisions of article 141 of this proclamation parties to a dispute may agree to submit their case to arbitrators or conciliators, other than the Minister for settlement in accordance with the appropriate law.

(2) If the disputing parties fail to reach an agreement on the case submitted to arbitration or conciliation under Sub-article (1) of this Article the party aggrieved may take the case to the Board or to the appropriate court.

V. Termination

Grounds of Termination

- Termination by law (Article 24 of the Labor proclamation)
- Termination by the agreement of the parties (Article 25 of the labor proclamation)
- Termination by the initiation of the employer-(dismissal)-(Article 27, 28, 29 & 30 of the labor Proclamation)
 - Without notice (Article 27 of the Labor Proclamation):The grounds for termination without notice as defined in Article 27 (1) a) to k):
 - repeated and unjustified tardiness despite warning to that effect;
 - absence from work without good cause;
 - deceitful or fraudulent conduct;
 - misappropriation of the property or fund of the employer;
 - returning output which, despite the potential of the worker, is persistently below the quality stipulated;
 - responsibility for brawls or quarrels at the work place;
 - conviction for an offence where such conviction renders him or her unsuitable for the post;
 - responsibility for causing damage intentionally or through gross negligence;
 - commission of any of the unlawful activities defined in Article 14, such as reporting for work in a state of intoxication, refusal to be medically examined (except for HIV/AIDS test) or to observe Occupation Safety and Health prevention rules;
 - absence from work due to a sentence of imprisonment for more than 30 days;
 - offences stipulated in a collective agreement as grounds for termination without notice.

- With notice (Article 28 of the labor proclamation)
- Group termination (Articles 29&30 of the labor proclamation)
- Termination by the initiation of the employee-(Articles.31, 32 of the Labor Proclamation)
 - With notice/ordinary resignation (Article 31 of the labor proclamation)
 - Without notice (Article 32 of the Labor proclamation)

Effects of lawful termination

- Provision of Certificate of Service to the employee - Article 12 (7) of the Labor Proclamation.
- Payment instead of unutilized annual leave: in principle it is prohibited to convert annual leave into cash. (Article 76(2) of the Labor Proclamation). However, if the contract of employment is terminated prior to the utilization of the annual leave, the employee is entitled to his pay for the leave he has not taken. (Article 77 (5) of the Labor Proclamation).

Severance payment - (Article 39 of the Labor Proclamation and Art.2 (2) of Proc. No.494/2006): severance payment is available to employees whose contract of employment is terminated on specified grounds:

- Where his contract of employment is terminated because the undertaking ceases operation permanently due to bankruptcy or for any other reason.
- Where his contract of Employment is terminated by the initiation of the employer against the provision of law.
- Where he is reduced as per the condition described under this proclamation.
- Where he terminate his contract because his employer did things which hurts the workers human honor and moral or the thing done by the employer is deemed as an offence under the penal code.

Compensation- Employees whose contract of employment have been terminated due to the permanent cessation of operation of the undertaking because of bankruptcy or any other cause (Article 24 (4)), due to lay off (Article 29 of the Labor proclamation), or employees who resigned on an extra ordinary procedure (Article 32 of the Labor proclamation) are beneficiaries of compensation.

Effects of Unlawful Termination

Reinstatement (Article 26(2) & 43 (1) of the Labor Proclamation): Where a contract of employment is terminated because of those grounds mentioned under sub article (2) of Article 26 of proclamation no. 377/2003, the employer shall be obliged to reinstate the worker, provided, that the worker shall have the right to payment of compensation if he wishes to leave his employment. Or where a worker's contract of employment is terminated contrary to the provisions of Articles 24, 25, 27, 28 and 29 of this Proclamation, the labor dispute settlement tribunal may order the reinstatement of the worker or the payment of compensation.

Compensation together with severance payment (Article 43 (2), (3) (4) & 39 (1) (b)): the labor dispute settlement tribunal may order the dismissal of the worker upon payment of compensation even if the worker demands re-instatement where it believes that the continuation or severance pay of the particular worker employer relations, by its nature is likely to give rise to serious difficulties.

Fine (Article 14 (1) (C) & 184 (2) (C)) of the Labor Proclamation): If the employers terminates the job unlawfully, he/she shall be liable to a fine not exceeding Birr 1200 (Birr one thousand and two hundreds).

Labour (Amendment) Proclamation No.494-2006

Establishment of Ethiopian standard agency Proclamation No. 193-2010

Objectives

- a. To develop Ethiopian standards and establish a system that enable to check weather goods and services are in compliance with the required standards;
- b. to facilitate the country's technology transfer through the use of standards;
- c. to develop national standards for local products and services so as to make them competitive in the international market.

Powers and Duties

- a. develop, implement and follow up standardization strategy for the purpose of quality promotion activities which are in line with the country's developmental programs;
- b. develops, through stakeholders involvement, approve and publicize Ethiopian standards;

- c. recognize any standard published by a national, regional, international or any other standardization body as Ethiopian standard, as may be relevant;
- d. establish national technical committees for the purpose of developing Ethiopian standards and determine their working guidelines;
- e. determine the shape and content of the national standard mark and authorize its use;
- f. establish national enquiry point and deliver services on standardization, conformity assessment guidelines and technical regulations;
- g. develop and implement awareness creation strategies for consumers on quality and standards;
- h. enable domestic industries to benefit from technology transfers through providing technical support, training and consultancy services in the implementation of standards;
- i. build the capability of companies through technical support, training and consultancy services for developing their own company standards;
- j. promote the use of technologies, in the industries, which help to reduce pollution and wastage during production process;
- k. work in collaboration with the concerned national and international institutions to ensure that technical regulations are developed in line with world trade legal requirements;
- l. undertake studies for the establishment of national quality award system and administer same upon approval;
- m. represent the country's interest in international forums regarding standards and follow up the implementation of treaties to which Ethiopia is a party;
- n. work in cooperation with the relevant stakeholders to ensure the existence of an integrated support for strengthening the national quality infrastructure; undertake research on the development, application and impacts of standards and related issues;
- o. charge fees for the services it renders in accordance with the rate determined by the government;
- p. own property, enter into contracts, sue and be sued in its own name; carry out other related activities necessary for the attainment of its objectives .

Self-Check -2

Written Test

Name: _____

Date: _____

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is the constitutional basis of the Labor rights? (5 points).
2. What are the objectives of the Environment Policy? (5 points).
3. What are the sources of environmental law in Ethiopia? (5 points).
4. What are the grounds of termination from the work? (5 points).
5. What is the purpose of Ethiopian standard agency? (5 points).
6. What are the purposes in establishing Sugar Corporation? (5 points).
7. What are the farm operation procedures that can affect our environment? (5 points).
8. What are the farm operation procedures that can help the preserve and protect our environment? (5 points).

Note: Satisfactory rating - 40 points

Unsatisfactory - below 40 points

You can ask you teacher for the copy of the correct answers.

1.

Referances

1. <http://www.deh.gov.au/settlements/industry/corporate/eecp/casestudies/cascade-brewery.htm>.
2. Downing, T. E., Butterfield, R. E. Edmonds, B., Knox, J. W., Moss, S., Piper, B. S. and Weatherhead, E. K. (2003). Climate Change and the demand for Water, Research Report, Stockholm Environment Institute Oxford Office, Oxford.
3. European Environment Agency (2005) Household consumption and the environment, European Environment Agency, Denmark
4. House of Commons Environment, Food and Rural Affairs Committee (CEFRAC). Reform of the Sugar Regime. 12 th Report of Session 2003-2004 Vol 1.

