



NQF Level: 2

US No: 116127

Facilitator Guide

Primary Agriculture

Apply layout principles for conservation and infrastructure



Facilitator:

Company:

Commodity: Date:

The availability of this product is due to the financial support of the National Department of Agriculture and the AgriSETA. Terms and conditions apply.



agriculture

Department:
Agriculture
REPUBLIC OF SOUTH AFRICA



Before you get started...

Dear Facilitator,

This Facilitator Guide (together with the relevant Learner Guide) is aimed at facilitators who will be assisting learners wishing to complete the following unit standard:

Title: Apply layout principles for conservation and infrastructures
US No: 116127 NQF Level: 2 Credits: 5

This guide contains all necessary facilitation instructions to ensure that learners will attain the expected competencies required by the above-mentioned unit standard. This guide is designed to be used during the presentation of a learning session based on this unit standard. The full unit standard is attached at the end of the relevant Learner Guide. Learners are advised to read the unit standard at their time. Please discuss the unit standard with the learners to ensure that they understand what is expected from them to achieve the outcomes of the unit standard.

This unit standard is one of the building blocks in the qualifications listed below. Please mark the qualification you are currently facilitating, because that will be determined by the context of application:

Title	ID Number	NQF Level	Credits	Mark
National Certificate in Animal Production	48976	2	120	<input type="checkbox"/>
National Certificate in Mixed Farming Systems	48977	2	120	<input type="checkbox"/>
National Certificate in Plant Production	48975	2	120	<input type="checkbox"/>

Please mark the learning program the learners are enrolled in:

Are you enrolled in a:	Y	N
Learnership?	<input type="checkbox"/>	<input type="checkbox"/>
Skills Program?	<input type="checkbox"/>	<input type="checkbox"/>
Short Course?	<input type="checkbox"/>	<input type="checkbox"/>

Note to Facilitator:

If you are presenting this module as part of a full qualification or learnership, please ensure that you have familiarised yourself with the content of the qualification.

Please explain the above concepts to the learner.

There are three guides, namely the Learner Guide (with activities), Assessor Guide and the Facilitator Guide.

These guides have been developed to address specific aspects of the learning experience. You therefore need to use these guides complementally to one another.

Make this an enjoyable learning experience!

Context of Application ...

Primary Agriculture is a diverse sector and a wide range of commodities is being produced for both national and international market. Each commodity has its own production requirements and practices. You will be facilitating the learning process within a specific context where a specific agricultural commodity is being produced. The learning material has been written in a **generic** manner, as it is aimed to be available on national level and should be relevant to be applied within a variety of commodities. It is therefore inclusive of all agricultural commodities and crop in this field. Therefore, the examples that are being used in the materials may not always be applicable to your specific community, commodity, environment or region.

This presents you, the facilitator, with the challenge to **contextualize** the learning material. It is imperative that you, the Facilitator and Assessor interpret and present activities, case studies and projects related to the material in such a way that learners can easily identify and apply their knowledge within their own context. This will require from you to add examples of crop, which are applicable to the community or farm. Learners must be guided with examples from their own communities, commodities, environment or regions. This should be done by complementing the learning material with:

- Examples relevant to the commodity,
- Including commodity specific requirements,
- Including operating procedures of the farm,
- Including agricultural practice specific requirements,
- Agricultural markets,
- Guiding learners to write these specifics down in the learning guide, etc.

The contextualisation of the learning material is a very important step in preparing for and facilitating the learning experience and enough time and effort should be put into this exercise.

According to the qualifications mentioned on page 2, this module could be contextualised to fit the following groups of commodities:

Plant Production	Animal Production	
<ul style="list-style-type: none"> • Organic production, • Hydroponic production, • Perma-culture production, • Agronomy, • Horticulture, • Natural resources harvesting. 	<ul style="list-style-type: none"> • Small stock production, • Large stock production, • Dairy production, • Pig production, • Poultry production, • Game, • Aqua / mari culture, • Commercial insects • Animal fibres harvesting, • Bee keeping, 	<ul style="list-style-type: none"> • Natural resources harvesting, • Organic production, • Perma-culture production, • Eco/Agri Tourism, • Agro Chemicals, • Horse Breeding, • Etc.

