WATER UTILIZATION

UNIT CODE: 0811 551 04 A

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

UNIT DURATION: 100 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 conserve water in the farm. It involves selecting sustainable water supply, harvesting water in the farm, irrigating crop farm and maintaining irrigation system.

Summary of Learning Outcomes

SNO	Learning Outcome	Duration (Hours)
1.	Select sustainable water supply	20
2.	Harvest water in the farm	30
3.	Irrigate crop farm	30
4.	Maintain irrigation system	20

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcomes	Content	Suggested Assessment Methods
1. Select sustainable water supply	**Theory** 1.1 Water sources 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	• Written tests • Reflection papers • Projects • Interviews/ Oral questions • Workshop reports • 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 • Reflection papers • Projects • Interviews/ Oral questions • Workshop reports • 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	• Written tests • Reflection papers • Projects • Interviews/ Oral questions • Workshop reports • Individual/group assignments • Practicals
4. Maintain irrigation system	4.1 Repairs and maintenance of farm water supply system 4.2 Erosion and pollution control	•

	4.3 Types of water efficient technologies for farming	

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