



REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

AGRICULTURAL ENGINEERING TECHNICIAN

LEVEL 6

PROGRAMME ISCED CODE: 0716 454 A



TVET CDACC
P.O. BOX 15745-00100
NAIROBI

CARRY OUT AGRICULTURAL SURVEY AND FARM PLANNING

UNIT CODE: 0716 551 18A

TVET CDACC CODE: ENG/OS/AGR/CR/01/6/MA

UNIT DESCRIPTION

This unit specifies the competencies required by an Agricultural Engineering Technologist Level 6 to carry out agricultural survey and farm planning. It involves carrying out agricultural feasibility study, agricultural survey and farm planning and layout.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	These are assessable statements which specify the required level of performance for each of the elements. <i>Bold and italicized terms are elaborated in the Range.</i>
1. Carry out agricultural feasibility study	1.1 Personal protective equipment are worn based on OSHA 1.2 <i>Agricultural feasibility study tools and equipment</i> are assembled as per work requirements. 1.3 <i>Ecological, economic and socio-economic conditions</i> are analysed as per work procedure. 1.4 Feasibility study report is prepared as per the prescribed format.
2. Carry out agricultural survey	2.1 Personal protective equipment are worn based on OSHA 2.2 <i>Agricultural survey tools and equipment</i> are assembled based on surveying method 2.3 Agricultural survey is carried out as per agricultural survey manual
3. Carry out farm planning and layout	3.1 <i>Farm planning and layout tools, equipment and accessories</i> are assembled as per work requirements 3.2 Farm planning and layout work schedules are prepared as per work requirement. 3.3 Farm plans and layout drawings are prepared as per work procedure.

	3.4 Farm planning and layout approvals are obtained as per work requirement
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RANGE

This section provides work environment and conditions to which the performance criteria apply.

It allows for different work environment and situations that will affect performance.

Variable	Range
1. Agricultural feasibility study tools and equipment may include but are not limited to:	<ul style="list-style-type: none"> • Panga • Slasher • Power saw • Tape measure • Chain saw
2. Ecological, economic and socio-economic conditions may include but are not limited to:	<ul style="list-style-type: none"> • Terrain • Climate • Soil properties • capital • Soil water • Culture • Social values
3. Agricultural survey tools and equipment may include but are not limited to:	<ul style="list-style-type: none"> • Levels • Theodolite • Total station • Levelling staff • Ranging rods

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

Required knowledge

The individual needs to demonstrate knowledge of:

- Field assessment procedures

- Different land conditions
- Calibration of equipment
- Soil and water conservation
- Numerical analysis
- Occupational safety and health procedures

The **Required Skills**

The individual needs to demonstrate the following skills:

- Logical thinking
- Problem solving
- Communication
- Analytical

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills range.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Worn personal protective equipment based on OSHA</p> <p>1.2 Analysed ecological, economic and socio-economic conditions as per work procedure.</p> <p>1.3 Prepared agricultural feasibility study report as per work procedure</p> <p>1.5 Carried out agricultural survey as per agricultural survey manual</p> <p>1.6 Prepared farm planning and layout work schedules as per work procedure.</p> <p>1.7 Prepared farm plans and layout drawings as per work procedure</p> <p>1.8 Carried out farm planning and layout as per work procedure</p>
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2. Resource implications	<p>The following resources should be provided:</p> <p>2.1 Appropriately simulated environment where assessment can take place</p> <p>2.2 Access to relevant work environment</p> <p>2.3 Resources relevant to the proposed activity or tasks</p>
3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Practical's</p> <p>3.2 Projects</p> <p>3.3 Portfolio of Evidence</p> <p>3.4 Third Party Reports</p> <p>3.5 Written tests</p> <p>3.6 Oral assessment</p>
4. Context of assessment	<p>Competency may be assessed:</p> <p>4.1 Workplace</p> <p>4.2 Simulated work environment</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>