FARM WATER CONSERVATION

UNIT CODE: 0811 451 05 A

TVET CDACC UNIT CODE: AGR/CU/EXT/CR/04/4/MA

UNIT DURATION: 120 HOURS

Relationship to Occupational Standards

This unit addresses the Unit of Competency: Conserve water in the farm

Unit Description

This unit specifies the competencies required to utilize water in the farm. It involves selecting sustainable water supply, harvesting water in the farm, irrigating crop farm and continuously improving utilization of water.

Summary of Learning Outcomes

By the end of this unit, the learner should be able to:

S/No	Learning Outcomes	Duration (Hours)
1.	To Select sustainable water supply	30
2.	To Harvest water in the farm	30
3.	To Irrigate crop farm	40
4.	To Continuously improve utilization of water	20
Total		**120**

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcomes	Content	Suggested Assessment Methods
1. Select sustainable water supply	**Theory** 1.1 Water sources	• Written tests • Projects

	1.1.1 Definition of terms 1.1.2 Identification of water sources 1.1.3 **Practice** 1.2 Carryout water testing as per work procedure 1.3 Carry out water treatment as per work procedure	• Interviews/ Oral questions • Individual/group assignments • Practicals
2. Harvest water in the farm	**Theory** 2.1 Identify water harvesting structures 2.2 Design and draw water harvesting structures **Practice** 2.3 Construct water harvesting structures as per work requirement 2.4 Test water harvesting structures functionality as per work requirement 2.5 Correct water harvesting structure faults as per work requirement 2.6 Utilize water harvesting structures as per work requirement	• Written tests • Projects • Interviews/ Oral questions • Individual/group assignments • Practicals

3. Irrigate crop farm	**Theory** 3.1 Crop farm irrigation 3.1.1 definitions of terms 3.1.2 Establish crop grown water requirement 3.2 Irrigation system 3.2.1 Pipes 3.2.2 Emitters 3.2.3 Pump 3.2.4 Tanks 3.2.5 Nozzles 3.2.6 Valves 3.2.7 Control unit 3.2.8 Wiring 3.3 irrigation system **Practice** 3.4 Install irrigation system 3.5 Maintain Irrigation system	• Written tests • Projects • Interviews/ Oral questions • Individual/group assignments • Practical

4. Continuously improve utilization of water	4.1. Repairs irrigation faults 4.2. Erosion and pollution control measures 4.2.1. Walk-over techniques 4.2.2. Minimal disturbance techniques 4.2.3. Crown and cross fall drainage 4.2.4. Cross bank drainage 4.2.5. Relief culverts on roads 4.2.6. Mitre and table drain on roads 4.2.7. Armouring/gravelling of roads 4.2.8. Crossing and draining surfaces 4.2.9. Batter stabilization 4.3. Regulations governing water use and management 4.4. Water technologies	• Written tests • Projects • Interviews/ Oral questions • Individual/group assignments • Practical

Suggested Methods of Instruction

- Role playing
- Group discussion
- Direct instruction

Recommended Resources for 25 Trainees

S/No.	Category/Item	Description/ Specifications	Quantity	Recommended Ratio (Item: Trainee)
A	**Learning Materials**			
1.	Business Journals		5 pcs	1:5
2.	writing materials		50	2:1
3.	Charts		1	1:25
4.	PowerPoint presentations	For trainer's use		

5.	Whiteboard		1	1:25
6.	Assorted color of whiteboard markers	For trainer's use		
7.	Printers		1	1:25
8.	Projector		1	1:25
B	**Learning Facilities & infrastructure**			
1.	Lecture/theory room		1	1:25
2.	Agriculture lab		1	1:25
C	**Tools and Equipment**			
1.	Carbon filter		1	1:25
2.	Solid bowl centrifuge		1	1:25
3.	Pipe cutters		1	1:25
4.	Riser removal tool		1	1:25
5.	Sprinklers		1	1:25