

ELEMENT These describe the key outcomes which make up workplace functions	PERFORMANCE CRITERIA 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>
	<p>5.6 Vaccination is performed as per workplace policy, manufacturer's instructions and LPM</p> <p>5.7 Isolation and quarantine are carried out to control notifiable diseases based on GAPs</p> <p>5.8 Pigs are provided with clean water ad-libitum as per LPM</p> <p>5.9 Records are prepared as per work procedures</p> <p>5.10 Pig farm bio-security practices are carried out based on good animal husbandry management guidelines, animal welfare practices, workplace instructions and legal requirement as per standard operating procedures.</p>
6. Perform pig slaughter	<p>6.1 Tools, equipment and materials for slaughter are assembled based on the Meat Control Act</p> <p>6.2 Slaughter house/slab is prepared in accordance to the Kenya Meat Control Act</p> <p>6.3 Pre-slaughter handling of pig is carried out as per the Animal Welfare Act</p> <p>6.4 Humane slaughter of pig is performed as per Animal Welfare Act</p> <p>6.5 Dressing of carcass is carried out in accordance with Meat Control Act</p> <p>6.6 Cleaning of the offal is performed as per the workplace procedures</p> <p>6.7 Dressed meat is preserved as per the Meat Control Act</p> <p>6.8 Dressed meat is transported as per the Meat Control Act</p> <p>6.9 Food safety and hygiene measures are implemented based on legal and statutory requirements (to be inserted where there is food).</p>

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These describe the key outcomes which make up workplace functions	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>
	<p>6.10 <i>By-products</i> are handled according to the Meat Control Act</p> <p>6.11 <i>Condemned materials</i> and wastes are disposed as per the Meat Control Act</p> <p>6.12 Cleaning of slaughterhouse and equipment is performed as per Meat Control Act and environmental management regulations</p> <p>6.13 Slaughter structures are maintained as per Meat Control Act</p> <p>6.14 Records are kept based on the workplace record management guidelines</p>
7. Process pig products and by-products	<p>7.1 <i>Data collection tools</i> for conducting market survey are obtained based on data to be collected.</p> <p>7.2 Market survey is conducted to establish preference for pig products and by products in accordance to workplace policy.</p> <p>7.3 Survey report is prepared and recommendations given based on findings.</p> <p>7.4 <i>Pig products</i> identified based on market survey report.</p> <p>7.5 Necessary <i>permits and certifications</i> are obtained based legal and statutory requirements</p> <p>7.6 Tools, equipment and materials for slaughter are assembled based on the Meat Control Act</p> <p>7.7 Production schedules are developed based on plant capacity and market demand.</p> <p>7.8 <i>PPEs</i> are identified and worn based on job requirements.</p> <p>7.9 Carcasses for processing are identified and selected based on standard operating procedures</p> <p>7.10 <i>Pig products</i> are processed based on recipe and processing chart, in accordance with standard operating procedures.</p>

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These describe the key outcomes which make up workplace functions	<p>These are assessable statements which specify the required level of performance for each of the elements</p> <p><i>(Bold and italicized terms are elaborated in the range)</i></p>
	<p>7.11 Mechanisms to assure food safety and hygiene are implemented based on legal and statutory requirements.</p> <p>7.12 Pig products are packaged and stored based on type and product requirements</p> <p>7.13 Report on pig products and by-products marketing is prepared and documented as per workplace policy.</p> <p>7.14 Wastes are managed based on environmental regulations and workplace requirements</p>
8. Market pig products	<p>8.1 Market survey conducted for pig products and by-products as per workplace procedures</p> <p>8.2 Marketing channels are identified based on market segmentation.</p> <p>8.3 Marketing strategy is developed and implemented based on market needs.</p> <p>8.4 Products' competitive advantage is identified and promotion carried out based on market demand.</p> <p>8.5 Product price is set based on cost of production, profit margins, organization objectives and competitor pricing.</p> <p>8.6 Products outlets are selected based on identified channels.</p> <p>8.7 Contractual agreements are undertaken, signed off and managed based on agreed terms.</p> <p>8.8 Marketing strategy is reviewed based on performance.</p> <p>8.9 Report on pig products marketing and sales activities is prepared and documented as per workplace policy.</p>

