COMPETENCY STANDARDS

OIL PALM PRODUCTION
Level II

AGRICULTURE, FORESTRY AND FISHERY SECTOR

TECHNICAL EDUCATION AND SKILLS DEVELOPMENT AUTHORITY

East Service Road, South Luzon Expressway (SLEX), Fort Bonifacio, Taguig City

Creation of TESDA

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 groups 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 Competency Standards (CS) serve as basis for the:

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

Each Competency Standards (CS) has Two (2) sections:

Section 1 Definition of Competency Standards

- refers to the group of competencies that describes the different functions of the qualification.

- refers to industry-determined specification of competencies required for effective work performance which are expressed as outcomes and focus on workplace activity rather than training or personal attributes and capture the ability to apply skills in new situations and changing work organization.

Section 2 The Competency Standards

- gives the specifications of competencies required for effective work performance.

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COMPETENCY STANDARDS for OIL PALM PRODUCTION LEVEL II

Section 1 COMPETENCY STANDARDS DESCRIPTION

OIL PALM PRODUCTION LEVEL II COMPETENCY STANDARDS

The **OIL PALM PRODUCTION LEVEL II** consists of competencies that a person must achieve to produce oil palm.

The unit of competency comprising this competency standards includes the following:

Code	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	**COMMON COMPETENCIES**
AFF321201	Apply Safety Measures in Farm Operations
AFF321202	Use Farm Tools and Equipment
AFF321203	Perform Estimation and Calculations
AFF321205	Process Farm Wastes
SOC 413206	Perform Record Keeping
Code	**CORE COMPETENCIES**
ABAFF0973320611301	Perform Land Preparation
ABAFF0973320611302	Plant Oil Palm Tree
ABAFF0973320611303	Maintain Oil Palm Tree Plantation
ABAFF0973320611304	Perform Oil Palm FFB Harvest and Post-Harvest Operation

A person who has achieved this Competency standard is competent to be:

- Oil Palm Farmer/Grower
- Oil Palm Farm Worker
- Oil Palm FFB Harvester

SECTION 2 COMPETENCY STANDARDS

These guidelines are set to provide the Technical Vocational Education and Training (TVET) providers with information and other important requirements to consider when designing training programs for **OIL PALM 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.	1.1 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

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	1.6 Defined workplace procedures for the location and ***storage*** of information are used. 1.7 Personal interaction is carried out clearly and concisely.		people of various levels in the workplace 1.7 Gathering and providing basic information in response to workplace requirements 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	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	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

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	employment are sought and asked from ***appropriate sources***. 2.6 Meetings outcomes are interpreted and implemented.	techniques (clarifying and probing) 2.9 Workplace etiquette	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 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.	3.1 Effective verbal and non-verbal communication 3.2 Different modes of communication 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	3.1 Completing work- related documents 3.2 Applying operations of 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 A 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 are identified from available ***sources of information***. 2.3 Team parameters, reporting relationships and responsibilities are identified based on team discussions	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

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	and appropriate external sources.		
3. Work as a team member	3.1 Effective and appropriate forms of communications are used and interactions undertaken with 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 the team's role and objectives.	3.1 Communication Process 3.2 Workplace communication protocol 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	3.1 Communicating appropriately, consistent with the culture of the workplace 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 judgment may be 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 help desk 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	2.1 Potential solutions to problems are identified.	2.1 Current industry hardware and software	2.1 Identifying current industry hardware and

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
problems	2.2 Recommendations about possible solutions are developed, ***documented***, ranked and presented to the appropriate ***person*** for decision.	products and services 2.2 Industry service and helpdesk practices, processes and procedures 2.3 Operating systems 2.4 Industry standard diagnostic tools 2.5 Malfunctions and resolutions. 2.6 Root cause analysis	software products and services 2.2 Identifying services and helpdesk practices, 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 Coordination 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 situations*** in 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 situations 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

