COMPETENCY STANDARDS

COFFEE PRODUCTION
LEVEL II

AGRICULTURE, FORESTRY AND FISHERY SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY
TESDA Complex East Service Road, South Luzon Expressway (SLEX),
Fort Bonifacio, Taguig City

Technical Education and Skills Development Act of 1994
(Republic Act No. 7796)

Section 22, "Establishment and Administration of the National Trade Skills Standards" of the RA 7796 known as the TESDA Act mandates TESDA to establish national occupational skill standards. The Authority shall develop and implement a certification and accreditation program in which private industry group and trade associations are accredited to conduct approved trade tests, and the local government units to promote such trade testing activities in their respective areas in accordance with the guidelines to be set by the Authority.

The Training Regulations (TR) serve as basis for the:

1. Competency assessment and certification;
2. Registration and delivery of training programs; and
3. Development of curriculum and assessment instruments.

Each TR has four sections:

Section 1   **Definition of Qualification** - describes the qualification and defines the competencies that comprise the qualification.

Section 2   **The Competency Standards** - format was revised to include the Required Knowledge and Required Skills per element.   These fields explicitly state the required knowledge and skills for competent performance of a unit of competency in an informed and effective manner. These also emphasize the application of knowledge and skills to situations where understanding is converted into a workplace outcome.

Section 3   **Training Arrangements** - contain the information and requirements which serve as bases for training providers in designing and delivering competency-based curriculum for the qualification. The revisions to Section 3 entail identifying the Learning Activities leading to achievement of the identified Learning Outcome.

Section 4   **Assessment and Certification Arrangements** - describe the policies governing assessment and certification procedures for the qualification.

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TRAINING REGULATIONS FOR

COFFEE PRODUCTION LEVEL II

SECTION 1   COFFEE PRODUCTION LEVEL II QUALIFICATION

The **COFFEE PRODUCTION LEVEL II** Qualification consists of competencies that a person must have in order to plant coffee seedlings, grow and maintain coffee plants, harvest and dry coffee cherries, and market green coffee beans (GCB). Competencies focus on production, that is from planting to harvesting and marketing of the coffee beans. It also comprises of competencies to handle farm operation in small scale, which is farm (1 to 10 hectares).

This Qualification is packaged from the competency map of the Agriculture, Forestry and Fishery Sector as shown in Annex A.

The Units of Competency comprising this Qualification include the following:

CODE NO.	BASIC COMPETENCIES
400311210	Participate in workplace communication
400311211	Work in team environment
400311212	Solve/address general workplace problems
400311213	Develop career and life decisions
400311214	Contribute to workplace innovation
400311215	Present relevant information
400311216	Practice occupational safety and health policies and procedures
400311217	Exercise efficient and effective sustainable practices in the workplace
400311218	Practice entrepreneurial skills in the workplace

CODE NO.	COMMON COMPETENCIES
AGR321201	Apply safety measures in farm operations
AGR321202	Use farm tools and equipment
AGR321203	Perform estimation and basic calculation

CODE NO.	CORE COMPETENCIES
AFFXXXXXX	Plant coffee seedlings
AFFXXXXXX	Care and maintain coffee plant
AFFXXXXXX	Harvest coffee

A person who has achieved this Qualification is competent to be:

- ❑ Coffee Grower
- ❑ Coffee Farmer
- ❑ Coffee Harvester

SECTION 2 COMPETENCY STANDARDS

This section gives the details of the contents of the basic, common and core units of competency required in **COFFEE PRODUCTION LEVEL II**.

BASIC COMPETENCIES

UNIT OF COMPETENCY	:	**PARTICIPATE IN WORKPLACE COMMUNICATION**	
UNIT CODE	:	**400311210**	
UNIT DESCRIPTOR	:	This unit covers the knowledge, skills and attitudes required to gather, interpret and convey information in response to workplace requirements.	

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Obtain and convey workplace information	1.1 Specific and relevant information is accessed from *appropriate sources*. 1.2 Effective questioning, active listening and speaking skills are used to gather and convey information. 1.3 Appropriate *medium* is used to transfer information and ideas. 1.4 Appropriate non-verbal communication is used. 1.5 Appropriate lines of communication with supervisors and colleagues are identified and followed. 1.6 Defined workplace procedures for the location and *storage* of information are used.	1.1 Effective verbal and nonverbal communication 1.2 Different modes of communication 1.3 Medium of communication in the workplace 1.4 Organizational policies 1.5 Communication procedures and systems 1.6 Lines of Communication 1.7 Technology relevant to the enterprise and the individual's work responsibilities 1.8 Workplace etiquette	1.1 Following simple spoken language 1.2 Performing routine workplace duties following simple written notices 1.3 Participating in workplace meetings and discussions 1.4 Preparing work-related documents 1.5 Estimating, calculating and recording routine workplace measures 1.6 Relating/ Interacting with people of various levels in the workplace 1.7 Gathering and providing basic information in response to workplace requirements

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	1.7 Personal interaction is carried out clearly and concisely.		1.8 Basic business writing skills 1.9 Interpersonal skills in the workplace 1.10 Active-listening skills
2. Perform duties following workplace instructions	2.1 Written notices and instructions are read and interpreted in accordance with organizational guidelines. 2.2 Routine written instruction are followed based on established procedures. 2.3 Feedback is given to workplace supervisor based instructions/ information received. 2.4 **Workplace interactions** are conducted in a courteous manner. 2.5 Where necessary, clarifications about routine workplace procedures and matters concerning conditions of employment are sought and asked from **appropriate sources**. 2.6 Meetings outcomes are interpreted and implemented.	2.1 Effective verbal and non-verbal communication 2.2 Different modes of communication 2.3 Medium of communication in the workplace 2.4 Organizational/ Workplace policies 2.5 Communication procedures and systems 2.6 Lines of communication 2.7 Technology relevant to the enterprise and the individual's work responsibilities 2.8 Effective questioning techniques (clarifying and probing) 2.9 Workplace etiquette	2.1 Following simple spoken instructions 2.2 Performing routine workplace duties following simple written notices 2.3 Participating in workplace meetings and discussions 2.4 Completing work- related documents 2.5 Estimating, calculating and recording routine workplace measures 2.6 Relating/ Responding to people of various levels in the workplace 2.7 Gathering and providing information in response to workplace requirements 2.8 Basic questioning/ querying 2.9 Skills in reading for information 2.10 Skills in locating
3. Complete relevant work-related documents	3.1 Range of **forms** relating to conditions of employment are completed	3.1 Effective verbal and non-verbal communication 3.2 Different modes of communication	3.1 Completing work-related documents 3.2 Applying operations of

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	accurately and legibly. 3.2 Workplace data is recorded on standard workplace forms and documents. 3.3 Errors in recording information on forms/ documents are identified and acted upon. 3.4 Reporting requirements to supervisor are completed according to organizational guidelines.	3.3 Workplace forms and documents 3.4 Organizational/ Workplace policies 3.5 Communication procedures and systems 3.6 Technology relevant to the enterprise and the individual's work responsibilities	addition, subtraction, division and multiplication 3.3 Gathering and providing information in response to workplace requirements 3.4 Effective record keeping skills

RANGE OF VARIABLES

VARIABLE	RANGE
1. Appropriate sources	May include: 1.1 Team members 1.2 Supervisor/Department Head 1.3 Suppliers 1.4 Trade personnel 1.5 Local government 1.6 Industry bodies
2. Medium	May include: 2.1 Memorandum 2.2 Circular 2.3 Notice 2.4 Information dissemination 2.5 Follow-up or verbal instructions 2.6 Face-to-face communication 2.7 Electronic media (disk files, cyberspace)
3. Storage	May include: 3.1 Manual filing system 3.2 Computer-based filing system
4. Workplace interactions	May include: 4.1 Face-to-face 4.2 Telephone 4.3 Electronic and two-way radio 4.4 Written including electronic means, memos, instruction and forms 4.5 Non-verbal including gestures, signals, signs and diagrams
5. Forms	May include: 5.1 HR/Personnel forms, telephone message forms, safety reports

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Prepared written communication following standard format of the organization 1.2 Accessed information using workplace communication equipment/systems 1.3 Made use of relevant terms as an aid to transfer information effectively 1.4 Conveyed information effectively adopting formal or informal communication
2. Resource Implications	**The following resources should be provided:** 2.1 Fax machine 2.2 Telephone 2.3 Notebook 2.4 Writing materials 2.5 Computer with Internet connection
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration with oral questioning 3.2 Interview 3.3 Written test 3.4 Third-party report
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or through an accredited institution

UNIT OF COMPETENCY **:** **WORK IN TEAM ENVIRONMENT**

UNIT CODE **:** **400311211**

UNIT DESCRIPTOR **:** This unit covers the skills, knowledge and attitudes to identify one's roles and responsibilities as a member of a team.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Describe team role and scope	1.1 The *role and objective of the team* is identified from available *sources of information*. 1.2 Team parameters, reporting relationships and responsibilities are identified from team discussions and appropriate external sources.	1.1 Group structure 1.2 Group development 1.3 Sources of information	1.1 Communicating with others, appropriately consistent with the culture of the workplace 1.2 Developing ways in improving work structure and performing respective roles in the group or organization
2. Identify one's role and responsibility within a team	2.1 Individual roles and responsibilities within the team environment are identified. 2.2 Roles and objectives of the team is identified from available *sources of information*. 2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions and appropriate external sources.	2.1 Team roles and objectives 2.2 Team structure and parameters 2.3 Team development 2.4 Sources of information	2.1 Communicating with others, appropriately consistent with the culture of the workplace 2.2 Developing ways in improving work structure and performing respective roles in the group or organization
3. Work as a team member	3.1 Effective and appropriate forms of communications are used and interactions undertaken with	3.1 Communication Process 3.2 Workplace communication protocol	3.1 Communicating appropriately, consistent with the culture of the workplace