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. Tools and equipment may include but are not limited to:	<ul style="list-style-type: none"> • Pangas • Slashers • Measuring tape • Hoes • Axe • Saw • Spade • Wheelbarrow
2. <i>PPE</i> may include but are not limited to:	<ul style="list-style-type: none"> • Equipment and apparel used for safety of the worker e.g. <ul style="list-style-type: none"> ○ Gum boots, Overall, Goggles, ○ Helmet, Nose masks, Gloves
3. Pig Breeds may include but are not limited to:	<ul style="list-style-type: none"> • Large white • Landrace • Duroc jersey • Berkshire
4. Piggery equipment may include but are not limited to:	<ul style="list-style-type: none"> • Drinkers • Feeding trough • Surgical blades
5. Pig identification method may include but are not limited to:	<ul style="list-style-type: none"> • Ear tags • Ear notching • Neck chains • Straps with numbers
6. Legal requirements may include but are not limited to:	<ul style="list-style-type: none"> • Public health Act Cap 242 • EMCA 1999 • NEMA regulations • Meat control Act Cap 365 • OSH Act 2007 • Factories Act 514
7. Permits and certifications may	<ul style="list-style-type: none"> • Movement permits

VARIABLE	RANGE
include but are not limited to:	<ul style="list-style-type: none"> • No objection permits • Meat inspection permits • Food and hygiene certificate • Meat transportation permit
8. Weaning Management may include but are not limited to:	<ul style="list-style-type: none"> • Weaning weight estimation • Creep feeding • Water access • Vaccination • Deworming • Housing • Feeding management • Health monitoring • Sow management • Record keeping
9. Iron Supplementation includes but not limited;	<ul style="list-style-type: none"> • Iron injection • Sterilized soil • Iron sulphate paste
10. Feed supplements may include but are not limited to:	<ul style="list-style-type: none"> • Wheat bran • Creep feed • Mineral licks • Feed additives
11. Environmental conditions may include but are not limited to:	<ul style="list-style-type: none"> • Temperature • Cleanliness • Humidity • Light
12. Health monitoring and management may include but are not limited to:	<ul style="list-style-type: none"> • Vaccination • Temperature checks
13. Pig farm bio-security practices may include but are not limited to:	<ul style="list-style-type: none"> • Foot bath • Quarantine

VARIABLE	RANGE
	<ul style="list-style-type: none"> • Pen disinfection • Equipment sterilization • Fencing
14. Breeding method and technologies may include but are not limited to:	<ul style="list-style-type: none"> • A.1 • Synchronization • Cross breeding • Pure breeding • Inbreeding
15. Breeding management tools may include but are not limited to:	<ul style="list-style-type: none"> • Heat detection devices • Insemination guns
16. Nutritional Management may include but are not limited to:	<ul style="list-style-type: none"> • Flushing • Steaming up • Fattening
17. Food safety and hygiene may include but are not limited to:	<ul style="list-style-type: none"> • HACCP • Sanitation
18. Pig products may include but are not limited to:	<ul style="list-style-type: none"> • Sausages • Bacon • Lard • Cuts • Brawn • Smokies • Burgers
19. Pig by-products may include but are not limited to:	<ul style="list-style-type: none"> • Blood meal • Bone meal • Biogas • Manure • Brushes • Buttons • Leather

VARIABLE	RANGE
20. Condemned materials may include but are not limited to:	<ul style="list-style-type: none"> • Parasite infested organs • Dead foetus • Hydrated infested liver • Whole carcass
21. Data collection methods may include but are not limited to:	<ul style="list-style-type: none"> • Focus group discussions • Media • KNBS • Observation • Interviews • Forecasting
22. Contractual agreements may include but are not limited to:	<ul style="list-style-type: none"> • Verbal • Written
23. Animal welfare regulations may include but are not limited to:	<ul style="list-style-type: none"> • KVB • KSPCA • OIE

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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:

- Pig handling
- Littering
- Rearing piglets, growers and finishers
- Rearing gilt, sow and boar for breeding
- Implementation of medication program
- Proper disposal of hazardous wastes
- Feeding habit of pig