HORTICULTURAL CROPS PRODUCTION

Level-III

Learning Guide-82

**Unit of Competence: Maintain and monitor
environmental work practices**

**Module Title: Maintaining and monitoring
environmental work practices**

LG Code: AGR HCP3 M16 LO1-LG-82

TTLM Code: AGR HCP3 TTLM 0120v1

**LO2: Recognize and report on
potential environmental threats**

Instruction Sheet

Learning Guide #82

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

- Identifying and reporting environmental risks and hazards
- Recording location and extent of environmental threat
- Completing reports on environmental threat

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 and report environmental risks and hazards
- Record location and extent of environmental threat
- Complete reports on environmental threat

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 6.
3. Read the information written in the “Information Sheets 1, and 2”.
4. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
5. Accomplish the “Self-check 1, and 2”.
6. If you earned a satisfactory evaluation from the “Self-check” proceed to next.

Information Sheet-1	Identifying and Reporting Environmental Risks and Hazards
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1.1 Types of environmental hazards

a. Biological Hazards

Of the entire environmental hazards humans encounter, the most formidable adversaries remain the microorganisms – viruses, bacteria, protozoa, and helminths (parasitic worms.) Up to 17 million deaths per year are attributable to these infectious and parasitic agents, almost all in the developing world, along with hundreds of millions of cases of sickness. Indeed, the history of humankind has been a struggle between humans and microbes. Years of concerted efforts have revealed that while it is very difficult to eradicate microbial threats, it is possible to live in balance with them. However, human activities that change the environment and disrupt natural ecosystems can tip the scales in favor of the microbes.

b. Chemical Hazards

Exposure to chemical agents in the environment – in air, water, food, and soil – has been implicated in numerous adverse effects, from cancer to lung disease to brain damage to birth defects. Some evidence is ironclad; some is suggestive at best. Although the acute effects such as poisonings are the best understood, it seems clear that hazardous pollutants contribute to the large and growing toll of chronic conditions, such as cancers and heart disease. Chemical pollutants can also play a role in infectious diseases, perhaps by rendering the body less able to ward off infections. The exact magnitude of the risk they pose, however, is difficult to quantify. This has fueled an intense debate over what constitutes safe use and disposal of toxic substances. This debate has occurred mostly in the affluent countries but is increasingly occurring in the developing world as well.

c. Natural disaster

Any event of nature that takes human lives or destroys property, common examples are;

- ❖ Dangerous weather condition
- ❖ Floods
- ❖ Earthquakes
- ❖ Fires

- ❖ Lack of rain that cause for prolong drought
- ❖ Volcanic eruption
- ❖ Outbreaks of disease

d. Human caused disaster

The disaster that was made by the human being or caused by the negligence like the terrorism, war, mining, chemical spill and more.

The following are the list of possible natural/environmental/human hazards and threats that can cause disruption in the workplace:

Type of Hazard or Threat	Frequency (years)			Population Impact			Property impact		
	1	5	10	Low	Med	High	Low	Med	High
Animal control (wild animal)									
Animal control (domestic)									
Biological (micro organism caused disease)									
Chemical (agri pesticides)									
Civil disorder									
Drought									
Fire (building)									
Flooding (heavy rain)									
Hail Storm (rain of ice)									
Insect pest outbreak									
Landslide (rain enduced)									
Lightning									
Mining/Quarry									
Terrorism									
Volcanic explosion									
Wildland Fire (bushfire)									
Wind (>50 mph)									

1.2 Signs & symptoms of environmental threat

a. Biological Hazards

- ✚ **Outbreaks of the diseases and insect pest.** Most in the event of the outbreak the spores of the plant pathogen is also abundant. Even it is not contagious to the human being but it might cause secondary infection to the human being. This is the reason why it is very important to have a face mask.
- ✚ **Stunted growth of the crops caused by pathogen.** This is the symptoms of the plant but it also indicates that there is a high population of the microorganism that

might cause respiratory disease to the human populace because they are allergic to the spores of the pathogen.

- ✚ **Untimely death of the crops.** Die back cause by microorganism or other vascular disease of the plant can pose as a biological threat. This will lead to the low productivity of the food supply and food shortage.
- ✚ **Outbreaks of the animal disease.** This phenomenon pose great danger to the human being because some of the animal disease is contagious to the human being and also it will affect the food supply.

b. Chemical

- ✚ **Shows signs and symptoms of the toxicity caused by the chemical.** Agricultural workers are very prone to the exposure of the toxic chemicals used in the agriculture industry. The immediate effect can be observed in the environment. But the long term effect can cause blindness, impotency or paralysis of the body.
- ✚ **Symptoms of poisoning.** The sign of poisoning can be seen after the victim taken poison. It is seldom happened but it might happen if the chemicals will not be properly stored. But this will occur especially it has a strong dermal effect. Like the chlorinated hydrocarbons they are still lethal even in the dermal exposure.

c. Natural Disaster

- ✚ Heavy rain/storm - Weather forecast
- ✚ Landslide - Lose profile of the soil and rock

d. Human caused disaster

- ✚ By monitoring in the news through mass media or other method of obtaining news.
- ✚ By the network of the people in the area who are knowledgeable about the peace and order.

Self-Check 1	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below.

1. What are the different types of biological hazards? (4 points).
2. What are the examples of the natural disasters? (4 points).
3. How does the human can be a caused of disaster? (4 points).

Note: Satisfactory rating - 16 points and above Unsatisfactory - below 16 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-2	Recording Location and Extent of Environmental Threat
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The worker should be observant especially in the hazards area, to minimize the accidents in the work place. It is very important that you have always a record book so that you can record the important event in the work place like the potential environmental threat. For the fire hazards area like the situation of the Tigray region it is prone to the fire in the field or bushes because the rainy season was only less than 3 months per year. It is very important to give warnings to the community not to make a fire near the bushes to prevent the fire.

If the potential environment threats are identified, it might be natural or human caused, the concerned authority can give an early warning to the workers to be cautious to the area. With the proper warnings the workers are aware to the possible hazards in the work place. The workers can prepared their selves about the anticipated threats. They can prepare the appropriate protective equipment, which is very important in every workplace.

Proper recording of the events and used it as the benchmark for the prevention can helps the management in the preparation for the next disaster. Although we cannot predict the right time when it happened but it is important to be prepared for the worst. The environmental record of the potential environmental threat has to show the extent of pollution, degradation and threat that has occurred on the environment.

The record should also address corporations, institutions, and other organizations having notable environmental impact, as well as for individuals whose activity has notable environmental impact.

How to write an Environmental record section

- 1. Section title:** Environmental record should be a top-level heading: Environmental record
- 2. Placement:** try to place the section after the most important sections (those that directly describe the article subject), but before e.g. "criticism" or "trivia" sections (and before all other sections that describe what has been said or done about the subject of the article).
- 3. Length:** a good environmental record section should cite at least three reliable sources. See "resources" section below. The section should be at least 150 words, and it should



make at least three main points about the environmental record of its subject. Without three main points, it is not long enough to stand on its own as a section.

4. **Content:** transfer all relevant information from the resources below. The Environmental Record Task Force aims to represent all major aspects of a given corporation, organization, or policymaker's impact on the environment, whether that impact has been positive or negative.
5. **Citation:** don't forget to cite the source for each fact you use. Make sure the citation is or directly after the sentence in which the fact is stated. Citations should be in footnote form.