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	team members based on company practices. 3.2 Effective and appropriate contributions made to complement team activities and objectives, based on **workplace context**. 3.3 Protocols in reporting are observed based on standard company practices. 3.4 Contribute to the development of team work plans based on an understanding of team's role and objectives.	3.3 Team planning and decision making 3.4 Team thinking 3.5 Team roles 3.6 Process of team development 3.7 Workplace context	3.2 Interacting effectively with others 3.3 Deciding as an individual and as a group using group think strategies and techniques 3.4 Contributing to Resolution of issues and concerns

RANGE OF VARIABLES

VARIABLE	RANGE
1. Role and objective of team	May include: 1.1 Work activities in a team environment with enterprise or specific sector 1.2 Limited discretion, initiative and judgement maybe demonstrated on the job, either individually or in a team environment
2. Sources of information	May include: 2.1 Standard operating and/or other workplace procedures 2.2 Job procedures 2.3 Machine/equipment manufacturer's specifications and instructions 2.4 Organizational or external personnel 2.5 Client/supplier instructions 2.6 Quality standards 2.7 OHS and environmental standards
3. Workplace context	May include: 3.1 Work procedures and practices 3.2 Conditions of work environments 3.3 Legislation and industrial agreements 3.4 Standard work practice including the storage, safe handling and disposal of chemicals 3.5 Safety, environmental, housekeeping and quality guidelines

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:**
	1.1 Worked in a team to complete workplace activity
	1.2 Worked effectively with others
	1.3 Conveyed information in written or oral form
	1.4 Selected and used appropriate workplace language
	1.5 Followed designated work plan for the job
2. Resource Implications	**The following resources should be provided:**
	2.1 Access to relevant workplace or appropriately simulated environment where assessment can take place
	2.2 Materials relevant to the proposed activity or tasks
3. Methods of Assessment	**Competency in this unit may be assessed through:**
	3.1 Role play involving the participation of individual member to the attainment of organizational goal
	3.2 Case studies and scenarios as a basis for discussion of issues and strategies in teamwork
	3.3 Socio-drama and socio-metric methods
	3.4 Sensitivity techniques
	3.5 Written Test
4. Context for Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting
	4.2 Assessment shall be observed while task are being undertaken whether individually or in group

UNIT OF COMPETENCY **:** **SOLVE/ADDRESS GENERAL WORKPLACE PROBLEMS**

UNIT CODE **:** **400311212**

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills and attitudes required to apply problem-solving techniques to determine the origin of problems and plan for their resolution. It also includes addressing procedural problems through documentation, and referral.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify routine problems	1.1 Routine **problems or procedural problem** areas are identified. 1.2 Problems to be investigated are defined and determined. 1.3 Current conditions of the problem are identified and documented.	1.1 Current industry hardware and software products and services 1.2 Industry maintenance, service and helpdesk practices, processes and procedures 1.3 Industry standard diagnostic tools 1.4 Malfunctions and resolutions	1.1 Identifying current industry hardware and software products and services 1.2 Identifying current industry maintenance, services and helpdesk practices, processes and procedures. 1.3 Identifying current industry standard diagnostic tools 1.4 Describing common malfunctions and resolutions. 1.5 Determining the root cause of a routine malfunction
2. Look for solutions to routine problems	2.1 Potential solutions to problem are identified. 2.2 Recommendations about possible solutions are developed, **documented**, ranked and presented to	2.1 Current industry hardware and software products and services 2.2 Industry service and helpdesk practices, processes and procedures	2.1 Identifying current industry hardware and software products and services 2.2 Identifying services and helpdesk practices,

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	appropriate person for decision.	2.3 Operating systems 2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions. 2.6 Root cause analysis	processes and procedures. 2.3 Identifying operating system 2.4 Identifying current industry standard diagnostic tools 2.5 Describing common malfunctions and resolutions. 2.6 Determining the root cause of a routine malfunction
3. Recommend solutions to problems	3.1 Implementation of solutions are **planned**. 3.2 Evaluation of implemented solutions are planned. 3.3 Recommended solutions are documented and submit to appropriate person for confirmation.	3.1 Standard procedures 3.2 Documentation produce	3.1 Producing documentation that recommends solutions to problems 3.2 Following established procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Problems/Procedural Problem	May include: 1.1 Routine/non – routine processes and quality problems 1.2 Equipment selection, availability and failure 1.3 Teamwork and work allocation problem 1.4 Safety and emergency situations and incidents 1.5 Work-related problems outside of own work area
2. Appropriate person	May include: 2.1 Supervisor or manager 2.2 Peers/work colleagues 2.3 Other members of the organization
3. Document	May include: 3.1 Electronic mail 3.2 Briefing notes 3.3 Written report 3.4 Evaluation report
4. Plan	May include: 4.1 Priority requirements 4.2 Co-ordination and feedback requirements 4.3 Safety requirements 4.4 Risk assessment 4.5 Environmental requirements

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Determined the root cause of a routine problem 1.2 Identified solutions to procedural problems. 1.3 Produced documentation that recommends solutions to problems. 1.4 Followed established procedures. 1.5 Referred unresolved problems to support persons.
2. Resource Implications	2.1 Assessment will require access to a workplace over an extended period, or a suitable method of gathering evidence of operating ability over a range of situations.
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Case Formulation 3.2 Life Narrative Inquiry 3.3 Standardized test The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY   :   DEVELOP CAREER AND LIFE DECISIONS

UNIT CODE   :   400311213

UNIT DESCRIPTOR   :   This unit covers the knowledge, skills, and attitudes in managing one's emotions, developing reflective practice, and boosting self-confidence and developing self-regulation.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Manage one's emotion	1.1 **Self-management strategies** are identified. 1.2 Skills to work independently and to show initiative, to be conscientious, and persevering in the face of setbacks and frustrations are developed. 1.3 Techniques for effectively handling negative emotions and **unpleasant situation i**n the workplace are examined.	1.1 Self-management strategies that assist in regulating behavior and achieving personal and learning goals (e.g. Nine self-management strategies according to Robert Kelley) 1.2 Enablers and barriers in achieving personal and career goals 1.3 Techniques in handling negative emotions and unpleasant situation in the workplace such as frustration, anger, worry, anxiety, etc.	1.1 Managing properly one's emotions and recognizing situations that cannot be changed and accept them and remain professional 1.2 Developing self-discipline, working independently and showing initiative to achieve personal and career goals 1.3 Showing confidence, and resilience in the face of setbacks and frustrations and other negative emotions and unpleasant situations in the workplace
2. Develop reflective practice	2.1 Personal strengths and achievements, based on self-assessment strategies and teacher feedback are contemplated. 2.2 Progress when seeking and	2.1 Basic SWOT analysis 2.2 Strategies to improve one's attitude in the workplace 2.3 Gibbs' Reflective Cycle/Model (Description,	2.1 Using the basic SWOT analysis as self-assessment strategy 2.2 Developing reflective practice through realization of

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	responding to feedback from teachers to assist them in consolidating strengths, addressing weaknesses and fulfilling their potential are monitored. 2.3 Outcomes of personal and academic challenges by reflecting on previous problem solving and decision making strategies and feedback from peers and teachers are predicted.	Feelings, Evaluation, Analysis, Conclusion, and Action plan)	limitations, likes/ dislikes; through showing of self-confidence 2.3 Demonstrating self-acceptance and being able to accept challenges
3. Boost self-confidence and develop self-regulation	3.1 Efforts for continuous self-improvement are demonstrated. 3.2 Counter-productive tendencies at work are eliminated. 3.3 Positive outlook in life are maintained.	3.1 Four components of self-regulation based on Self-Regulation Theory (SRT) 3.2 Personality development concepts 3.3 Self-help concepts (e. g., 7 Habits by Stephen Covey, transactional analysis, psycho-spiritual concepts)	3.1 Performing effective communication skills – reading, writing, conversing skills 3.2 Showing affective skills – flexibility, adaptability, etc. 3.3 Self-assessment for determining one's strengths and weaknesses

RANGE OF VARIABLES

VARIABLE	RANGE
1. Self-management strategies	May include: 1.1 Seeking assistance in the form of job coaching or mentoring 1.2 Continuing dialogue to tackle workplace grievances 1.3 Collective negotiation/bargaining for better working conditions 1.4 Share your goals to improve with a trusted co-worker or supervisor 1.5 Make a negativity log of every instance when you catch yourself complaining to others 1.6 Make lists and schedules for necessary activities
2. Unpleasant situation	May include: 2.1 Job burn-out 2.2 Drug dependence 2.3 Sulking