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
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 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.	2.1 Basic SWOT analysis 2.2 Strategies to improve one's attitude in the workplace 2.3 Gibbs' Reflective Cycle/Model (Description, Feelings, Evaluation, Analysis, Conclusion, and Action plan)	2.1 Using the basic SWOT analysis as self-assessment strategy 2.2 Developing reflective practice through realization of 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 is 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	3.1 Performing effective communication skills – reading, writing, conversing skills 3.2 Showing affective skills – flexibility, adaptability, etc. 3.3 Self-assessment for

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		analysis, psycho- spiritual concepts)	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 the 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 their own area of work. 1.2 ***Information*** is gathered and reviewed which may be relevant to ideas and which might assist in gaining support for ideas.	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.	2.1 Roles of individuals in suggesting and making improvements 2.2 Positive impacts and challenges in innovation 2.3 Types of changes and responsibility	2.1 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

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.4 Ideas for follow up are reviewed and selected based on feedback. 2.5 ***Critical inquiry method*** is used to discuss and develop ideas with others.	2.4 Seven habits of highly effective people	types of changes that are within and outside own scope of responsibility 2.4 Communicating ideas for change through small 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

VARIABLE	RANGE
	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 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 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 Organizational protocols 1.2 Confidentiality 1.3 Accuracy 1.4 Business mathematics and statistics 1.5 Data analysis techniques/procedures 1.6 Reporting requirements to a range of audiences 1.7 Legislation, policy and procedures relating to the conduct of evaluations 1.8 Organizational values, ethics and codes of conduct	1.1 Describing organizational 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 organizational values, ethics and codes of conduct

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
2. Assess gathered data/ information	2.1 Validity of data/ information is assessed. 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.	2.1 Business mathematics and statistics 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 Organizational values, ethics and codes of conduct	2.1 Computing business mathematics and statistics 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 organizational values, ethics and codes of conduct
3. Record and present information	3.1 Studied data/ information are recorded. 3.2 Recommendations are analyzed for action to ensure they are compatible with the project's scope and terms of reference. 3.3 Interim and final reports are analyzed and outcomes are compared to the criteria established at the outset.	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 Organizational 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 organizational values, ethics and codes of

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	3.4 Findings are presented to stakeholders.		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 Determined 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 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 workplaces, 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, and 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.	2.1 Resources necessary to execute hierarchy of controls 2.2 General OSH principles 2.3 Work standards and procedures	2.1 Communication skills 2.2 Estimation skills 2.3 Interpersonal skills 2.4 Critical thinking skills 2.5 Observation

ELEMENT	PERFORMANCE CRITERIA ***Italicized terms*** are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	2.2 Required OSH materials, tools and equipment are acquired in accordance with workplace policies and procedures. 2.3 Required OSH materials, tools and equipment are arranged/ placed in accordance with OSH work standards.	2.4 Safe handling procedures of tools, equipment and materials 2.5 Different OSH control measures	skills 2.6 Material, tool and equipment identification skills
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

VARIABLE	RANGE
	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 Convened OSH work non-conformities to appropriate personnel 1.2 Identified OSH preventive and control requirements in accordance with OSH work policies and procedures 1.3 Identified OSH work activity material, tools and equipment requirements in accordance with workplace policies and procedures 1.4 Arranged/Placed required OSH materials, tools and equipment in accordance with OSH work standards 1.5 Executed work activities in accordance with OSH work standards 1.6 Reported 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 workplace or in a simulated workplace 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 is 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.	2.1 Causes of environmental inefficiencies and ineffectiveness	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
	2.3 Identified causes of inefficiency and/or ineffectiveness are validated thru established 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 to 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 Waste 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 Validated the identified causes of inefficiency and/or ineffectiveness thru established environmental procedures 1.5 Reported efficiency and effectiveness of resource utilization to appropriate personnel 1.6 Clarified 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 ● Resourcefulness	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 the appropriate ***person***. 2.2 Observed quality procedures and practices are	2.1 Workplace best practices, policies and criteria 2.2 Resource utilization 2.3 Ways in fostering entrepreneurial attitudes: ● Patience ● Honesty	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
	communicated to appropriate person 2.3 Cost-conscious habits in resource utilization are communicated based on industry standards.	● Quality-consciousness ● Safety-consciousness ● Resourcefulness	
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 of 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 : **AFF321201**