Self-Check 2	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below.

5. How would you report the potential environmental threat? (5 points).
6. How to write an environmental record section? (5 points).

Note: Satisfactory rating - 10 points and above Unsatisfactory - below 10 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-3

Completing Reports on Environmental Threat

A report on environmental threat can be presented verbally (face-to-face or through communication equipment) and in writing (notes, faxes, email or electronic messages) and should include at least the following threats:

- Threats to humans: health, food and water, shelter, recreation, hindrance, social cohesion, wealth.
- threats to atmosphere and water cycle: climate change, sea level rise, atmospheric pollution,
- threats to land and soil: water, exploitation, soil erosion, species diversity,
- threats to the sea: exploitation, soil erosion, habitat loss, nutrient discharge.

Self-Check 3	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below.

1. How environmental threats can be reported? (5 points).
2. What points should be included with in report? (5 points).

Note: Satisfactory rating - 10 points and above Unsatisfactory - below 10 points

You can ask your teacher for the copy of the correct answers.

Referances

1. <http://www.deh.gov.au/settlements/industry/corporate/eecp/casestudies/cascade-brewery.htm>.
2. Downing, T. E., Butterfield, R. E. Edmonds, B., Knox, J. W., Moss, S., Piper, B. S. and Weatherhead, E. K. (2003). Climate Change and the demand for Water, Research Report, Stockholm Environment Institute Oxford Office, Oxford.
3. European Environment Agency (2005) Household consumption and the environment, European Environment Agency, Denmark
4. House of Commons Environment, Food and Rural Affairs Committee (CEFRAC). Reform of the Sugar Regime. 12 th Report of Session 2003-2004 Vol 1.

HORTICULTURAL CROPS PRODUCTION

Level-III

Learning Guide-83

Unit of Competence: Maintain and monitor environmental work practices

Module Title: Maintaining and monitoring environmental work practices

LG Code: AGR HCP3 M16 LO1-LG-83

TTLM Code: AGR HCP3 TTLM 0120v1

LO3: Support continuous improvement of environmental work practices

Instruction Sheet

Learning Guide #83

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

- Gathering Information and suggesting improvements
- Discussing environmental issues
- Responding changes to environmental practices
- Informing individuals/teams
- Identifying environmental training needs

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 –

- Gather information and suggesting improvements
- Discuss environmental issues
- Respond changes to environmental practices
- Inform individuals/teams
- Identify environmental training needs

Learning Instructions:

- Read the specific objectives of this Learning Guide.
- Follow the instructions described in number 3 to 6.
- Read the information written in the “Information Sheets 1, 2, 3, 4 and 5 ”.
- Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
- Accomplish the “Self-check 1, 2, 3, 4 and 5”.
- If you earned a satisfactory evaluation from the “Self-check” proceed to next.

Information Sheet-1

Gather Information and Suggesting Improvements

A. **Scale** - is a set of numerical values assigned to subjects, objects, or behaviors for the purpose of quantifying the measuring qualities. Scales are used to measure attitudes, values, and interests. They measure the degree to which an individual possesses the characteristic of interest.

- Used as a measuring instrument.
- Used to indicate a measuring instrument.
- Used to indicate the systematized numerals of the measuring instrument. Tests are scales, but scales are not tests.

B. **Direct Observation:** is a measuring instrument used to measure the untoward behavior of the environment? Like the climate change, there is no scientific research conducted to determine the changes of the climate it just a n observation what are the changes to our climate, like the rainy season and the temperature of the environment. In

Systematic Direct Observation

- Selecting the aspect of behavior to be observed. An observer cannot notice everything that happens. Select first the behavior upon which the investigator wishes to focus.
- Defining the behavior that fall within a category. Know in advance what will or will not be classified as aggressive behavior, problem-solving behavior or any other classification of interest.
- Training observers. Observers must be trained for uniformity of interpretation and standard application of the observation categories.
- Quantifying observations. An observation system must include a standard method for counting behaviors.
- Developing procedures to facilitate recording. Procedures to facilitate recording must be developed to avoid errors of selectivity of memory. A useful technique is to develop a coding plan that enables observers to record their observations with a single letter or digit rather than in narrative form.

C. **Semantic differential**

The semantic differential (SD) is a method of observing and measuring the psychological meaning of words, usually concepts. An actual SD consists of a number of scales, each of which is a bipolar adjective pair. The bipolar adjectives are usually seven-point rating scales. Each scale measures one or two of the basic dimensions or factors that Osgood and his colleagues have found to be behind the scales: Evaluative, Potency, Activity.

Evaluative scales include pairs such as good-bad, bitter-sweet, large-small, and dirty-clean. A second cluster has adjectives that seem to share strength or **potency** ideas (strong-weak, rugged-delicate). A third scale is called **activity** because its adjectives seem to express motion and action (fast-slow, hot-cold).

The first step in construction and use of SD is to choose the concepts or other stimuli to be rated with bipolar adjectives. The researcher needs to choose a number of concepts that are relevant to the research problem. A sample of concepts must be judiciously chosen to represent some part of the semantic space. The second step is to select appropriate scales or adjective pairs. Two main criterion determine the selection including factor representatives and relevance to the concept used.

- ✚ It is a combination of the usual types of rating scales with factor analysis.
- ✚ The technique is extremely flexible and simple to construct, administer, and score.
- ✚ The semantic differential is subject to all of the limitation of rating scales, the possibilities of faking responses, acquiescing (tendency to place marks in the middle position), and having to mark a concept on a meaningless scale (is honesty more purple or green?).
- ✚ Validity and reliability of semantic differential scales are generally satisfactory. The validity studies show correlation coefficients of approximately .80 between the semantic differential ratings and Thurstone, Likert, and Guttman scales. The test-retest reliability of the semantic differential is reported to be about .90.
- ✚ The semantic differential is a useful technique for measuring attitudes toward objects.

D. **Conference** – is a face-to-face discussion of a topic of interest. One of the drawbacks to this method of data gathering is the influence of personalities as a strong factor in determining consensus.

- ✚ Experts are brought together at a common site.
- ✚ The group brainstorms to generate as many ideas on the problem as possible. The only rule regarding this step is that there are no negative reactions to any suggestions.
- ✚ The experts then evaluate and rate the suggestions.
- ✚ The most popular responses are determined, and an arbitrary number are chosen based on natural breaks or logic.
- ✚ Finally, the group discusses the strengths and weaknesses of the top suggestions and ranks the final choices.

E. **Sampling** – this is the common method used especially determining the area that is prone for the landslide. The researcher will get samples of the soil then analyzed it in the laboratory to determine the exact composition and compactness of the soil. For the soil profile you can determine it referring to the soil profile chart if it is available or take a picture of the soil profile and consult the expert to have a correct analysis. This is also used to determine the different microorganism present in the certain environment which is beneficial for the crop production.

- Random – this is the common sampling method to get representative of the target area or population. The more the sample representative the more accurate the result.

Self-Check -1	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. How information can be gathered?(5 points).
2. Describe each information gathering methods? (10 points).
3. How does random sampling done?(5 points).