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Express emotions appropriately 1.2 Work independently and show initiative 1.3 Consistently demonstrate self-confidence and self-discipline
2. Resource Implications	**The following resources should be provided:** 2.1 Access to workplace and resources 2.2 Case studies
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration or simulation with oral questioning 3.2 Case problems involving work improvement and sustainability issues 3.3 Third-party report
4. Context for Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment

UNIT OF COMPETENCY :   CONTRIBUTE TO WORKPLACE INNOVATION

UNIT CODE :   400311214

UNIT DESCRIPTOR :   This unit covers the knowledge, skills and attitudes required to make a pro-active and positive contribution to workplace innovation.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify opportunities to do things better	1.1 *Opportunities for improvement* are identified proactively in own area of work. 1.2 *Information* are gathered and reviewed which may be relevant to ideas and which might assist in gaining support for idea.	1.1 Roles of individuals in suggesting and making improvements. 1.2 Positive impacts and challenges in innovation. 1.3 Types of changes and responsibility. 1.4 Seven habits of highly effective people.	1.1 Identifying opportunities to improve and to do things better. Involvement 1.2 Identifying the positive impacts and the challenges of change and innovation 1.3 Identifying examples of the types of changes that are within and outside own scope of responsibility
2. Discuss and develop ideas with others	2.1 *People who could provide input* to ideas for improvements are identified. 2.2 Ways of approaching people to begin sharing ideas are selected. 2.3 Meeting is set with relevant people. 2.4 Ideas for follow up are review and selected based on feedback. 2.5 *Critical inquiry method* is used to discuss and develop ideas with others.	2.1 Roles of individuals in suggesting and making improvements 2.2 Positive impacts and challenges in innovation 2.3 Types of changes and responsibility. 2.4 Seven habits of highly effective people	2.1 Identifying opportunities to improve and to do things better. Involvement 2.2 Identifying the positive impacts and the challenges of change and innovation 2.3 Providing examples of the types of changes that are within and outside own scope of responsibility 2.4 Communicating ideas for change through small

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
			group discussions and meetings
3. Integrate ideas for change in the workplace	3.1 Critical inquiry method is used to integrate different ideas for change of key people. 3.2 Summarizing, analyzing and generalizing skills are used to extract salient points in the pool of ideas. 3.3 *Reporting skills* are likewise used to communicate results. 3.4 *Current Issues and concerns* on the systems, processes and procedures, as well as the need for simple innovative practices are identified.	3.1 Roles of individuals in suggesting and making improvements 3.2 Positive impacts and challenges in innovation 3.3 Types of changes and responsibility 3.4 Seven habits of highly effective people 3.5 Basic research skills	3.1 Identifying opportunities to improve and to do things better. Involvement 3.2 Identifying the positive impacts and the challenges of change and innovation 3.3 Providing examples of the types of changes that are within and outside own scope of responsibility 3.4 Communicating ideas for change through small group discussions and meetings 3.5 Demonstrating skills in analysis and interpretation of data

RANGE OF VARIABLES

VARIABLE	RANGE
1. Opportunities for improvement	May include: 1.1 Systems 1.2 Processes 1.3 Procedures 1.4 Protocols 1.5 Codes 1.6 Practices
2. Information	May include: 2.1 Workplace communication problems 2.2 Performance evaluation results 2.3 Team dynamics issues and concerns 2.4 Challenges on return of investment 2.5 New tools, processes and procedures 2.6 New people in the organization
3. People who could provide input	May include: 3.1 Leaders 3.2 Managers 3.3 Specialists 3.4 Associates 3.5 Researchers 3.6 Supervisors 3.7 Staff 3.8 Consultants (external) 3.9 People outside the organization in the same field or similar expertise/industry 3.10 Clients
4. Critical inquiry method	May include: 4.1 Preparation 4.2 Discussion 4.3 Clarification of goals 4.4 Negotiate towards a Win-Win outcome 4.5 Agreement 4.6 Implementation of a course of action 4.7 Effective verbal communication. See our pages: Verbal Communication and Effective Speaking 4.8 Listening 4.9 Reducing misunderstandings is a key part of effective negotiation 4.10 Rapport Building 4.11 Problem Solving 4.12 Decision Making 4.13 Assertiveness 4.14 Dealing with Difficult Situations
5. Reporting skills	May include: 5.1 Data management 5.2 Coding 5.3 Data analysis and interpretation

VARIABLE	RANGE
	5.4 Coherent writing
	5.5 Speaking

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:**
	1.1 Identified opportunities to do things better.
	1.2 Discussed and developed ideas with others on how to contribute to workplace innovation.
	1.3 Integrated ideas for change in the workplace.
	1.4 Analyzed and reported rooms for innovation and learning in the workplace.
2. Resource Implications	**The following resources should be provided:**
	2.1 Pens, papers and writing implements
	2.2 Cartolina
	2.3 Manila papers
3. Methods of Assessment	**Competency in this unit may be assessed through:**
	3.1 Psychological and behavioral Interviews
	3.2 Performance Evaluation
	3.3 Life Narrative Inquiry
	3.4 Review of portfolios of evidence and third-party workplace reports of on-the-job performance
	3.5 Sensitivity analysis
	3.6 Organizational analysis
	3.7 Standardized assessment of character strengths and virtues applied
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY **:** **PRESENT RELEVANT INFORMATION**

UNIT CODE **:** **400311215**

UNIT DESCRIPTOR **:** This unit of covers the knowledge, skills and attitudes required to present data/information appropriately.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Gather data/ information	1.1 Evidence, facts and information are collected. 1.2 Evaluation, terms of reference and conditions are reviewed to determine whether data/information falls within project scope.	1.1 Organisational protocols 1.2 Confidentiality 1.3 Accuracy 1.4 Business mathematics and statistics 1.5 Data analysis techniques/proc edures 1.6 Reporting requirements to a range of audiences 1.7 Legislation, policy and procedures relating to the conduct of evaluations 1.8 Organisational values, ethics and codes of conduct	1.1 Describing organisational protocols relating to client liaison 1.2 Protecting confidentiality 1.3 Describing accuracy 1.4 Computing business mathematics and statistics 1.5 Describing data analysis techniques/ procedures 1.6 Reporting requirements to a range of audiences 1.7 Stating legislation, policy and procedures relating to the conduct of evaluations 1.8 Stating organisational values, ethics and codes of conduct
2. Assess gathered data/ information	2.1 Validity of data/ information is assessed.	2.1 Business mathematics and statistics	2.1 Computing business mathematics and statistics

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.2 Analysis techniques are applied to assess data/ information. 2.3 Trends and anomalies are identified. 2.4 ***Data analysis techniques*** and procedures are documented. 2.5 Recommendations are made on areas of possible improvement.	2.2 Data analysis techniques/ procedures 2.3 Reporting requirements to a range of audiences 2.4 Legislation, policy and procedures relating to the conduct of evaluations 2.5 Organisational values, ethics and codes of conduct	2.2 Describing data analysis techniques/ procedures 2.3 Reporting requirements to a range of audiences 2.4 Stating legislation, policy and procedures relating to the conduct of evaluations 2.5 Stating organisational values, ethics and codes of conduct
3. Record and present information	3.1 Studied data/ information are recorded. 3.2 Recommendations are analysed for action to ensure they are compatible with the project's scope and terms of reference. 3.3 Interim and final reports are analysed and outcomes are compared to the criteria established at the outset. 3.4 Findings are presented to stakeholders.	3.1 Data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Legislation, policy and procedures relating to the conduct of evaluations 3.4 Organisational values, ethics and codes of conduct	3.1 Describing data analysis techniques/ procedures 3.2 Reporting requirements to a range of audiences 3.3 Stating legislation, policy and procedures relating to the conduct of evaluations 3.4 Stating organisational values, ethics and codes of conduct practices

RANGE OF VARIABLES

VARIABLE	RANGE
1. Data analysis techniques	May include: 1.1 Domain analysis 1.2 Content analysis 1.3 Comparison technique

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Determine data / information 1.2 Studied and applied gathered data/information 1.3 Recorded and studied data/information These aspects may be best assessed using a range of scenarios what ifs as a stimulus with a walk through forming part of the response. These assessment activities should include a range of problems, including new, unusual and improbable situations that may have happened.
2. Resource Implications	**Specific resources for assessment** 2.1 Evidence of competent performance should be obtained by observing an individual in an information management role within the workplace or operational or simulated environment.
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Written Test 3.2 Interview 3.3 Portfolio The unit will be assessed in a holistic manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations, which will include disruptions to normal, smooth operation. Simulation may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual workplace and will include walk through of the relevant competency components.
4. Context for Assessment	4.1 In all workplace, it may be appropriate to assess this unit concurrently with relevant teamwork or operation units.