How to use this guide ...

Throughout the guide information is given specifically aimed at you, the facilitator, to **assist** in the actual presentation of the learning material and/or facilitation of the learning process. Although this guide contains all the information required for attaining competency in this unit standard, references to additional resources, both printed and electronic, are provided for additional reference by the facilitator and further study by the learner.

Please note that the purpose of this information is merely to **guide** you, the facilitator, and is provided as a suggestion of possibilities. It remains the responsibility of every facilitator to re-assess the learner/s in each learning situation throughout the learning process in order to stay in touch with their specific learning needs. This should be the determining factor in the choice of the learning approach to follow.

Use the different boxes listed below for identification purposes:



Instructions regarding **activities**, whether group or individual activities will be described in this box.



Facilitators' Tip ...

My Notes ...

You can use this box for your own notes/comments.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

What & How will you be Facilitating?

The Learning Experience.....	6
Learning Program Time Frames.....	7
Tips for level of learning	8
Facilitator’s Checklist & Training Aids	8
Contextualisation of Content!	10
Session 1: Factors affecting Farm layout.....	11
Learner Guide page 7	
Session 2: Constructing and Placing Infrastructure for Sustainable land-use.....	13
Learner Guide page 20	
Session 3: Fault Reporting and Repairing.....	15
Learner Guide page 23	
What will I do differently next time?.....	16

The Learning Experience...

On completion of this module, the learners will be able to:

- ◆ Plan, lay out and maintain conservation and structures and prevention measures in an agricultural environment,
- ◆ Report faults, and
- ◆ Where appropriate, repair faults under supervision.

Learners will also gain basic knowledge of:

- ◆ Working safely with a range of hand-held tools.
- ◆ Basic sustainable agriculture principles.
- ◆ Environmental indicators.
- ◆ Basic soil types and their features i.e. clay, sand, loam and its distribution.
- ◆ Basic weather patterns i.e. summer, winter, basic clouds and energy/ carbon/ hydrological/ oxygen cycles.
- ◆ Basic water cycle and water management.
- ◆ Basic veld types i.e. savanna, fynbos, forest, karoo and links to weather patterns.
- ◆ Basic ecosystems, their distribution and links to the rest of the environment i.e. wetlands, grasslands, mountains.
- ◆ Use of hand-held tools.
- ◆ Basic natural resources (water, soil, veld, energy, heat), their limitations and sustainable uses.
- ◆ Use of basic waste as a resource i.e. types for erosion control, trench gardening.
- ◆ Basic alternative energies i.e. wind, sun, gravity and some of their uses.
- ◆ Basic soil conservation and crop rotation methods.
- ◆ Basic environmental indicators such as soil erosion, basic signs of land degradation.
- ◆ Following instructions and reporting on conditions.

Learning Assumed to be in Place:

- ◆ NQF 1: Demonstrate an understanding of the basic concepts of sustainable farming systems.
- ◆ NQF 1: Apply elementary farm layout and infrastructure.



Remember to do a diagnostic assessment of the learner's prior learning and ensure that they are starting at the correct level.

Learning Program Time Frames

	Total time allocated (hours)	Theoretical learning time allocated (hours)	Practical learning time allocated (hours)	Activities to be completed
Complete Program (including summative assessment)	50 hours	11 hours	39 hours	3 Activities
Learner Orientation and "Ice Breaker"	1 hour	30 minutes	30 minutes	N/A
Purpose, Introduction and Learner Directions	1 hour	30 minutes	30 minutes	N/A
Session 1	20 hours	4 hours	16 hours	1
Session 2	17 hours	3 hours	14 hours	2
Session 3	10 hours	2 hours	8 hours	3
Preparation for Assessment & revision	1 hour	1 hour		N/A

My Notes ...

.....

.....

.....

.....

.....

.....

.....

.....

Tips for level of learning



Remember the following before you get started:

Typically, a learning programme leading to the award of a qualification or unit standards at level 2 should develop learners who demonstrate an ability to:-

- Work and learn in a disciplined manner in a well-structured and supervised environment.
- Manage their time effectively.
- Develop sound working relationships and an ability to work effectively as part of a group.
- Express an opinion on given information clearly in spoken and written form.
- Collect, organize and report information clearly and accurately.
- Use their knowledge to select and apply known solutions to well-defined routine problems.
- Use a variety of common tools and instruments; apply literacy and numeracy skills to a range of different but familiar contexts.
- Understand the environment within which he/she operates in a wider context.
- Gain knowledge of one or more areas or fields of study, in addition to the fundamental areas of study.