Note: Satisfactory rating - 20 points and above Unsatisfactory - below 20 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-2

Discussing Environmental Issues

A. Pesticides Residues. Pesticides are often considered a quick, easy, and inexpensive solution for controlling weeds and insect pests in urban landscapes. However, pesticide use comes at a significant cost. In a country that used it extensively pesticides have contaminated almost every part of our environment. Pesticide residues are found in soil and air, and in surface and ground water across the countries, and urban pesticide uses contribute to the problem. Pesticide contamination poses significant risks to the environment and non-target organisms ranging from beneficial soil microorganisms, to insects, plants, fish, and birds. Contrary to common misconceptions, even herbicides can cause harm to the environment. In fact, weed killers can be especially problematic because they are used in relatively large volumes. The best way to reduce pesticide contamination (and the harm it causes) in our environment is for all of us to do our part to use safer, non-chemical pest control (including weed control) methods.

The exercise of analyzing the range and nature of benefits arising from pesticide use has been a mixture of searching, dreaming and distillation. There have been blind alleys, but also positive surprises. The general picture is as we suspected: there is publicity, ideological kudos and scientific opportunity associated with 'knocking' pesticides, while praising them brings accusations of vested interests. This is reflected in the imbalance in the number of published scientific papers, reports, newspaper articles and websites against and for pesticides. The color coding for types of benefit, economic, social or environmental, reveals the fact that at community level, most of the benefits are social, with some compelling economic benefits. At national level, the benefits are principally economic, with some social benefits and one or two issues of environmental benefits. It is only at global level that the environmental benefits really come into play.

There is a need to convey the message that prevention of adverse health effects and promotion of health are profitable investments for employers and employees as a support to a sustainable development of economics. To sum up, based on our limited knowledge of direct and/or inferential information, the domain of pesticides illustrates a certain ambiguity in situations in which people are undergoing life-long exposure. There is thus

every reason to develop health education packages based on knowledge, aptitude and practices and to disseminate them within the community in order to minimize human exposure to pesticides.

B. Pesticide resistance is the sorting of pest population targeted by a pesticide resulting in decreased susceptibility to that chemical. In other words, pests develop a resistance to a chemical through natural selection: the most resistant organisms are the ones to survive and pass on their genetic traits to their offspring. Pesticide resistance is 'a heritable change in the sensitivity of a pest population that is reflected in the repeated failure of a product to achieve the expected level of control when used according to the label recommendation for that pest species'. Pesticide resistance is increasing in occurrence. In the 1940s, farmers in the USA lost 7% of their crops to pests, while since the 1980s, the percentage lost has increased to 13, even though more pesticides are being used. Over 500 species of pests have developed a resistance to a pesticide. Other sources estimate the number to be around 1000 species since 1945.

Before application

after application

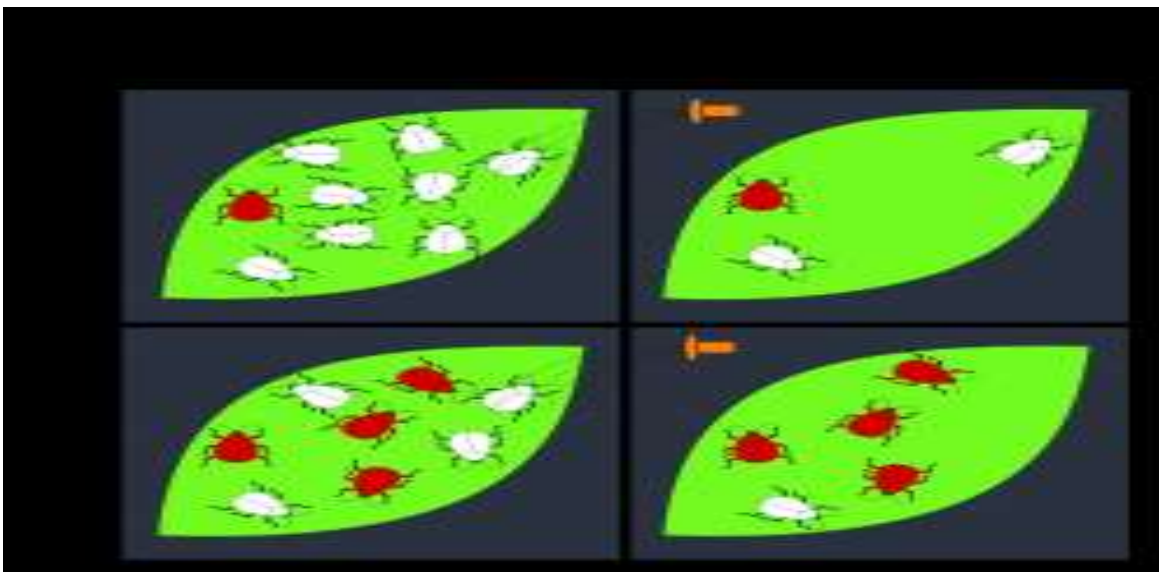


Fig Pesticide resistance

Pesticide application can artificially select for resistant pests. In this diagram, the first generation happens to have an insect with a heightened resistance to a pesticide (red). After pesticide application, its descendants represent a larger proportion of the population because sensitive pests (white) have been selectively killed. After repeated applications, resistant pests may comprise the majority of the population.

Repeated application of the pesticides may expose the worker more to the chemical residues. It might endanger its health even the applicator is still using personal protective equipment. The PPE cannot assure the full protection but it can minimize the direct exposure of the worker to the chemicals.

C. Renewable natural resources, i.e. land, water, forests and trees as well as other forms of Biodiversity, which meet the basic needs for food, water, clothing and shelter have now deteriorated to a low level of productivity. In many areas of highland Ethiopia, the present consumption of wood is in excess of unaided natural sustainable production. Estimates of deforestation, which is mainly for expansion of rainfed agriculture, vary from 80,000 to 200,000 hectares per annum.

If this trend will continue time will come that there will be no arable land available and the water scarcity will worsen. It can directly affect the livelihood of the farmers as well as the farm workers.

D. Soil erosion - In economic terms, soil erosion in 1990 was estimated to have cost (in 1985 prices) nearly Birr 40 million in lost agricultural production (i.e. crop and livestock) while the cost of burning dung and crop residues as fuel was nearly Birr 650 million. Thus in 1990 approximately 17 per cent of the potential agricultural GDP was lost because of physical and biological soil degradation.

The permanent loss in value of the country's soil resources caused by soil erosion in 1990 was estimated to be Birr 59 million. This is the amount by which the country's soil "capital" should be depreciated in the National Accounts or which should be deducted (as capital depreciation) from the country's Net National Income (NNI).

The burning of dung as fuel instead of using it as a soil conditioner is considered to cause a reduction in grain production by some 550,000 tons annually. In 1990, accelerated soil erosion caused a progressive annual loss in grain production estimated at about 40,000 tons, which unless arrested, will reach about 170,000 tons in 2010. Livestock play a number of vital roles in the rural and national economy but according to one estimate some 2 million hectares of pasture land will have been destroyed by soil erosion between 1985 and 1995. Land degradation is estimated to have resulted in a loss of livestock production in 1990 equivalent to 1.1 million tropical livestock units (TLUs), and, unless arrested, will rise to 2.0 million TLUs or to 10 per cent of the current national cattle herd in 2010.

E. Tilling Slope Agriculture Land is not bad if the farmer will apply the different measure to control or minimize the soil erosion. Slope topography of the agricultural land needs extra care because it is very prone for the erosion especially during rainy season. The contour lines should be established, this can be lined up with stones then plant it with leguminous crops as hedges. This will strengthen the contour lines able to resist to the current of the water at the same time it slows the process of erosion.