UNIT OF COMPETENCY **:** **PRACTICE OCCUPATIONAL SAFETY AND HEALTH POLICIES AND PROCEDURES**

UNIT CODE **:** **400311216**

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills and attitudes required to identify OSH compliance requirements, prepare OSH requirements for compliance, perform tasks in accordance with relevant OSH policies and procedures.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify OSH compliance requirements	1.1 Relevant *OSH requirements, regulations, policies and procedures* are identified in accordance with workplace policies and procedures. 1.2 OSH activity non-conformities are conveyed to *appropriate personnel*. 1.3 *OSH preventive and control requirements* are identified in accordance with OSH work policies and procedures.	1.1 OSH preventive and control requirements 1.2 Hierarchy of Controls 1.3 Hazard Prevention and Control 1.4 General OSH principles 1.5 Work standards and procedures 1.6 Safe handling procedures of tools, equipment and materials 1.7 Standard emergency plan and procedures in the workplace	1.1 Communication skills 1.2 Interpersonal skills 1.3 Critical thinking skills 1.4 Observation skills
2. Prepare OSH requirements for compliance	2.1 OSH work activity material, tools and equipment requirements are identified in accordance with workplace policies and procedures. 2.2 Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures.	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures 2.4 Safe handling procedures of tools, equipment and materials 2.5 Different OSH control measures	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation skills 2.6 Material, tool and equipment identification skills

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.3 Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards.		
3. Perform tasks in accordance with relevant OSH policies and procedures	3.1 Relevant OSH work procedures are identified in accordance with workplace policies and procedures. 3.2 Work Activities are executed in accordance with OSH work standards. 3.3 **Non-compliance work activities** are reported to *appropriate personnel*.	3.1 OSH work standards 3.2 Industry related work activities 3.3 General OSH principles 3.4 OSH Violations Non-compliance work activities	3.1 Communication skills 3.2 Interpersonal skills 3.3 Troubleshooting skills 3.4 Critical thinking skills 3.5 Observation skills

RANGE OF VARIABLES

VARIABLE	RANGE
1. OSH Requirements, Regulations, Policies and Procedures	May include: 1.1 Clean Air Act 1.2 Building code 1.3 National Electrical and Fire Safety Codes 1.4 Waste management statutes and rules 1.5 Permit to Operate 1.6 Philippine Occupational Safety and Health Standards 1.7 Department Order No. 13 (Construction Safety and Health) 1.8 ECC regulations
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself
3. OSH Preventive and Control Requirements	May include: 3.1 Resources needed for removing hazard effectively 3.2 Resources needed for substitution or replacement 3.3 Resources needed to establishing engineering controls 3.4 Resources needed for enforcing administrative controls 3.5 Personal Protective equipment
4. Non OSH-Compliance Work Activities	May include non-compliance or observance of the following safety measures: 4.1 Violations that may lead to serious physical harm or death 4.2 Fall Protection 4.3 Hazard Communication 4.4 Respiratory Protection 4.5 Power Industrial Trucks 4.6 Lockout/Tag-out 4.7 Working at heights (use of ladder, scaffolding) 4.8 Electrical Wiring Methods 4.9 Machine Guarding 4.10 Electrical General Requirements 4.11 Asbestos work requirements 4.12 Excavations work requirements

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Convey OSH work non-conformities to appropriate personnel 1.2 Identify OSH preventive and control requirements in accordance with OSH work policies and procedures 1.3 Identify OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures 1.4 Arrange/Place required OSH materials, tools and equipment in accordance with OSH work standards 1.5 Execute work activities in accordance with OSH work standards 1.6 Report OSH activity non-compliance work activities to appropriate personnel
2. Resource Implications	**The following resources should be provided:** 2.1 Facilities, materials tools and equipment necessary for the activity
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Observation/Demonstration with oral questioning 3.2 Third party report
4. Context for Assessment	4.1 Competency may be assessed in the work place or in a simulated work place setting

UNIT OF COMPETENCY	:	**EXERCISE EFFICIENT AND EFFECTIVE SUSTAINABLE PRACTICES IN THE WORKPLACE**
UNIT CODE	:	**400311217**
UNIT DESCRIPTOR	:	This unit covers knowledge, skills and attitude to identify the efficiency and effectiveness of resource utilization, determine causes of inefficiency and/or ineffectiveness of resource utilization and Convey inefficient and ineffective environmental practices.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Identify the efficiency and effectiveness of resource utilization	1.1 Required resource utilization in the workplace is measured using appropriate techniques. 1.2 Data are recorded in accordance with workplace protocol. 1.3 Recorded data are compared to determine the efficiency and effectiveness of resource utilization according to established ***environmental work procedures***.	1.1 Importance of Environmental Literacy 1.2 Environmental Work Procedures 1.3 Waste Minimization 1.4 Efficient Energy Consumptions	1.1 Recording Skills 1.2 Writing Skills 1.3 Innovation Skills
2. Determine causes of inefficiency and/or ineffectiveness of resource utilization	2.1 Potential causes of inefficiency and/or ineffectiveness are listed. 2.2 Causes of inefficiency and/or ineffectiveness are identified through deductive reasoning. 2.3 Identified causes of inefficiency and/or ineffectiveness are validated thru established	2.1 Causes of environmental inefficiencies and ineffective-ness	2.1 Deductive Reasoning Skills 2.2 Critical thinking 2.3 Problem Solving 2.4 Observation Skills

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	environmental procedures.		
3. Convey inefficient and ineffective environmental practices	3.1 Efficiency and effectiveness of resource utilization are reported to *appropriate personnel*. 3.2 Concerns related resource utilization are discussed with appropriate personnel. 3.3 Feedback on information/ concerns raised are clarified with appropriate personnel.	3.1 Appropriate Personnel to address the environmental hazards 3.2 Environmental corrective actions	3.1 Written and Oral Communication Skills 3.2 Critical thinking 3.3 Problem Solving 3.4 Observation Skills 3.5 Practice Environmental Awareness

RANGE OF VARIABLES

VARIABLE	RANGE
1. Environmental Work Procedures	May include: 1.1 Utilization of Energy, Water, Fuel Procedures 1.2 Waster Segregation Procedures 1.3 Waste Disposal and Reuse Procedures 1.4 Waste Collection Procedures 1.5 Usage of Hazardous Materials Procedures 1.6 Chemical Application Procedures 1.7 Labeling Procedures
2. Appropriate Personnel	May include: 2.1 Manager 2.2 Safety Officer 2.3 EHS Offices 2.4 Supervisors 2.5 Team Leaders 2.6 Administrators 2.7 Stakeholders 2.8 Government Official 2.9 Key Personnel 2.10 Specialists 2.11 Himself

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Measured required resource utilization in the workplace using appropriate techniques 1.2 Recorded data in accordance with workplace protocol 1.3 Identified causes of inefficiency and/or ineffectiveness through deductive reasoning 1.4 Validate the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures 1.5 Report efficiency and effectives of resource utilization to appropriate personnel 1.6 Clarify feedback on information/concerns raised with appropriate personnel
2. Resource Implications	**The following resources should be provided:** 2.1 Workplace 2.2 Tools, materials and equipment relevant to the tasks 2.3 PPE 2.4 Manuals and references
3. Methods of Assessment	**Competency in this unit may be assessed through:** 3.1 Demonstration 3.2 Oral questioning 3.3 Written examination
4. Context for Assessment	4.1 Competency assessment may occur in workplace or any appropriately simulated environment 4.2 Assessment shall be observed while task are being undertaken whether individually or in-group

UNIT OF COMPETENCY : **PRACTICE ENTREPRENEURIAL SKILLS IN THE WORKPLACE**

UNIT CODE : **400311218**

UNIT DESCRIPTOR : This unit covers the outcomes required to apply entrepreneurial workplace best practices and implement cost-effective operations.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Apply entrepreneurial workplace best practices	1.1 **Good practices** relating to workplace operations are observed and selected following workplace policy. 1.2 Quality procedures and practices are complied with according to workplace requirements. 1.3 Cost-conscious habits in **resource utilization** are applied based on industry standards.	1.1 Workplace best practices, policies and criteria 1.2 Resource utilization 1.3 Ways in fostering entrepreneurial attitudes: • Patience • Honesty • Quality-consciousness • Safety-consciousness • Resourceful-ness	1.1 Communication skills 1.2 Complying with quality procedures
2. Communicate entrepreneurial workplace best practices	2.1 Observed good practices relating to workplace operations are communicated to **appropriate person**. 2.2 Observed quality procedures and practices are communicated to appropriate person.	2.1 Workplace best practices, policies and criteria 2.2 Resource utilization 2.3 Ways in fostering entrepreneurial attitudes: • Patience • Honesty • Quality-consciousness	2.1 Communication skills 2.2 Complying with quality procedures 2.3 Following workplace communication protocol

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.	• Safety-consciousness • Resourceful-ness	
3. Implement cost-effective operations	3.1 Preservation and optimization of workplace resources is implemented in accordance with enterprise policy. 3.2 Judicious use of workplace tools, equipment and materials are observed according to manual and work requirements. 3.3 Constructive contributions to office operations are made according to enterprise requirements. 3.4 Ability to work within one's allotted time and finances is sustained.	3.1 Optimization of workplace resources 3.2 5S procedures and concepts 3.3 Criteria for cost-effectiveness 3.4 Workplace productivity 3.5 Impact of entrepreneurial mindset to workplace productivity 3.6 Ways in fostering entrepreneurial attitudes: • Quality-consciousness • Safety-consciousness	3.1 Implementing preservation and optimizing workplace resources 3.2 Observing judicious use of workplace tools, equipment and materials 3.3 Making constructive contributions to office operations 3.4 Sustaining ability to work within allotted time and finances

RANGE OF VARIABLES

VARIABLE	RANGE
1. Good practices	May include: 1.1 Economy in use of resources 1.2 Documentation of quality practices
2. Resources utilization	May include: 2.1 Consumption/ use of consumables 2.2 Use/Maintenance of assigned equipment and furniture 2.3 Optimum use of allotted /available time

EVIDENCE GUIDE

1. Critical aspects of Competency	**Assessment requires evidence that the candidate:** 1.1 Demonstrated ability to identify and sustain cost-effective activities in the workplace 1.2 Demonstrated ability to practice entrepreneurial knowledge, skills and attitudes in the workplace.