- Digestive system of pigs
- Building materials, tools and equipment
- Consideration in siting a pig unit
- Development and management contract document
- Housing care, repair and maintenance
- Monitoring work progress
- Pig housing types and designs
- Report writing and record keeping
- Requisition of building materials
- Safety precautions
- Terms of reference development
- Types of pig production systems

Required skills

The individual needs to demonstrate the following skills:

- Analytical
- Communication
- Critical thinking
- Decision making
- Equipment operation
- Feed handling
- Problem solving
- Record keeping
- Routine management skills
- Report Writing

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> <ul style="list-style-type: none"> 1.1 Designed pig structure 1.2 Constructed pig production structures based on available resources 1.3 Prepared pig breeding stock 1.4 Mated pigs 1.5 Performed pig husbandry practices 1.6 Selected and used clearing tools correctly. 1.7 Recorded and stored construction materials appropriately. 1.8 Maintained a clear pig unit repair and maintenance records. 1.9 Slaughtered pigs based on Kenya Meat Control Act. 1.10 Marketed pigs based on market demands. 1.11 Prepared pig production records based on organization's record management guidelines
2. Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Access to relevant workplace where assessment can take place 2.2 Appropriately simulated environment where assessment can take place 2.3 A busy pig farm which is in the process of up scaling production or 2.4 A farm starting/diversifying into pig production.
3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Third-party reports 3.2 Portfolio of Evidence 3.3 Interview 3.4 Written tests 3.5 Observation 3.6 Oral questioning
4. Context of assessment	<p>Competency may be assessed in a:</p> <ul style="list-style-type: none"> 4.1 Off-the-job 4.2 On-the-job

	4.3 During industrial attachment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.

CARRY OUT POULTRY PRODUCTION

UNIT CODE: 0811 351 14 A

TVET CDACC UNIT CODE: AGR/CU/AP/CR/08/4/MA

UNIT DESCRIPTION

This unit specifies competencies required to carry out poultry production. It involves constructing poultry structures, carrying out chick brooding, managing layer poultry, managing meat poultry, managing poultry slaughter, managing poultry breeding and marketing poultry products.

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. Construct poultry structures	1.1 Tools, equipment and materials are assembled as per work requirements 1.2 Site of poultry structures is selected based on LPM 1.3 Poultry structures are designed according to Livestock Production Manual (LPM) 1.4 Poultry structures are constructed based on livestock production manual 1.5 Poultry structures are maintained as per workplace procedures 1.6 Poultry structures construction and maintenance records are kept as per workplace requirements 1.7 Waste is managed according to environmental protection regulations 1.8 Necessary poultry house equipment and material are identified according to production system 1.9 Poultry house equipment and materials are installed as per specifications in the poultry production manual (PPM)

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	<p>These are assessable statements which specify the required level of performance for each of the elements.</p> <p><i>Bold and italicized terms are elaborated in the Range.</i></p>
	<p>1.10 Poultry structures construction and maintenance records are kept as per workplace requirements</p> <p>1.11 Waste is managed according to environmental protection regulations</p>
2. Carry out chick brooding	<p>2.1 Tools, equipment and materials are assembled as per work requirements</p> <p>2.2 Brooder is constructed as per poultry production guidelines</p> <p>2.3 Brooder and brooder equipment are disinfected as per poultry production guidelines</p> <p>2.4 Chick brooder equipment are set as per poultry production guidelines</p> <p>2.5 Microclimate is monitored as per workplace requirements</p> <p>2.6 Brooding chicks are fed as per the poultry production guidelines</p> <p>2.7 Bio-safety structures/facilities are set as per workplace requirements</p> <p>2.8 Brooding chicks are vaccinated as per the vaccination schedule</p> <p>2.9 Predator control is executed as per workplace requirements</p> <p>2.10 Chick brooding records are kept as the PPM</p> <p>2.11 Waste is managed according to environmental protection regulations</p>
3. Manage Layer Poultry	<p>3.1 Tools, equipment and materials are assembled as per work requirements</p> <p>3.2 Layers house sanitization procedures are performed as per manufacturer's guidelines</p> <p>3.3 Micro climate is monitored as per workplace requirements</p> <p>3.4 Layer poultry are fed as per the poultry production guidelines</p> <p>3.5 Layer poultry are vaccinated as per the vaccination schedule</p> <p>3.6 Post-vaccination behaviour is monitored as per workplace</p>