F. Irrigation System. Irrigation also contributed to the soil erosion especially at the slopes lands. Furrow irrigation can erode a significant amount of topsoil especially in the hilly farm land. Using this irrigation system is not bad as long as the precondition in proper soil management is followed to minimize the eroded soil.

G. Destruction or conversion of Natural Habitat/Forest

The Ethiopian Forestry Action Program (EFAP) estimated the full value of forest depletion in 1990 to have been about Birr 138 million or some 25 per cent of the potential forestry GDP of Birr 544 million. The genetic diversity of Ethiopia's domesticated plants and its unique flora and fauna is increasingly being eroded because the long history of disruptive interventions by the state and the weakening of local management in the face of an expanding population and the increasing needs of agriculture.

Self-Check -2	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are effects of pesticides on environment?(5 points).
2. Discuss factors that may damage/ deteriorate environment ? (10 points).
3. How irrigation system affect environment?(5 points).

Note: Satisfactory rating - 15 points and above Unsatisfactory - below 15 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-3**Responding Changes to Environmental Practices****Attitudinal changes**

Defines as the transition of the feelings in workplace or a process of changes in attitude towards the work and workplace.

Difference between change and transition

Change is a shift in the externals of any situation, for example, setting up a new program, restructuring a business, moving to new location, or a promotion. By contrast, transition is the mental and emotional transformation that people must undergo to relinquish old arrangements and embrace new ones.

There are other distinctions too. Change is made up of events, while transition is an on-going process. Change is visible and tangible, while transition is a psychological process that takes place inside of people. Change can happen quickly, but transition, like any organic process, has its own natural pace. Change is all about the outcome we are trying to achieve; transition is about how we'll get there and how we'll manage things while we are en route. Getting people through the transition is essential if the change is actually to work as planned.

It is important to ensure that change management strategies are driven by the changes that need to occur, but not to lose focus on the more personal transition activities needed to ensure the success of the program.

What is transformation?

Transformation occurs as a result of a well-orchestrated and well-led change strategy and transition plan. The result is a metamorphosis to the desired state in which there is a deep seated adoption of the changes and the associated values, principles and/or processes. This leads to an embedded, and marked, change in organizational culture and reinforces a journey of continuous improvement.

Leading and managing changes

The implementation of any significant change process usually succeeds or fails because of the leadership of that change process.

Management as a discipline focuses on processes and systems that keep the operations of the University operating smoothly, while leadership engages people to create, adapt and meet the demands of the anticipated future.

Management plays an essential part in making the changes happen; it empowers the 'doing'. Leadership inspires the transition, it is what energizes people and sustains a change in behavior and approach. Leadership engages the hearts and minds of staff.

Leading strategy differs from managing operations. Leadership and management are two distinct and complimentary systems of action. Each has its own function and characteristic activities. The table below outlines some of the characteristics essential to driving significant changes.

Managers	Leaders
<ul style="list-style-type: none"> ✓ Implement the vision ✓ Plan, budget and organize the team ✓ Maintain order and system ✓ Manage the impact of change ✓ Measure day-to-day ✓ Control and problem solve ✓ Contribute to teams ✓ Seek step-by-step improvement 	<ul style="list-style-type: none"> ➤ Create the vision ➤ Align people and inspire them ➤ Create and build processes ➤ Create change proactively ➤ Keep the values visible ➤ Collaborate ➤ Motivate and inspire ➤ Keep a helicopter view ➤ Continue to challenge the status

Managing Transition

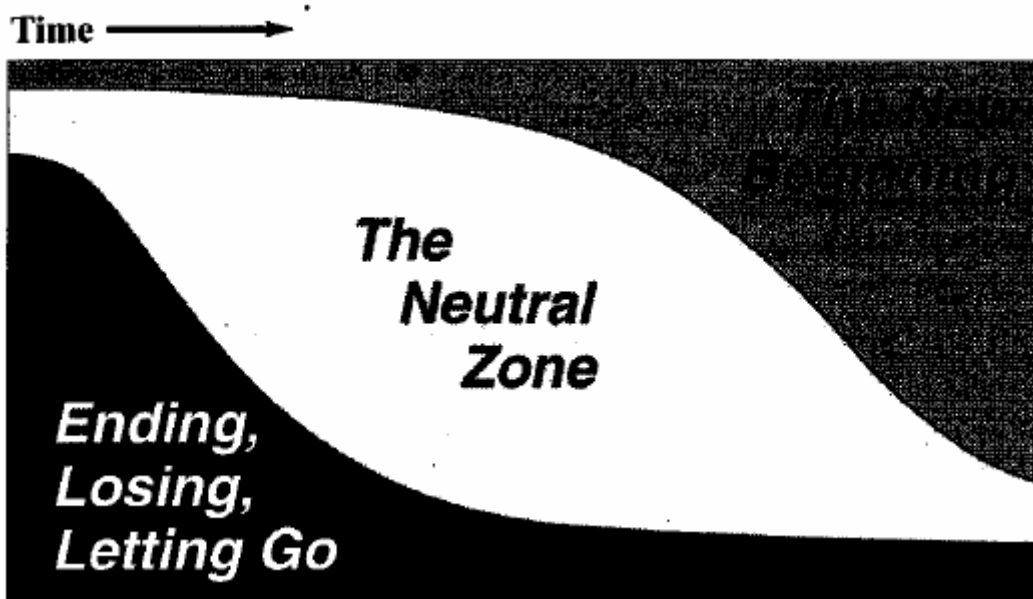


Figure 1 Three phases of transition

1. Letting go is the hardest part to accept that a person lost a valuable thing. In that situation there is a question to be answered “How to get people to let go?”.

1. Identify Who’s Losing What; and discuss it openly
2. Accept the Reality and Importance of Subjective Losses; acknowledge the pain people will go through openly and sympathetically
3. Don’t Be Surprised at Overreaction; take it in your step
4. Expect and Accept the Signs of Grieving (Transition/Change Cycle)
5. Compensate for the Losses by showing staff the benefits of the future
6. Give People Information, and Do It Again and Again and Again and Again...
7. Define What’s Over and What Isn’t
8. Mark the Endings; make sure there are actions or activities that dramatize the end of processes, systems, cultures that reflected the old ways
9. Treat the Past with Respect
10. Let People Take a Piece of the Old Way with Them; endings occur more easily if people can take a bit of the past with them. If a ceremony can be created about moving on but holding a piece of the past, this will help people move on
11. Show How Endings Ensure the Continuity of What Really Matters
12. Whatever Must End, *Must End*.

2. The neutral zone as “it is a nowhere between two somewhere” (Bridges, 2003:40) and possibly the hardest part of managing transition. The neutral zone is a time when old clarities break down and everything is in flux. Nothing is a given anymore, and anything could happen.