2. Resource Implications	**The following resources should be provided:**
	2.1 Simulated or actual workplace
	2.2 Tools, materials and supplies needed to demonstrate the required tasks
	2.3 References and manuals
	    2.3.1 Enterprise procedures manuals
	    2.3.2 Company quality policy

3. Methods of Assessment	**Competency in this unit should be assessed through:** 3.1 Interview 3.2 Third-party report
4. Context for Assessment	4.1 Competency may be assessed in workplace or in a simulated workplace setting 4.2 Assessment shall be observed while tasks are being undertaken whether individually or in-group

COMMON COMPETENCIES

UNIT OF COMPETENCY **:** **APPLY SAFETY MEASURES IN FARM OPERATIONS**

UNIT CODE **:** **AGR321201**

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills and attitudes required to perform safety measures effectively and efficiently. It includes identifying areas, tools, materials, time and place in performing safety measures.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Determine areas of concern for safety measures	1.1 **Work *tasks*** are identified in line with farm operations. 1.2 ***Place*** for safety measures are determined in line with farm operations. 1.3 ***Time*** for safety measures are determined in line with farm operations. 1.4 Appropriate ***tools, materials and outfits*** are prepared in line with job requirements.	1.1 Different work tasks in farm operations 1.2 Place and time for implementation of safety measures 1.3 Different hazards in the workplace 1.4 Types of tools, materials and outfits 1.5 Preparation of tools, materials and outfits	1.1 Identifying work tasks in farm operations 1.2 Determining place and time for implementation of safety measures 1.3 Reading labels, manuals and other basic safety information 1.4 Identifying effective/ functional tools, materials and outfit 1.5 Preparing tools, materials and outfits 1.6 Discarding defective tools, and materials
2. Apply appropriate safety measures	2.1 Tools and materials are used according to specifications and procedures. 2.2 Outfits are worn according to farm requirements. 2.3 Effectivity/shelf life/expiration of	2.1 Uses and functions of tools 2.2 Outfits and how to wear it 2.3 Expiration/shelf life of materials 2.4 Proper disposal of expired materials	2.1 Using tools and materials in the workplace 2.2 Wearing of outfits 2.3 Observing expiration/shelf life of materials

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	materials are strictly observed. 2.4 ***Emergency procedures*** are known and followed to ensure a safework requirement. 2.5 Hazards in the workplace are identified and reported in line with farm guidelines.	2.5 Environmental rules and regulations 2.6 Emergency procedures 2.7 Hazards identification and reporting 2.8 Communication skills 2.9 OSHS	2.4 Disposing of expired materials 2.5 Following emergency procedures 2.6 Identifying and reporting of hazards in workplace area
3. Safekeep /dispose tools, materials and outfit	3.1 Used tools and outfit are cleaned after use and stored in designated areas. 3.2 Unused materials are properly labeled and stored according to manufacturer's recommendation and farm requirements. 3.3 Waste materials are disposed according to manufacturers, government and farm requirements.	3.1 Procedures of cleaning used tools and outfits 3.2 Label and storage unused materials 3.3 Disposal of wastes materials 3.4 Manufacturers' recommendation on keeping materials 3.5 Environmental rules and regulations	3.1 Cleaning used tools and outfit 3.2 Labeling and storing unused materials 3.3 Disposing waste materials

RANGE OF VARIABLES

VARIABLE	RANGE
1. Work tasks	Work task may be selected from any of the subsectors: 1.1 Crop Production 1.2 Post-harvest 1.3 Agri-marketing 1.4 Farm Equipment
2. Place	2.1 Stock room/storage areas/warehouse 2.2 Field/farm/orchard
3. Time	3.1 Fertilizer and pesticides application 3.2 Feed mixing and feeding 3.3 Harvesting and hauling

4. Tools, materials and outfits	4.1 Tools
	    4.1.1 Wrenches
	    4.1.2 Screw driver
	    4.1.3 Pliers
	4.2 Outfit
	    4.2.1 Masks
	    4.2.2 Gloves
	    4.2.3 Boots
	    4.2.4 Overall coats
	    4.2.5 Hat
	    4.2.6 Eye goggles

5. Emergency procedures	5.1 Location of first aid kit 5.2 Evacuation 5.3 Agencies contract 5.4 Farm emergency procedures
6. Hazards	6.1 Chemical 6.2 Electrical 6.3 Falls

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Determined areas of concern for safety measures 1.2 Applied appropriate safety measures according to industry requirements 1.3 Prepared tools, materials and outfit needed 1.4 Performed proper disposal of used materials 1.5 Cleaned and stored tools, materials and outfit in designated facilities
2. Resource Implications	The following resources should be provided: 2.1 Farm location 2.2 Tools, equipment and outfits appropriate in applying safety measures
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Practical demonstration 3.2 Third Party Report
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY : **USE FARM TOOLS AND EQUIPMENT**

UNIT CODE : **AGR321202**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to use farm tools and equipment. It includes selection, operation and preventive maintenance of farm tools and equipment.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Select and use farm tools	1.1 Appropriate farm tools are identified according to requirement/use. 1.2 Farm tools are checked for faults and defective tools reported in accordance with farm procedures. 1.3 Appropriate tools are safely used according to job requirements and manufacturers conditions.	1.1 Types and uses of farm tools 1.2 Characteristics of functional tools 1.3 Checking tools for defects/faults 1.4 Segregation and reporting defective tools 1.5 Uses of tools	1.1 Identifying farm tools for the work 1.2 Checking the conditions of tools 1.3 Reporting defective tools 1.4 Using tools
2. Select and operate farm equipment	2.1 Identify appropriate *farm equipment*. 2.2 Instructional manual of the farm tools and equipment are carefully read prior to operation. 2.3 Pre-operation check-up is conducted in line with manufacturers manual. 2.4 Faults in farm equipment are identified and reported in line with farm procedures. 2.5 Farm equipment is used according to its function. 2.6 Safety procedures are followed.	2.1 Types and operations of farm equipment 2.2 Standards operating procedures of farm equipment 2.3 Instructional manual of equipment 2.4 Pre-operation check-up 2.5 Equipment Specification 2.6 Procedures in calibrating and use of equipment 2.7 Equipment faults identification and reporting 2.8 Operation of equipment	2.1 Identifying appropriate farm equipment for the work 2.2 Reading instructional manual 2.3 Conducting pre-operation check-up 2.4 Identifying faults/defects of farm equipment 2.5 Reporting on defective farm equipment 2.6 Operating farm equipment 2.7 Following safety procedures

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		2.9 Codes and Regulations on environmental protection 2.10 Safety and keeping of equipment every after use 2.11 Safety measures	
3. Perform preventive maintenance	3.1 Tools and equipment are cleaned immediately after use in line with farm procedures. 3.2 Routine check-up and maintenance are performed. 3.3 Tools and equipment are stored in designated areas in line with farm procedures.	3.1 Cleaning procedures of tools and equipment 3.2 Maintenance procedures of farm equipment 3.3 Storage of tools and equipment 3.4 Designated storage areas	3.1 Cleaning tools and equipment 3.2 Performing routinely check-up of tools and equipment 3.3 Maintaining farm equipment 3.4 Storing tools and equipment

RANGE OF VARIABLES

VARIABLE	RANGE
1. Farm equipment	May include: 1.1 Engine 1.2 Pumps 1.3 Generators 1.4 Sprayers
2. Farm tools	May include: 2.1 Sickle 2.2 Cutters 2.3 Weighing scales 2.4 Hand tools 2.5 Measuring tools 2.6 Garden tools
3. Pre-operation check-up	May include: 3.1 Tires 3.2 Brake fluid 3.3 Fuel 3.4 Water 3.5 Oil 3.6 Lubricants 3.7 Battery

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Correctly identified appropriate farm tools and equipment 1.2 Operated farm equipment according to manual specification 1.3 Performed preventive maintenance
2. Resource Implications	The following resources should be provided: 2.1 Service/operational manual of farm tools and equipment 2.2 Tools and equipment 2.3 Farm implements
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Direct observation 3.2 Practical demonstration 3.3 Third Party Report
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY **:** **PERFORM ESTIMATION AND BASIC CALCULATION**