Facilitator's Checklist & Training Aids

Learner support strategies:

Learners are supplied with all resources and aids as required by the programme – including:

- Objects & devices such as equipment, protective clothing, safety gear, etc.
- Learner Guides and Learner Workbook
- Visual aids, etc.

Use this checklist below during your preparation to ensure that you have all the equipment, documents and training aids for a successful session.

Preparation:	Yes	No
Qualification Knowledge – I have familiarized myself with the content of the applicable qualification		
Unit Standard Knowledge – I have familiarized myself with the content of all aspects of the applicable unit standard		
Content Knowledge – I have sufficient knowledge of the content to enable me to facilitate with ease		
Application knowledge – I understand the programme matrix & have prepared for programme delivery accordingly		

Contextualisation – I have included information which is specific to the commodity and practices related to the commodity		
Ability to respond to learners background & experience – I have studied the learner demographics, age group, experience & circumstances & prepared for programme delivery accordingly		
Enthusiasm & Commitment – I am passionate about my subject & have prepared my programme delivery to create a motivating environment with real commitment to success		
Enterprise knowledge – I know & understand the values, ethics, vision & mission of the workplace & have prepared my programme delivery, reporting & administrative tasks accordingly.		
Equipment check:		
Learner guides x 1 per learner		
Assessment guides x 1 per learner		
Writing materials & stationary (facilitator & learner)		
White board & pens		
Flip chart paper		
Proxima projector & screen		
Laptop & programme disk		

Sample Hand-outs and examples of laws and other relevant documents		
Safety gear as prescribed by unit standard and applicable legislation		
Documentation checklist:		
Attendance Register		
Course Evaluation		
Learner Course Evaluation		
Portfolios of evidence		

My Notes ...

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Contextualization of Content!

Go through this module and indicate what specific **information** / **activities** / **examples** should be included in this module?

Contextualisation	
<ul style="list-style-type: none"> Commodity specific? 	
<ul style="list-style-type: none"> Operating procedures of the farm? 	
<ul style="list-style-type: none"> Agricultural practices? 	
<ul style="list-style-type: none"> Agricultural markets? 	

Session

1 Factors affecting Farm layout

Learner Guide:
Page 7

After completing this session, the learner should be able to:

SO 1: Recognize veld and soil types, animal and human behaviour and demarcate appropriate areas for sustainable resource use in the layout of the farm.

SO 2: Construct the infrastructure and relate the physical and chemical characteristics of soil, landscape and local climate and land capability and demarcate areas for sustainable use.

SO 3: Understand the design of farm layout according to agricultural, water catchments and environmental conservation areas.

Concept (SO 1, 2 & 3)	Time frame	Activities related to the concept
The major physical characteristics are observed and pointed out.	20 hours	Activity 1
Suitability for infrastructure or maintenance is assessed.		
The problems that could be caused by various enterprises or activities are evaluated.		
The area where structures should be placed to optimise management are identified and pointed out.		
Structures are constructed in identified areas under supervision.		
The potential of the natural resources to be sustainable is evaluated.		
Potential is estimated and sites with high potential for erosion, decay or damage are identified.		
Areas for infrastructure construction are surveyed and information is used to decide on placement of structures.		

Tips for the Facilitator



- This session provides most of the theoretical input for the module. Most of the theory is on ecology, plants, soil and animals. The unit standard consists of five Specific Outcomes; Outcomes 1, 2 and 3 are combined in session 1 because there is a logical connection between the underlying knowledge and skills associated with them.