Dangers of the Neutral Zone as a time when:

- ❖ People’s anxiety rises and their motivation falls;
- ❖ Sick leave increases;
- ❖ Old weaknesses, which may have been patched over or compensated for, re-emerge;
- ❖ People feel overloaded, they frequently get mixed messages as systems are in flux and therefore increasingly unreliable;
- ❖ People easily become polarized: some want to rush forward others want to hold onto the old ways; and,

❖ People respond slowly and hence the organization becomes more vulnerable to competitive attack

Neutral zone creative time

- ❖ “Normalise” the Neutral Zone by explaining that it is an uncomfortable time
- ❖ Ensure a positive metaphor is linked to the time spent in the neutral zone
- ❖ Create temporary systems and structures for people during this time when they feel lost and confused. For example review values or business processes that used to govern the old way
- ❖ Strengthen intra-group connections by rebuilding a sense of identity and ensuring frequent, succinct communication
- ❖ Use a Transition Monitoring Team, its purpose is to facilitate upward communication and ensure that all stakeholders understand the stage the change and transition is at.
- ❖ Use the Neutral Zone to do things differently and creatively (provide opportunities and training, encourage experimentation, embrace losses and setbacks, look for opportunities to brainstorm answers to old problems etc)
- ❖ Above all else, support people through the Neutral Zone; spend time in staff 1 to 1 meetings, communicate to your team regularly, be perceptive and be available.

3. Launching a new beginning

- ❖ Clarify and communicate the purpose/vision
- ❖ Provide a picture of the outcome so that people can imagine it (storytelling tool)
- ❖ Then create the accompanying plan and publish it broadly
- ❖ Ensure all staff are involved in the plan to implement the purpose
- ❖ Finally, reinforce the new beginning by
 - Being consistent
 - Ensuring quick wins
 - Symbolizing the new identity
 - Celebrating the successes

Sense of ownership to workplace

Employee participation in the workplace, together with wider employee ownership, is important for diffusing economic power; promoting enterprise; increasing job satisfaction; and improving service to customers.



Every individual has the right to play a meaningful role in society regardless of their occupation, wealth, gender, age, role, or position. Part of this meaningful role is tied up in the rebalancing of power, economic and otherwise – providing citizens with a stake in their own economy – an involvement in their own future. And part of it is ensuring that every person involved in the economy has a sense of self-worth about what they contribute – about the work that they do and the skills that they use. In this way, and in this way only, can a system of ethical, fair, and collaborative capitalism prosper.

The benefits of mutual's, employee ownership and share ownership, and workplace democracy is of more relevance now than ever before.



Self-Check -3	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is an attitudinal change? (5 points).
2. Differentiate change and transition. (5 points).
3. What is transformation? (5 points).
4. How related the transition and transformation? (5 points).
5. What are the phases of transition? (5 points).
6. How would you know that you have a sense of ownership to workplace? (5 points).

Note: Satisfactory rating - 30 points and above Unsatisfactory - below 30 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-4

Informing Individuals/Teams

What is Communication?

Before developing an understanding of the four types of communication that are vital to the workplace, it is important to gain an understanding of communication. Many believe that this is simply talking. While talking is an important element of communication, it is not the only component of communication, nor is it the most important aspect of communication.

Communication is a process. It is where each one of us specifically assign and engage in the act of conveying a certain meaning so that two or more individuals create a level of understanding that is shared among all parties.

Communication experts agree that there is a vast repertoire of specific skills involved in successful communication.

These include, but are not at all limited to:

- Processing skills that are interpersonal as well as intrapersonal are essential elements to successful communication.
- Individuals must be able to listen and appropriately evaluate what is being shared.
- Basic observation and analytical skills are also required when it comes to productive levels of communication.
- The way that we each hold our body is a means of communication.
- Last, but not least by any means, communication is also questioning what is being said for understanding and speaking as well.

There are four types of communication:

1. Visual Communication



In the workplace, it is common to incorporate visual communication in order to share ideas that relate to the business, provide information to those that work in the company, and to outline specific points that need to be emphasized for the success of the business. Examples of this type of communication include specially designed signs, electronic communication, documents, and even presentations. It is essential that each individual has the capability of both implementing and comprehending visual communication processes in the workplace.

2. Written Communication

Written communication is also quite important when it comes to the workplace. This form of communication involves either writing or typing out information, facts, figures, and other types of necessary information in order to express ideas among those in a business. Examples of this type of communication include reports, evaluations, emails, instant messages, physical and electronic memos, training materials, and other types of documents that are similar in nature. In the workplace, this is a flexible type of communication as it could be formal or informal - depending on the message(s) that are being expressed.

3. Verbal Communication

Verbal communication is a core component when it comes to the overall success of a business. Verbal means that certain sounds, specific languages, and the spoken word may be used. In today's world, there is a large diversity of individuals that make up the standard workforce. There are employees that are different ages, those that are from different cultures, and even a variety of races. It is important that a company strives to create a basic foundation for verbal communication so that each person in a company understands the others within that business.

4. Non-Verbal Communication

When it comes to communication in the workplace, it is important to understand the significance of non-verbal communication four types communication on. When this occurs, it means that a physical manner of communication is being used to share ideas and meanings among others.



The physical activities may include the way that you move your body, the tone that is displayed when it comes to the tone of an individual's voice, and touching. In the workplace, it is not appropriate to touch another individual, but it is possible to ensure that the voice tone and the stance of the body is held appropriately so that the ideas, information, and thoughts are successfully shared with the intended audience. If you incorporate the four types of communication into your business, you will quickly see positive results. These include lower employee turnover, increased productivity, and a financial success.

Try to be aware of the message you are sending in all situations. In a low risk conversation, it's important to relax your body and smile to make others feel comfortable. But if this kind of body language is used during a serious conversation, meeting, or project, it can be taken wrong way. Your body language must be congruent with your speaking to convey the right message.

Using hand motions and using your body language on a certain points will allow you to let the other know what's important. By communicating this way, the other person will retain the most important message of the conversation. The goal here is to use concise movements rather than being loose. You can relax your movements until you want to stress a point in the conversation to make more of an impact.

Learn how to manage your emotions. In heated conversations, it's important to keep your emotions in check as it may lead you to say something out of line. If you need to take a time out, ask for a few minutes and take a few deep breaths before re engaging in the conversation.

The tone of voice is very important in communication. Learning how to use your voice and talking with the right tone is critical in communication. Something simple as your voice tone can lead other people to feel disrespected or ignored. It's also important to match your tone with the objective of your message to get your point across. If your tone isn't congruent with your objective, your message will not be taken seriously.

The best communication methods succeed in putting across the right message in a clear, unambiguous way that gets noticed by the target audience, whilst also saving on time and cost. Good communicators succeed in choosing the best medium of communication for the particular purpose in mind. For external communications, the Inland Revenue typically uses:

- Written communications dispatched by mail e.g. statements detailing tax liabilities and payment schedules. Paper-based items sent by mail have the advantage of providing a clear, file able statement that is likely to reach its intended recipient.
- Oral communications: customers can 'phone in' with their queries. They can also speak directly to the employee who is managing their account. Oral communication allows most misunderstandings to be resolved immediately.
- Face-to-face communications e.g. a visit to the local office by arrangement. This can save time and subsequent communications.
- Online communications. Today consumers can complete their Tax Return, claim tax credits and do a variety of other business with the Inland Revenue directly online, thereby saving a great deal of time. An important advantage of this method is that ongoing 'help' is provided by pop-up help facilities. This is a cheap, quick and efficient means of communication.
- Advertising on TV and in the press e.g. to alert people to tax payment deadlines or to eligibility for tax credits. By this method the Inland Revenue is able to communicate with millions of customers cost effectively.

The Inland Revenue uses similar methods for internal communications e.g.

- Written communications - internal memos, staff magazines, notices or posters on staff notice boards.
- Oral communications - phone conversations between employees.
- Face-to-face - team briefings, meetings and presentations.
- Online - internal e-mails and intranet.