UNIT CODE **:** **AGR321203**

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills and attitudes required to perform basic workplace calculations.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform estimation	1.1 Job requirements are identified from written or oral communications. 1.2 Quantities of materials and resources required to complete a work task are estimated. 1.3 The time needed to complete a work activity is estimated. 1.4 Accurate estimate for work completion are made. 1.5 Estimate of materials and resources are reported to appropriate person.	1.1 Job requirements/ labor needs 1.2 Calculation of quantities of materials and resources required 1.3 Calculation of time for job completion 1.4 Preparation of estimate report 1.5 Basic mathematical operations 1.6 Percentage and ratios 1.7 Unit Conversion	1.1 Identifying job requirements/ labor 1.2 Estimating quantities of materials and resources required 1.3 Estimating time for job completion 1.4 Performing basic calculation 1.5 Compute percentage 1.6 Convert English to metric systems of measurement 1.7 Preparing estimate report
2. Perform basic workplace calculation	1.1 ***System and units of measurement*** to be followed are ascertained. 1.2 Calculation needed to complete work tasks are performed using the ***four basic mathematical operation***. 1.3 Calculate whole fraction, percentage and mixed when are used to complete the instructions.	2.1 Four basic mathematical operation 2.2 System and units of measurement 2.3 Fraction, percentage and ratio 2.4 Material take-off 2.5 Materials costing	2.1 Compute bill of materials 2.2 Compute project cost

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	1.4 Number computed is checked following work requirements		

RANGE OF VARIABLES

VARIABLE	RANGE
1. Four basic mathematical operation	Includes: 1.1 Addition 1.2 Subtraction 1.3 Multiplication 1.4 Division
2. System of measurement	Includes: 2.1 English 2.2 Metric
3. Units of measurement	Includes: 3.1 Area 3.2 Volume 3.3 Weight 3.4 Length

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed estimation 1.2 Performed basic workplace calculation 1.3 Applied corrective measures as maybe necessary
2. Resource Implications	The following resources should be provided: 2.1 Relevant tools and equipment for basic calculation 2.2 Recommended data
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Practical demonstration 3.2 Written examination
4. Context for Assessment	4.1 Competency may be assessed individually in the actual workplace or simulation environment in TESDA accredited institutions.

CORE COMPETENCY

UNIT OF COMPETENCY   **:**   **PLANT COFFEE SEEDLINGS**

UNIT CODE   **:**   **AFFXXXXXX**

UNIT DESCRIPTOR   **:**   This unit covers the knowledge, skills and attitudes required to plant coffee seedlings. This includes competency in selecting a planting site, performing land preparation, and planting coffee plantlets.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS

1. Select planting site	1.1 Site inspection and validation is conducted based on industry standards.
	1.2 *Suitability of area* is determined following color-coded suitability map.
	1.3 Updates and information on *climatic condition* is obtained based on industry standards.
	1.4 Soil sampling is conducted for laboratory soil analysis.
	1.5 Result of soil analysis is used to determine soil nutrient deficiency.
	1.6 Safety practices are applied following Occupational Safety and Health Standards (OSHS).
		1.1 Site selection
		1.2 Site inspection and validation
		  1.2.1 Farm map
		1.3 Measurement of site
		1.4 Clearing operation
		1.5 Soil sampling
		1.6 Location of soil analysis laboratories
		1.7 Soil nutrient deficiency
		  1.7.1 Kinds of fertilizer
		  1.7.2 Recommen-ded measures
		1.8 Use of Geographic Positioning System (GPS) app
		1.9 Department of Environment and Natural Resources (DENR) Regulations
		  1.9.1 Area qualification
		  1.9.2 Cutting permit
		1.10 Philippine Coconut Authority
			1.1 Conducting site inspection and validation
			1.2 Determining suitability of area
			1.3 Obtaining updates and information on climatic condition
			1.4 Conducting soil sampling
			1.5 Using result of soil analysis
			1.6 Applying safety practices

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		(PCA) requirement 1.9.1 Cutting permit 1.11 Department of Agriculture (DA) Color-coded suitability map 1.12 Occupational Safety and Health Standards (OSHS)	
2. Perform land preparation	2.1 ***Clearing operation*** is performed following industry practice. 2.2 Lay-outing is done following industry practice. 2.3 Staking is performed based on industry practice. 2.4 Hole is dug according to industry practice. 2.5 Drainage canal is established based on industry practice. 2.6 Area is secured through fencing following established farm practices. 2.7 Safety practices are applied following Occupational Safety and Health Standards (OSHS).	2.1 Lay-outing procedure 2.1.1 Space of crops 2.1.2 Nurse trees 2.1.3 Contour farming 2.2 Measurement 2.3 Hole size 2.4 Use of Geographic Positioning System (GPS) app 2.5 When do we need a drainage canal 2.6 Department of Natural Resources (DENR) requirements in tree cutting 2.7 Local Government Units (LGUs) and community regulations 2.8 Philippine Coconut Authority (PCA) requirement: 2.8.1 Cutting permit 2.9 Waste management 2.10 Basic carpentry	2.1 Performing clearing operation 2.2 Performing lay-outing 2.3 Performing staking 2.4 Digging hole 2.5 Establishing drainage canal 2.6 Securing area 2.7 Applying safety practices

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		2.11 Awareness in using chain saw 2.12 Occupational Safety and Health Standards (OSHS)	

3. Perform planting of coffee plantlets	3.1 Quality coffee planting materials are sourced-out from certified nurseries.
	3.2 Coffee planting materials are transported according to industry standards.
	3.3 Acclimatization is done based on industry practice.
	3.4 **Planting techniques** are applied based on industry standards.
	3.5 Safety practices are applied following Occupational Safety and Health Standards (OSHS).
		3.1 List of certified nurseries
		3.2 Quality coffee planting materials
		3.3 Planting techniques
		3.4 Tools, equipment, and materials
		3.5 Cropping calendar
		3.6 Fertilizer:
		   3.6.1 Chicken dung
		   3.6.2 Vermicast
		   3.6.3 Commercial fertilizer
		3.7 Personal Protective Equipment (PPEs)
			3.1 Sourcing-out quality coffee planting materials
			3.2 Transporting coffee planting
			3.3 Performing acclimatization
			3.4 Applying planting techniques
			3.5 Applying safety practices

RANGE OF VARIABLES

VARIABLE	RANGE
1. Suitability of area	Suitability of area may include: 1.1 Elevation 1.2 Soil suitability 1.3 Topography 1.4 Water table 1.5 Rainfall 1.6 Accessibility of area
2. Climatic condition	Climatic condition includes: 2.1 Rainfall 2.2 Wind 2.3 Temperature 2.4 Sunlight
3. Clearing operation	Clearing operation may include: 3.1 Tree felling 3.2 Uprooting and removal of stump 3.3 Removal of debris
4. Planting techniques	Planting techniques may include: 4.1 Application of basal fertilizer 4.2 Removal of bent roots 4.3 Placing of planting materials 4.4 Removal of plastic bag 4.5 Backfilling 4.6 Compacting

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate:
	1.1 Selected planting site.
	    1.1.1 Conducted site inspection and validation.
	    1.1.2 Determined suitability of area.
	    1.1.3 Obtained updates and information on climatic condition.
	    1.1.4 Conducted soil sampling.
	    1.1.5 Used result of soil analysis.
	    1.1.6 Applied safety practices.
	1.2 Performed land preparation.
	    1.2.1 Performed clearing operation.
	    1.2.2 Done lay-outing.
	    1.2.3 Performed staking.
	    1.2.4 Dug hole.
	    1.2.5 Established drainage canal.
	    1.2.6 Secured area.
	    1.2.7 Applied safety practices.
	1.3 Performed planting of coffee plantlets.
	    1.3.1 Sourced-out quality coffee planting materials.
	    1.3.2 Transported coffee planting materials.
	    1.3.3 Done acclimatization.
	    1.3.4 Applied planting techniques.
	    1.3.5 Applied safety practices.

2. Resource Implications	The following resources should be provided: 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written test
4. Context for Assessment	4.1 Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center in a simulated workplace setting.

UNIT OF COMPETENCY   :   CARE AND MAINTAIN COFFEE PLANT

UNIT CODE   :   AFFXXXXXX

UNIT DESCRIPTOR   :   This unit covers the knowledge, skills and attitudes required to care and maintain coffee plants. This includes competency in weeding, applying fertilizer, watering coffee plants, pruning, and performing physical growth-enhancing practices.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform weeding	1.1 Farm is assessed for weeding activities based on industry practice. 1.2 ***Tools, materials, and equipment*** are prepared following industry practice. 1.3 Herbicides are applied following manufacturer's specification. 1.4 Ring weeding is performed according to industry practice. 1.5 Recordkeeping is performed based on industry practice. 1.6 Safety practices are applied following Occupational Safety and Health Standards (OSHS).	1.1 Calendar of activities/ Farm schedule 1.2 Tools, materials, and equipment 1.3 Application of herbicide 1.4 Manufacturer's specification 1.5 Weeding procedure 1.6 Recordkeeping 1.7 Waste management	1.1 Assessing farm 1.2 Preparing tools and materials 1.3 Applying herbicide 1.4 Performing ring weeding 1.5 Performing recordkeeping 1.6 Applying safety practices
2. Apply fertilizer	2.1 ***Tools, materials, and equipment*** are prepared according to prescribed user's manual. 2.2 ***Fertilizers*** are identified based on kinds. 2.3 Rate of fertilizer is applied based on crop requirements	2.1 Types of fertilizer 2.2 Tools, materials, and equipment 2.3 Rate of fertilizer application 2.4 Date and timing of fertilizer application 2.5 Source and price of fertilizer	2.1 Preparing tools and materials 2.2 Identifying fertilizers 2.3 Applying rate of fertilizer 2.4 Employing method of fertilizer application