Please allow learners to complete Activity 1 Part 1, 2 & 3 in their Learner Guides

Type of activity	Resources
Part 1. A group investigation.	Stationary, water, good walking shoes, sunscreen, hat, insect repellent, plant and animal identification lists.
Instructions to give to the learners	
As per instructions in Learner Guide.	
Conclusion	
This activity gives the learners the opportunity to engage fully in the local ecology and investigate in considerable detail the plants and soil occurring in the area. It gives a living example of how the landscape is integrated in the farm layout.	
Type of activity	Resources
Part 2. Putting our information together Small group presentation to the main group	Samples, stationary, flip chart paper; Marker pens; Pres stick.
Instructions to give to the learners	
As per instructions in Learner Guide.	
Conclusion	
The report back gives the facilitator the opportunity to see whether or not there are conceptual gaps in the learners' knowledge. It is important to remember that each small group of learners has been allocated a portion of the farm. Putting their information together gives a broad view of the farm and enables them to expand their view.	
Type of activity	Resources
Part 3. Coming up with a better idea.	Maps of the farm for each group, Marker pens, required resources.
Instructions to give to the learners	
As per instructions in Learner Guide.	
Conclusion	
The learners now put into practice what they have learnt. Make sure that the maps provide good learning experiences to enrich the process for the learners. You will also have to give the learners the forms of production for the farm, based on the map and other details you provide.	

Session

2 Constructing and Placing Infrastructure for Sustainable land-use

Learner Guide:
Page 20

After completing this session, the learner should be able to:
SO 4: Design and construct basic infrastructure using simple tools and equipment at appropriate spacing with supervision.

Concept (SO 4)	Time frame	Activities related to the concept
The site is assessed to decide on appropriateness for structures and natural resource conservation layout.	17 hours	Activity 2
The principle layout and systems that are appropriate for the local area are explained.		
A system is designed using drawings; three-dimensional models in sand or other representations, showing how water can be used more effectively and degradation can be reduced by soil and water conservation.		

Tips for the Facilitator



- The list provided in the Learner Guide is a starting point and is by no means finite. It is better if the facilitator compiles a list based on the situation where the learners are learning so that it is contextualized and is based on what is really happening on the farm. In other words, a real leak or a real problem. The two categories are such so that Category A has heavier work and Category B less physically demanding. This has been done because very often learners struggle to maintain constant physical exertion if that is not what their day-to-day experience usually entails.

Category A	Category B
A road is being eroded away by heavy rains	Chickens are escaping from the Chicken run
Soil erosion in a field	A tap is leaking
A gully is approaching a spring	The trellis system is breaking
The farm rubbish dump is overflowing and plastic bags are being blown around	A tractor has a flat tyre
The access road is full of potholes	Goats are eating the main crop

Please allow learners to complete Activity 2 in their Learner Guides

Type of activity	Resources
2. Group Activity	Hat, work clothes, basic tools, stationary.
Instructions to give to the learners	
As per instructions in Learner Guide.	
Conclusion	
Learners will have had the opportunity to undertake a range of activities through this session relating to repairs and also to applying conservation practices.	

My Notes ...

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

3 Fault Reporting and Repairing

Session

Learner Guide:
Page 23

After completing this session, the learner should be able to:
SO 5: Maintain, report faults and where appropriate repair them under instruction.

Concept (SO 5)	Time frame	Activities related to the concept
Faults are identified.	10 hours	Activity 3
Maintenance tasks relevant to the farm layout and use for enterprise are demonstrated.		
Basic reparation tasks, where necessary, are demonstrated.		



Please allow learners to complete Activity 3 in their Learner Guides

Type of activity	Resources
3. Assessing and Conducting	Required tools, stationary
Instructions to give to the learners	
As per instructions in Learner Guide.	

My Notes ...

.....

.....

.....

.....

.....

What will I do differently next time?

Take some time to **reflect** on your own activities as facilitator of this Unit Standard. Then write down five of the most important lessons you have learnt and include a motivation:

What will I do differently next time?	Motivate how or why (Give examples, reasons, etc.)
1.	
2.	
3.	
4.	
5.	

As facilitator, you have hands on experience in the application of the unit standard and you might experience difficulties with the unit standard that the developers did not anticipate. Also, the unit standard will be revised at the end of the registration period. Your comments below can be an important contribution in the revision process and should be brought to the attention of either the AgriSETA ETQA manager or the SGB chairperson.

Please take some time to reflect on your experience and list a few of the difficulties you had to address.

Difficulties I had with the Unit Standard	Recommended Changes to Address the Difficulty
6.	
7.	
8.	
9.	
10.	