Face-to-face conversations and oral communications make possible more detailed discussions to clarify issues. Written communications provide clear statements of discussions and their outcome can be recorded and filed. Online communications have revolutionised ways of working by providing fast, cheap and efficient ways of interacting that can easily be stored within files.

Online communications can also be easily edited and shared between teams of employees working together. For example, a customer's account details can be accessed both in a local office and in the central tax-paying department in Glasgow, simultaneously.

Self-Check -4	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are the elements of communication? (3 points).
2. What are the factors that can interfere with effective listening? (5 points).
3. What is the difference between hearing and listening? (2 points).
4. Explain the causes of ineffective communication? (2 points).
5. What should you do to check that you have heard and interpreted the instructions clearly? (3 points).
6. What do you call the process of clarifying your understanding about the instructions? (1 point).
7. Explain the process of communication? (3 points)
8. Name five (5) factors that can affect good communication? (5 points)
9. What do you mean by jargons? (1 point)
10. Give five (5) ways to improve listening skills? (5 points)

Note: Satisfactory rating - 30 points and above Unsatisfactory - below 30 points

You can ask your teacher for the copy of the correct answers.

Information Sheet-5

Identifying Environmental Training Needs

This TNA represents the assessment of the situation of workers in respect to their training and learning needs, in terms of professional skills and business knowledge areas, as well as their perception of the priorities and methodologies to address these needs.

How to do it?

1. By Gathering Samples

The first issue to be addressed was the availability of reliable samples that will represent the whole population and supports the findings. This is the critical part, the gathering sample data; the allowable error here is very minimal as much as possible it is free from biased and accurate.

The criteria used to identify the needs were as follows:

- a) Skills gap of the workers
- b) Upgrading the skills
- c) Priority sectors
- d) Adopting new technology

2. Using the Questionnaire

The TNA Questionnaire structure comprised of possible skill gaps. You can use single/multiple-choice closed-ended questions. The Questionnaire was divided in three main sections; each of them focused on specific learning areas:

Part 1 – Functional Skills analysis

The objective was to uncover needs through the more “objective” method of assessing key areas on how to apply the existing skills of the workers.

Part 2 – Personal Skills analysis

This second TNA part gathered the subjective evaluation of worker regarding his/her personal skills (communication, technical, supervision, etc.)

Part 3 – Training Preferences

This Part had the objective to prioritize the skills gaps in soft and hard skills, manifesting a collection of overall skills that needed to be improved.

The three parts of TNA Questionnaire, when taken together, form a mix of Training Needs Assessment tools that gives complementary and comprehensive information about owner/managers' learning needs, balancing objective and subjective answers, with the ultimate aim of better understanding and interpreting their real needs.

Sector: AGRICULTURE SECTOR Job Title: Tomato production Date: 27 FEBRUARY 2013

Activities	How Important is this in your work?			How would you rate your confidence in this area?		
	Very Important	Fairly important	Not important	Very Confident	Quite Confident	Not Confident
Land preparation						
Sowing of the seeds						
Seedling nursery						
Transplanting to the field						
Cultural management						
Pest management						
Irrigation management						
Harvesting management						
Post harvest management						
Marketing						

Training preference (points to Cultural management, Pest management, Irrigation management, Harvesting management, Post harvest management, Marketing)
Open ended questions (points to Fairly important)
Choices (points to Very Confident, Quite Confident, Not Confident)
Functional skills question (points to Irrigation management, Harvesting management, Post harvest management, Marketing)
Personal skills question (points to Very Confident, Quite Confident, Not Confident)

Questions:

1. What are the different cultural managements you use in the production?
2. How you control the insect pest, diseases and disorder of the tomato?
3. How will you harvest the tomato fruits?
4. What are the different post harvest technologies you apply in your tomato fruits?
5. How would you market the tomato fruits? Fresh fruits or processes by products?

Follow up questions

Ftable 5.1 Sample of the TNA questionnaire and its parts

Self-Check -5	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What is Training need assessment (TNA)?(5 points).
2. What are the different methods in doing the TNA? (5 points).
3. What are the parts of the TNA? (5 points).

Note: Satisfactory rating - 15 points and above Unsatisfactory - below 15 points

You can ask your teacher for the copy of the correct answers.

HORTICULTURAL CROPS PRODUCTION

Level-III

Learning Guide-84

Unit of Competence: Maintain and monitor environmental work practices

Module Title: Maintaining and monitoring environmental work practices

LG Code: AGR HCP3 M16 LO1-LG-84

TTLM Code: AGR HCP3 TTLM 0120v1

LO4: Maintain environmental records

Instruction Sheet	Learning Guide #84
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Maintaining and storing environmental records
- Identifying and maintaining internal and external reporting procedures

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 –

- Maintain and store environmental records
- Identify and maintain internal and external reporting procedures

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described in number 3 to 6.
3. Read the information written in the “Information Sheets 1 and 2”.
4. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
5. Accomplish the “Self-check 1 and 2”.
6. If you earned a satisfactory evaluation from the “Self-check” proceed to next.

Information Sheet 1	Maintaining and Storing Environmental Records
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Environmental Management System (EMS)

An Environmental Management System (EMS) requires a documentation system to collect, analyze, register, and retrieve information.

An EMS Documentation System

- ❖ Describe core elements of EMS
- ❖ Provide directions to related documents
- ❖ Support employee awareness

What are the documents?

The documents that offer guidance or explain actions to be carried out and also materials that provide management directions like:

- ❖ Environmental policy
- ❖ Internal standard and operating procedures
- ❖ Process information
- ❖ Organizational chart
- ❖ Emergency plans

What are the records?

These are the special kind of document which provides verification of things that have happened. Environmental records include training records, audit results, reviews, monitoring records, waste disposal records and more. Procedures must be maintained for the identification, maintenance, and disposition of environmental records.

What are the controlled documents?

Control means that the document may have been checked or reviewed prior to its released. It also means that any subsequent revisions will also need to be checked and reviewed carefully. Controlled documents can be originated by anyone who can demonstrate the value and need for such a document. The need for a system to manage the distribution of controlled documents and the number of people who receive one or more them is large. Document control ensures that current documents are approved by the competent persons, distributed to the places where they are used, and that old and obsolete versions are removed.

The following are the controlled documents:

- ✚ Environmental Policy
- ✚ Environmental objectives and targets
- ✚ Roles, responsibilities, and authority for EMS
- ✚ Communications from external interested parties
- ✚ EMS core elements
- ✚ Procedures essential for operational control
- ✚ Monitoring and measurement of key operations that have potential significant impacts
- ✚ Compliance with laws and regulations
- ✚ Records
- ✚ Management review

Document accountability

- ❖ Store controlled versions of documents electronically (e.g., networked computer files)
- ❖ On-line 'read only' access by employees
- ❖ Changes to documents made only by authorized personnel - restricted access
- ❖ Schedule regular review and revision of procedures
- ❖ Notify all relevant personnel when a procedure is changed
- ❖ Keep a register of paper copies of key documents held by individuals
- ❖ Educate personnel about document controls
- ❖ All documents must be; approved for use, dated(effective/revision), periodically reviewed/updated, removed from use when obsolete or marked accordingly, show linkage to relevant EMS documents.

Document filing

Documents should be filed according to its level;

- Level 1 - Environmental Policy procedure
- Level 2 - Requirements/Management procedure
- Level 3 – operating procedures/work instructions/SOPs
- Level 4 – Records/forms (inspections, check offs)

When to revised documents?