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	and result of soil analysis. 2.4 ***Method of fertilizer application*** is employed based on crop requirements. 2.5 Precautionary measures are applied based on Good Agricultural Practices (GAPs). 2.6 Safety procedures are followed according to Occupational Safety and Health Standards (OSHS).	2.6 Method of fertilizer application 2.7 Good Agricultural Practices (GAPs) 2.7.1 Precautionary measures 2.8 Occupational Safety and Health Standards (OSHS)	2.5 Applying precautionary measures 2.6 Following safety procedures
3. Water coffee plant	3.1 Soil moisture content is determined based on soil field capacity. 3.2 ***Watering*** is performed following the prescribed method and schedule. 3.3 Good Agricultural Practices are applied.	3.1 Soil moisture 3.2 Testing soil moisture 3.2.1 Visual and feel 3.2.2 Use of soil moisture tester 3.3 Water requirement 3.4 Water catchment 3.5 Use of water pump	3.1 Determining soil moisture 3.2 Performing watering 3.3 Applying Good Agricultural Practices
4. Perform pruning	4.1 ***Tools and materials*** for pruning are prepared following industry practices. 4.2 Pruning method is applied according to crops. 4.3 Waste disposal is applied following waste management. 4.4 Safety procedures is followed according to Occupational Safety and Health	4.1 Tools and materials for pruning 4.2 Pruning method 4.3 Waste management 4.4 LGUs and community regulations 4.5 Occupational Safety and Health Standards 4.6 Philippine National Standards: Philippine Agricultural Engineering	4.1 Preparing tools and materials 4.2 Applying pruning method 4.3 Applying waste disposal 4.4 Following safety procedures

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	Standards and PNS:PAES 101.	Standards (PNS:PAES 101) – Agricultural Machinery-Technical Means for Ensuring Safety - General	

5. Perform physical growth-enhancing practices	5.1 *Tools* for cultivation are prepared according to PNS:PAES 101.
	5.2 Cultivation practices are carried out based on crop requirement.
	5.3 Rejuvenating activities are performed according to industry practice.
	5.4 Detopping is performed based on GAP for coffee.
	5.5 Mulching techniques are carried out based on industry practice.
	5.6 Safety procedures are followed according to Occupational Safety and Health Standards (OSHS).
		5.1 Cultivation activities
		5.2 Use of tools for cultivation
		5.3 Awareness in using chain saw
		5.4 Rejuvenating activities for old/less productive trees
		   5.4.1 Grafting
		   5.4.2 Stem selection
		5.5 Detopping method
		5.6 Mulching techniques
		5.7 Grafting rejuvenated trees
		5.8 Good Agricultural Practices (GAPs) for coffee
		5.9 Occupational Safety and Health Standards (OSHS)
		5.10 Philippine National Standards: Philippine Agricultural Engineering Standards (PNS:PAES 101) – Agricultural Machinery-Technical Means for Ensuring Safety - General
			5.1 Preparing tools for cultivation
			5.2 Carrying out cultivation process
			5.3 Performing rejuvenating activities
			5.4 Performing detopping
			5.5 Carrying out mulching echniques
			5.6 Following safety procedures

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools	Tools may include: 1.1 Slasher 1.2 Sprinkler 1.3 Digging bar 1.4 Hose 1.5 Pruning shear 1.6 Pruning saw 1.7 Bolo 1.8 Shovel 1.9 Garden hoe 1.10 Sieve (fabricated) 1.11 Knapsack sprayer
2. Materials	Materials may include: 2.1 Herbicide 2.2 Containers
3. Equipment	Equipment includes: 3.1 Weighing scale
4. Fertilizer	Fertilizer includes: 4.1 Organic 4.2 Inorganic
5. Method of fertilizer application	Method of fertilizer application includes: 5.1 Sidedress 5.2 Topdress 5.3 Drenching 5.4 Foliar/spray
6. Watering	Watering may include: 6.1 Drip 6.2 Furrow 6.3 Sprinkler

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate:
	1.1 Performed weeding.
	    1.1.1 Assessed farm for weeding activities.
	    1.1.2 Prepared tools, materials, and equipment.
	    1.1.3 Applied herbicides.
	    1.1.4 Performed ring weeding.
	    1.1.5 Performed recordkeeping.
	    1.1.6 Applied safety practices.
	1.2 Applied fertilizer.
	    1.2.1 Prepared tools, materials, and equipment.
	    1.2.2 Identified fertilizers.
	    1.2.3 Applied rate of fertilizer.
	    1.2.4 Employed method of fertilizer application.
	    1.2.5 Applied precautionary measures
	    1.2.6 Followed safety procedures.
	1.3 Watered coffee plant.
	    1.3.1 Determined soil moisture.
	    1.3.2 Performed watering.
	    1.3.3 Applied Good Agricultural Practices.
	1.4. Performed pruning.
	    1.4.1 Prepared tools and materials for pruning.
	    1.4.2 Applied pruning method.
	    1.4.3 Applied waste disposal
	    1.4.4 Followed safety procedures.
	1.5 Performed physical growth-enhancing practices.
	    1.5.1 Prepared tools for cultivation.
	    1.5.2 Carried out cultivation practices.
	    1.5.3 Performed rejuvenating activities.
	    1.5.4 Performed detopping.
	    1.5.5 Carried out mulching techniques.
	    1.5.6 Followed safety procedures.

2. Resource Implications	The following resources should be provided: 2.1 Actual and simulated workplace 2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written test
4. Context for Assessment	4.1 Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center in a simulated workplace setting.

UNIT OF COMPETENCY **:** **HARVEST COFFEE**

UNIT CODE **:** **AFFXXXXXX**

UNIT DESCRIPTOR **:** This unit covers the knowledge, skills and attitudes required to harvest coffee. This includes competency in performing preparatory activities, gathering cherries, performing drying, depulping cherries, completing harvest and post-harvest operations, and performing marketing activities.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS

1. Perform preparatory activities	1.1 ***Harvesting plan*** is prepared based on field assessment.
	1.2 ***Tools, materials, and equipment*** are prepared based on industry practice.
	1.3 Availability of drying facility is ensured based on industry practice.
	1.4 Area tasking is determined following industry standards.
	1.5 Job assignments are coordinated from farm owner.
		1.1 Harvest plan
		1.2 Tools, equipment, and materials
		1.3 Drying facilities
		  1.3.1 Pavement
		  1.3.2 All weather dryer
		1.4 Tasking and job assignments
			1.1 Preparing harvesting plan
			1.2 Preparing tools, equipment, and materials
			1.3 Ensuring availability of drying facility
			1.4 Determining area tasking
			1.5 Coordinating job assignments

2. Gather cherries	2.1 Cherries are assessed for ***maturity*** based on color. 2.2 Cherries are harvested based on industry practice. 2.3 Floatation is performed based on industry practice. 2.4 ***Defective cherries*** are segregated and classified according to Good Agricultural Practices (GAP) for coffee.	2.1 Test for color blind 2.2 Drying process 2.3 Philippine National Standards/ Bureau of Agriculture and Fisheries Standards (PNS/BAFS) 169:2015- Code of Good Agricultural Practices (GAP) for Coffee 2.4 Sorting and segregating	2.1 Assessing cherries 2.2 Harvesting cherries 2.3 Performing flotation 2.4 Segregating defective cherries 2.5 Disposing unwanted materials 2.6 Weighing cherries 2.7 Performing recordkeeping 2.8 Transferring cherries

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.5 Unwanted materials are disposed based on industry practice. 2.6 Cherries are weighed based on industry practice. 2.7 Recordkeeping is performed based on industry practice. 2.8 Cherries are transferred to **drying facility** following industry practice.	harvested cherries 2.5 Defective cherries 2.6 Floatation process 2.7 Waste disposal 2.8 Measurement 2.9 Recordkeeping	2.9 Applying safety

3. Perform drying	3.1 **Drying facility** is cleaned and dried according to industry practice.
	3.2 Cherries are spread following industry practice.
	3.3 Thickness of laying cherries is observed based on industry practice.
	3.4 Cherries are checked for dryness following industry practice.
	3.5 Recordkeeping is performed following industry practice.
		3.1 Drying facilities
		  3.1.1 Pavement
		  3.1.2 All weather dryer
		3.2 Drying process
		3.3 Thickness of laying cherries
		3.4 Random sampling in checking dryness
		3.5 Recordkeeping
			3.1 Cleaning drying facility
			3.2 Spreading cherries
			3.3 Observing thickness of laying cherries
			3.4 Checking dryness of cherries
			3.5 Performing recordkeeping

4. Depulp cherries	4.1 **Preparatory activities** are performed based on industry practice. 4.2 Depulper is operated according to manufacturer's manual. 4.3 Depulped beans are placed in fermentation tanks following Good Agricultural	4.1 Depulper operation 4.2 Depulping process 4.3 Measurement 4.4 Manufacturer manual 4.5 Assessment of depulped beans 4.6 Mucilage 4.7 Fermentation procedure 4.8 Drying process 4.9 Waste water management	4.1 Performing preparatory activities 4.2 Operating depulper 4.3 Placing depulping beans in fermentation banks 4.4 Monitoring fermentation 4.5 Assessing depulping beans 4.6 Cleaning fermented beans