ELEMENT These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA 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>
	<p>requirements</p> <p>3.7 Table poultry eggs are collected as per workplace requirements</p> <p>3.8 Table poultry eggs are Sorted and graded as per poultry production manual</p> <p>3.9 Table poultry eggs are cleaned as per poultry production manual</p> <p>3.10 Table poultry eggs are packaged as per workplace requirements</p> <p>3.11 Table poultry eggs are branded based on the KEBS specifications</p> <p>3.12 Layer poultry records are kept as the PPM</p> <p>3.13 Waste is managed according to environmental protection regulations</p>
4. Manage meat poultry	<p>4.1 Tools, equipment and materials are assembled as per work requirements</p> <p>4.2 Meat poultry house sanitization procedures are performed as per manufacturer's guidelines</p> <p>4.3 Micro climate is monitored as per workplace requirements</p> <p>4.4 Meat poultry are fed as per the poultry production guidelines</p> <p>4.5 Meat poultry are vaccinated as per the vaccination schedule</p> <p>4.6 Post-vaccination behavior is monitored as per workplace requirements</p> <p>4.7 Meat poultry is caught as per workplace requirements</p> <p>4.8 Meat poultry is weighed and sorted as per market requirement</p> <p>4.9 Packaging and loading of meat poultry is carried out as per animal welfare guidelines</p> <p>4.10 Meat poultry is recorded as per workplace requirements</p> <p>4.11 Meat poultry is dispatched as per animal welfare guidelines</p> <p>4.12 Meat poultry records are kept as the PPM</p>

ELEMENT These describe the key outcomes which make up workplace function.	PERFORMANCE CRITERIA 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>
	4.13 Waste is managed according to environmental protection regulations
5. Manage Poultry Slaughter	<p>5.1 Tools, equipment and materials are assembled as per work requirements</p> <p>5.2 Poultry for slaughter is selected as per the poultry farm regulations</p> <p>5.3 Ante-mortem inspection is performed based on the veterinary regulations</p> <p>5.4 Poultry is slaughtered as per poultry slaughtering procedure</p> <p>5.5 Cleaned eviscerated poultry carcass is chilled as per poultry slaughtering procedure</p> <p>5.6 Poultry carcass is chilled and graded as per workplace requirements</p> <p>5.7 Portioned poultry meat is packaged as per the workplace procedures</p> <p>5.8 Poultry slaughter records are kept as the PPM</p> <p>5.9 Waste is managed according to environmental protection regulations</p>
6. Manage Breeding Poultry	<p>6.1 Tools, equipment and materials are assembled as per work requirements</p> <p>6.2 Mating and breeding systems are designed in accordance with farm preferences and desired mating ratios</p> <p>6.3 Breeding poultry are selected in accordance with the poultry production manual (PPM) and poultry welfare regulations</p> <p>6.4 Selected breeding poultry are mated as per designed mating and breeding systems</p> <p>6.5 Breeding poultry are fed as per the poultry production guidelines</p>

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	<p>6.6 Breeding poultry are vaccinated as per the vaccination schedule</p> <p>6.7 Post-vaccination behavior is monitored as per workplace requirements</p> <p>6.8 Collected eggs in trays are fumigated in the farm fumigation chamber according to procedures described in the PPM</p> <p>6.9 Poultry eggs are sorted and stored according to <i>regulatory body standards</i></p> <p>6.10 Selected eggs for hatching are transported to the hatchery according to PPM</p> <p>6.11 Breeding poultry records are kept as the PPM</p> <p>6.12 Waste is managed according to environmental protection regulations</p>
7. Market poultry products	<p>Survey is conducted based on Standard Survey guidelines</p> <p>Products are sold based on market demands</p> <p>is transported to the market based on Animal Welfare Act</p> <p>Records are maintained based on the organization's record management</p>

RANGE OF VARIABLES

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

RANGE	VARIABLE
1. Poultry structures may include but not limited to:	<ul style="list-style-type: none"> • Brooder • Grower house • Layer's house • Broiler house • Feed store