- When document revisions are needed, the document approver makes appropriate revisions to the document and routes a draft revision to units likely to be affected by the changes for review, with a specified timeframe for providing comments.
- Comments received on the document revision are reviewed by the document approver and incorporated, as appropriate. The document approver shall notify the provider(s) of changes.
- A responsible person must approve these documents.
- Think about how to show this approval; on paper documents it may be a signature; electronic documents may only be posted if they are approved.
- Ensure only the latest version of each document is available wherever it is needed
- Mark paper copies 'uncontrolled' to alert reader that a more recent version may be available on-line.

EMS Documentation steps

1. Identify which documents need to be controlled.
2. Define a document approval system that ensures distribute documents are appropriate for persons receiving them.
3. Assure appropriate distribution. Make sure that everyone who needs the document gets a copy
4. Remove old and obsolete documents this is easy if you are using electronic documents but is more complicated with paper documents.

ISO 14001 requirements

The organization shall establish and maintain procedures for controlling all documents required by this International Standard to ensure that:

- a) They can be located.
- b) They are periodically reviewed, revised as necessary, and approved for adequacy by authorized personnel.
- c) The current versions of relevant documents are available at all locations where operation essential to the effective functioning of the EMS are performed.
- d) Obsolete documents are promptly removed from all points of issue and point of use, or otherwise assured against unintended use.



- e) Any obsolete documents retained for legal and/or acknowledge preservation purposes are suitably identified.
- f) Documentation shall be legible, dated (e.g. with dates of revision), and readily identifiable.
- g) Maintained in an orderly manner and retained for specified period.
- h) Procedures and responsibilities shall be established and maintained concerning the creation and modification of the various types of documents.



Self-Check 1	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers.

-
1. What is the purpose of ISO 14001? (3 points).
 2. What is EMS documentation? (3 points).
 3. What are the important documents in EMS for documentation? (3 points).
 4. What is a record? (3 points).
 5. What are the controlled documents under the EMS? (3 points).
 6. How does the EMS documents filed? (3 points).

Note: Satisfactory rating - 18 points and above Unsatisfactory - below 18 points

You can ask your teacher for the copy of the correct answers.

Information Sheet 2	Identifying and Maintaining Internal and External Reporting Procedures
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2.1 Writing a report

The following steps will help you with the whole process of writing a report/assignment:

Step 1	Consulting information sources
Step 2	Reading and making notes
Step 3	Writing the first draft
Step 4	Revising the report
Step 5	Writing the final draft
Step 6	Checking the final draft
Step 7	Submitted the final report

2.2 Presentations

A presentation is an opportunity for you to speak in front of people by making use of visual aids or model to presents your topic or report. For this presentations

- Preparing for your presentation.
- Tips for designing transparencies and/or slides
- Presenting your report

Preparing for your presentation

Check for grammar and spelling errors	Make sure that your presentation is free of any spelling or grammatical errors. Let someone proofread your work. You don't want to be embarrassed by spelling errors during your presentation.
Practice your presentation	Practice your presentation by yourself or with a friend. Make sure you keep within the time frame allowed for the presentation. The more you practice it before the time, the more confident you will feel when you give the presentation.
Have an alternative for emergency situation	Remember when you make use of slide shows, you are using technology. We all know that technology is not always to be trusted. Have a Plan B ready. For example,

	have a paper copy of your presentation and of your transparencies available for emergencies.
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✚ Designing your visual aids

Keep it short and simple	Your slide show or transparencies should include only important and relevant key words to remind you of what you want to talk about. Limit the amount of information per slide. You will lose your audience if there is too much information on the slides.
Use correct font and size	Use a font and font size that will be easy to read. An example of an easy to read font is "Arial". Make sure your font size is big enough so your audience will be able to read the information that you are presenting. It should at least be "18" points or larger. Do not make use of too many different font types - keep it simple and clear.
Color combination	When you make use of color, be aware of the colors that you are using. Certain colors, like certain yellows, etc., are difficult to see. The text and the background colors you use should complement each other. Make sure your foreground color (text) is clear and soft on the eyes when combined with the background color.

✚ Presenting your report

Test your presentation	Allow time before you start your presentation to test the equipment you are going to use. Familiarize yourself with the set-up so that you can focus on your presentation and not on where the next button is. Check the clarity of the content and the colors again, and make changes if necessary.
Introduce your self	Always introduce yourself and your topic, and briefly explain the process that you are going to follow with your presentation.
Be professional	Your appearance (dress and grooming), the quality of your handouts and your visual presentation, etc., are all very important.

Timing	Start promptly and keep within your time frame. Remember to leave enough time for questions afterwards.
Be enthusiastic	Be enthusiastic about your presentation and remember to smile - this will help to relieve some of the stress.

2.3 Writing Reports or research paper

In writing reports the following criteria should be followed:

- Short but full of information.
- Data are true and far from biased
- Events are clearly explain and supported with data
- Use simple words that can be easily understand by reader.

Transition Words and Phrases: help establish clear connections between ideas and ensure that sentences and paragraphs flow together smoothly, making them easier to read. Use the following words and phrases in the following circumstances.

To indicate more information:	To indicate an example
Besides, Furthermore, In addition Indeed, In fact Moreover, Second...Third..., etc.	For example, For instance, In particular, Particularly, Specifically, To demonstrate, To illustrate
To indicate a cause or reason:	To indicate a result or an effect:
As, Because, Because of, Due to, For, For the reason that, Since	Accordingly, Finally, Consequently, Hence, So , Therefore, Thus
To indicate a purpose or reason why:	To compare or contrast:
For fear that, In the hope that, In order to, So, So that, With this in mind	Although, However, In comparison, In contrast, Likewise, Nevertheless, On the other hand, Similarly, Whereas Yet
To indicate a particular time frame or a shift from one time period to another:	
After, Before, Currently During, Eventually, Finally, Formerly Immediately, First, ... Second, ..., etc.	Initially, Lastly, Later, Meanwhile, Next, Previously, Simultaneously, Soon, Subsequently
To summarize:	To conclude:
Briefly, In brief, Overall Summing up, To put it briefly, To sum up, To summarize	Given these facts, Hence, In conclusion, So, Therefore, Thus, To conclude

Self-Check 2	Written Test
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Name: _____

Date: _____

Directions: Answer all the questions listed below. Illustrations may be necessary to aid some explanations/answers.

-
1. How would you prepare your presentations? (5 points).
 2. What are the important points to consider in designing your visual aids? (5 points).
 3. How will you present your report? (5 points).
 4. What are the criteria to be followed in writing a report? (5 points).
-

Note: Satisfactory rating - 20 points and above Unsatisfactory - below 20 points

You can ask you teacher for the copy of the correct answers.

Referances

1. <http://www.deh.gov.au/settlements/industry/corporate/eecp/casestudies/cascade-brewery.htm>.
2. Downing, T. E., Butterfield, R. E. Edmonds, B., Knox, J. W., Moss, S., Piper, B. S. and Weatherhead, E. K. (2003). Climate Change and the demand for Water, Research Report, Stockholm Environment Institute Oxford Office, Oxford.
3. European Environment Agency (2005) Household consumption and the environment, European Environment Agency, Denmark
4. House of Commons Environment, Food and Rural Affairs Committee (CEFRAC). Reform of the Sugar Regime. 12 th Report of Session 2003-2004 Vol 1.



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