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	Practices (GAP) for coffee. 4.4 Fermentation is monitored following Good Agricultural Practices (GAP) for coffee. 4.5 Depulped beans are *assessed* based on fermentation procedure. 4.6 Fermented beans are cleaned following Good Agricultural Practices (GAP) for coffee. 4.7 Fermented beans are dried following Good Agricultural Practices (GAP) for coffee. 4.8 Recordkeeping is performed following industry practice.	4.10 Philippine National Standards/ Bureau of Agriculture and Fisheries Standards (PNS/BAFS) 169:2015- Code of Good Agricultural Practices (GAP) for Coffee 4.11 Recordkeeping	4.7 Drying fermented beans 4.8 Performing recordkeeping
5. Complete harvest and post-harvesting operation	5.1 Moisture tester is used based on manufacturer's manual. 5.2 Cherries are packed and stored according to industry practice. 5.3 *Storage condition* is monitored based on industry practice. 5.4 Storage *pests* are monitored based on industry practice. 5.5 Presence of *pests* are reported and addressed following industry practice. 5.6 Recordkeeping is performed following industry practice.	5.1 Procedure in using moisture tester 5.2 Procedure in packing and storing 5.2.1 Dried cherries 5.2.2 Fresh cherries 5.2.3 Green coffee beans 5.3 Storage pests 5.4 Storage condition 5.5 Recordkeeping 5.6 Reporting 5.7 5S of Good housekeeping 5.8 Waste management	5.1 Using moisture tested 5.2 Packing and storing 5.3 Monitoring storage condition 5.4 Monitoring storage pests 5.5 Reporting and addressing presence of pests 5.6 Performing recordkeeping 5.7 Disposing wastes

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	5.7 ***Tools, equipment***, and facilities are cleaned following industry practice. 5.8 Wastes are disposed following waste management procedure.		
6. Perform marketing activities	6.1 ***Marketing strategies*** are applied based on industry practice. 6.2 Documented agreements are secured based on industry practice. 6.3 Transactions are completed based on industry practice. 6.4 Recordkeeping is performed based on industry practice.	6.1 Preparation of dried beans 6.2 Marketing strategies 6.3 Preparation of documented agreements 6.4 Price monitoring 6.5 Awareness on quality grading 6.6 Recordkeeping	6.1 Applying marketing strategies 6.2 Securing documented agreements 6.3 Completing transactions 6.4 Performing recordkeeping

RANGE OF VARIABLES

VARIABLE	RANGE
1. Harvesting plan	Harvesting plan may include: 1.1 Labor 1.2 Number of days 1.3 Schedule of harvest 1.4 Costing 1.5 Number of trees
2. Tools	Tools may include: 2.1 Weighing scale 2.2 Sieve 2.3 Rake
3. Materials	Materials may include: 3.1 Container 3.2 Sack 3.3 Net 3.4 Tarp 3.5 Pail 3.6 Twine 3.7 Broom stick 3.8 Record book 3.9 Pallet
4. Equipment	Equipment may include: 4.1 Depulper 4.2 Tanks 4.3 Moisture tester
5. Matured cherries	Matured cherries includes: 5.1 Yellow color 5.2 Red color
6. Defective cherries	Defective cherries include: 6.1 Insect damaged 6.2 Immature cherries
7. Drying facility	Drying facility may include: 7.1 Pavement 7.2 All weather dryer
8. Preparatory activities	Preparatory activities include: 8.1 Renting a depulper 8.2 Cleaning own depulper
9. Assessment of depulped beans	Assessment of depulped beans may include: 9.1 Texture of parchment surrounding the beans 9.2 Acquisition of rougher "pebbly" feel
10. Storage condition	Storage condition may include: 10.1 Ventilation 10.2 Odor
11. Pests	Pests include: 11.1 Rats 11.2 Fungi
12. Marketing strategies	Marketing strategies may include: 12.1 On-line selling

VARIABLE	RANGE
	12.2 Exhibits
	12.3 Trade fairs
	12.4 Engagement to institutional buyers

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate:
	1.1 Performed preparatory activities.
	    1.1.1 Prepared harvesting plan.
	    1.1.2 Prepared tools, materials, and equipment.
	    1.1.3 Ensured availability of drying facility.
	    1.1.4 Determined area tasking.
	    1.1.5 Coordinated job assignments.
	1.2 Gathered cherries.
	    1.2.1 Assessed cherries.
	    1.2.2 Harvested cherries.
	    1.2.3 Performed floatation.
	    1.2.4 Segregated and classified defective cherries.
	    1.2.5 Disposed unwanted materials.
	    1.2.6 Weighed cherries.
	    1.2.7 Performed recordkeeping.
	    1.2.8 Transferred cherries to drying facility.
	1.3 Performed drying.
	    1.3.1 Cleaned and dried drying facility.
	    1.3.2 Spread cherries.
	    1.3.3 Observed thickness of laying cherries.
	    1.3.4 Checked cherries for dryness.
	    1.3.5 Performed recordkeeping.
	1.4 Depulped cherries.
	    1.4.1 Performed preparatory activities.
	    1.4.2 Operated depulper.
	    1.4.3 Placed depulped beans in fermentation tanks.
	    1.4.4 Monitored fermentation.
	    1.4.5 Assessed depulped beans.
	    1.4.6 Cleaned fermented beans.
	    1.4.7 Dried fermented beans.
	    1.4.8 Performed recordkeeping.
	1.5 Completed harvest and post-harvest operation.
	    1.5.1 Used moisture tester.
	    1.5.2 Packed and stored cherries.
	    1.5.3 Monitored storage condition.
	    1.5.4 Monitored storage pests.
	    1.5.5 Reported and addressed presence of pests.
	    1.5.6 Performed recordkeeping.
	    1.5.7 Cleaned tools, equipment, and facilities.
	    1.5.8 Disposed wastes.
	1.6 Performed marketing activities.
	    1.6.1 Applied marketing strategies.
	    1.6.2 Secured documented agreements.
	    1.6.3 Completed transactions.
	    1.6.4 Performed recordkeeping.

2. Resource Implications	The following resources should be provided: 2.1 Actual and simulated workplace

	2.2 Materials, tools, and equipment needed to perform the required task 2.3 References and manuals 2.4 PPEs 2.5 First aid kit
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Demonstration 3.2 Oral questioning 3.3 Written test
4. Context for Assessment	4.1 Competency may be assessed in actual workplace or at the designated TESDA Accredited Assessment Center in a simulated workplace setting.

SECTION 3 TRAINING ARRANGEMENTS

3.1 TRAINEE ENTRY REQUIREMENTS

No minimum educational requirement is required for trainees or students who would like to enroll in this course.

3.2 TRAINER'S QUALIFICATIONS FOR AGRICULTURE, FORESTRY AND FISHERY SECTOR – COFFEE PRODUCTION LEVEL II

- Must have two (2) years industry experience relevant to coffee production within the last five (5) years
- Must have training of trainers certificate OR must be a practicing trainers for 2 years within the last 5 years

GLOSSARY OF TERMS

1. ACCLIMATIZATION	The period in which we allow the planting material to adjust to a change in its environment (from its source) such as a change in altitude, temperature, humidity, etc…); thus giving ample time to minimize the impact of transport/handling and other stress before planting in the field. Usually 1-2 weeks in coffee planting material depending on its actual condition. Enough shading and watering is provided
2. CHERRIES	Terminology used pertaining to the fruit i.e. coffee cherries (either fresh or ripe, dried coffee cherries)
3. DEPULPING	The process of removing the pulp and part of the mucilage by mechanical means
4. DEPULPED BEANS	Terminology for ripe coffee cherries undergone depulping
5. FERMENTATION	Treatment intended to digest the mucilaginous mesocarp adhering to the parchment of the pulped coffee, thereby, allowing its elimination by washing. The fermentation process can be replaced by a mechanical demucilaging system to remove the mucilage by friction. (PNS – GAP for Coffee)
6. FERMENTED BEANS	Coffee beans that have undergone fermentation
7. FLOATATION	The process of segregating good coffee cherries after harvesting. Mature, intact, cherries sinks while immature, unfilled, damaged cherries floats
8. GREEN COFFEE BEANS	Refers to milled (dehulled) dried cherries. The term "green coffee beans" is used in both Arabica and Robusta varieties.
9. MUCILAGE	Common word to describe the slimy layer found between the pulp and adhering to the parchment inside a coffee cherry, but not removed by pulping. Not present in unripe and overripe coffee. (PNS – GAP for Coffee)
10. PLANTLETS	A young or small plant from asexual propagation in contrast to a seedling - a young plant grown from seeds
11. REJUVENATION	To renew the fruit yielding branches during the course of their productive life; Coffee rejuvenation is the cutting of vertical stems or trunks of old coffee trees to induce growth of new sprouts (PNS-GAP for Coffee)
12. STAKING	Marking of a particular area or place with the use of a marker – bamboo sticks, etc… usually in field lay-outing
13. SEEDLINGS	A young plant grown from seeds

ACKNOWLEDGEMENTS