REPUBLIC OF KENYA

COMPETENCY-BASED MODULAR CURRICULUM

FOR

AGRICULTURE AND EXTENSION LEVEL 6
(CYCLE 3)

ISCED PROGRAMME CODE: 0811 554 A

TVET CDACC
P.O. BOX 15745-00100 NAIROBI

FARM WATER CONSERVATION

UNIT CODE: 0811 551 04 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 conserve water in the farm. It involves selecting sustainable water supply, harvesting water in the farm, irrigating crop farm and continuously improving conservation 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.	Select sustainable water supply	30
2.	Harvest water in the farm	30
3.	Irrigate crop farm	40
4.	Continuously improve conservation 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 1.1.1 Definition of terms 1.1.2 Identification of water	• Written tests • Projects • Interviews/ Oral questions

	sources 1.1.3 **Practice** 1.2 Carryout water testing as per work procedure 1.3 Carry out water treatment as per work procedure	• 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	• Written tests • Reflection papers • Projects • Interviews/ Oral questions • Workshop reports • Individual/group assignments • Practicals

	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	

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