RANGE	VARIABLE
	<ul style="list-style-type: none"> • Slated floors • Cages • Pallets
2. Tools, equipment and materials may include but not limited to:	<ul style="list-style-type: none"> • Waterers • Feeders • Thermometer (maximum – minimum) • Heat sources • Litter material • Curtains • False ceilings • Hygrometer
3. Poultry production manual (PPM) may include but not limited to:	<ul style="list-style-type: none"> • National Poultry Development Programme Manual • Breeder's manuals by breeders like Cobb and Issa Brown
4. Chick brooder equipment and Tools may include but not limited to:	<ul style="list-style-type: none"> • Brooder thermometer • Charcoal jiko • Infra-red bulb • Gas burner • Kerosene lamp • Chick feeder • Chick drinker • Hygrometer
5. Bio-safety structures/facilities includes but not limited to:	<ul style="list-style-type: none"> • Foot bath • Sanitizer • Fence
6. Regulatory body standards include but is not limited to:	<ul style="list-style-type: none"> • Standards by bodies like: • Kenya Bureau of Standards (KEBS) • State Directorate of Veterinary Services (SDVS)
7. Poultry products includes but is not limited to:	<ul style="list-style-type: none"> • Eggs • Poultry meat

RANGE	VARIABLE
	<ul style="list-style-type: none"> • Feathers • Manure • Offal

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

The individual needs to demonstrate the following skills:

- Communication skills
- Problem solving
- Organizational skills
- Time management
- Listening skills
- Critical thinking
- Negotiation
- Data collection
- Digital literacy
- Analytical skills

Required knowledge

The individual needs to demonstrate knowledge of:

- Anatomy and physiology of the poultry reproductive system
- Breeding systems
- Selection criteria for breeding poultry
- Poultry selection and breeding
- Animal nutrition
- Parasite and disease management in poultry
- Marketing poultry and eggs
- Egg handling
- Egg sorting
- Egg storage

- Feeding strategies, systems and regimes
- Mating systems
- Nutritional composition of feed materials
- Poultry feed intake
- Poultry housing requirements
- Poultry identification methods
- Poultry Immunology
- Poultry nutritional requirements
- Poultry spacing requirements
- Poultry welfare
- Reconstitution of vaccines
- Record keeping
- Refrigeration methods
- Restraining methods
- Selection and culling criteria
- Stocking density
- Traits of economic importance in poultry
- Types and breeds of poultry
- Types and functions of nutrients
- Types of drinkers and waterers
- Types of feed additives
- Types of poultry records
- Types of vaccines
- Vaccinology
- Water quality

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EVIDENCE GUIDE

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

1. Critical aspects of competency	Assessment requires evidence that the candidate: 1.1 Constructed poultry structure as per the design and type of
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	<p>construction materials</p> <p>1.2 Installed poultry house equipment and materials as per specifications in the poultry production manual (PPM) Collected data as per statistical manual</p> <p>1.3 Mated breeding poultry as per designed mating and breeding systems</p> <p>1.4 Fed poultry as per the poultry production guidelines</p> <p>1.5 Vaccinated poultry as per the vaccination schedule</p> <p>1.6 Monitored microclimate as per workplace requirements</p> <p>1.7 Stored eggs for incubation at a correct temperature in preparation for incubation in accordance with PPM guidelines</p> <p>1.8 Carried out packaging and loading of meat producing poultry as per animal welfare guidelines</p> <p>1.9 Slaughtered poultry as per poultry slaughtering procedure</p> <p>1.10 Chilled and graded poultry carcass as workplace requirements</p> <p>1.11 Packaged portioned poultry meat as per workplace procedures</p> <p>1.12 Kept records as per the LPM</p> <p>1.13 Managed wastes according to environmental protection regulations</p>
2. Resource implication	<p>The following resources should be provided:</p> <p>2.1 Tools, equipment and machineries</p> <p>2.2 Materials and supplies</p>
3. Method of assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Projects</p> <p>3.2 Observation</p> <p>3.3 Written tests</p> <p>3.4 Questionnaires</p> <p>3.5 Oral questioning</p>
4. Context of assessment	<p>4.1 Competency elements must be assessed in a safe working environment</p> <p>4.2 Assessment may be conducted in a workplace or simulated environment</p>

5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.
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