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	2.1 Uses and functions of tools 2.2 Outfits and how to wear them. 2.3 Expiration/shelf life of materials 2.4 Proper disposal of expired	2.1 Using tools and materials in the workplace 2.2 Wearing of outfits 2.3 Observing expiration/shelf life of materials 2.4 Disposing of

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	life/expiration of materials are strictly observed 2.4 ***Emergency procedures*** are known and followed to ensure a safe work requirement 2.5 Hazards in the workplace are identified and reported in line with farm guidelines	materials 2.5 Environmental rules and regulations 2.6 Emergency procedures 2.7 Hazards identification and reporting 2.8 Communication skills 2.9 OSHS	expired materials 2.5 Following emergency procedures 2.6 Identifying and reporting hazards in the workplace area.
3. Safe keep /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	May include: 2.1 Stock room/storage areas/warehouse 2.2 Field/farm/orchard
3. Time	May include: 3.1 Fertilizer and pesticides application 3.2 Feed mixing and feeding 3.3 Harvesting and hauling
4. Tools, materials and outfits	May include: 4.1 Tools 4.1.1 Wrenches 4.1.2 Screwdriver 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	May include: 5.1 Location of first aid kit 5.2 Evacuation 5.3 Agencies contract 5.4 Farm emergency procedures
6. Hazards	May include: 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. Method of Assessment	Competency in this unit must be assessed through: 3.1 Practical demonstration 3.2 Third Party Report
4. Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.

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

UNIT CODE : **AFF321202**

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. 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 and equipment	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*** according to industry requirements. 2.2 Instructional manuals of the farm tools and equipment are carefully read prior to operation in accordance with farm procedures. 2.3 ***Pre-operation check-up*** is conducted in line with manufacturers manual 2.4 Faults in farm	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	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

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	equipment are identified and reported in line with farm procedures 2.5 Farm equipment used according to its function 2.6 Safety procedures are followed.	identification and reporting 2.8 Operation of equipment 2.9 Codes and Regulations on environmental protection 2.10 Safety and keeping of equipment every after use 2.11 Safety measures	2.7 Following safety procedures.
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 routinary 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	Farm equipment include: 1.1 Engine 1.2 Pumps 1.3 Generators 1.4 Sprayers
2. Farm tools	Farm tools includes: 2.1 Sickle 2.2 Cutters 2.3 Weighing scales 2.4 Hand tools 2.5 Measuring tools 2.5.1 Garden tools
3. Pre-operation check-up	Pre-operation check–up includes: 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 Identified correctly the 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 2.1.1 Tools and equipment 2.1.2 Farm implements
3 Method of Assessment	Competency in this unit must be assessed through: 3.1 Direct observation 3.2 Practical demonstration 3.3 Third Party Report
4 Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.

UNIT OF COMPETENCY : **PERFORM ESTIMATION AND CALCULATIONS**

UNIT CODE : **AFF321203**

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 estimates for work completion are made. 1.5 Estimates of materials and resources are reported to the 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 Calculations needed to complete work tasks are performed using the ***four basic mathematical operations***. 1.3 Calculate the whole fraction, percentage and mixed when they are used to complete	1.1 Four basic mathematical operation 1.2 System and units of measurement 1.3 Fraction, percentage and ratio 1.4 Material take-off 1.5 Materials costing	1.1 Compute bill of materials 1.2 Compute project cost

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

RANGE OF VARIABLES

VARIABLE	RANGE
1. Four basic mathematical operation	May include: 1.1 Addition 1.2 Subtraction 1.3 Multiplication 1.4 Division
2. System of measurement	May include: 2.1 English 2.2 Metric
3. Units of measurement	May include: 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 may be necessary
2. Resource Implications	The following resources should be provided: 2.1 Relevant tools and equipment for basic calculation 2.2 Recommended data
3. Method of Assessment	Competency in this unit must be assessed through: 3.1 Practical demonstration 3.2 Written examination
4. Context of Assessment	4.1 Competency may be assessed in the actual workplace or at the designated TESDA Accredited Assessment Center.

UNIT OF COMPETENCY : **PROCESS FARM WASTES**

UNIT CODE : **AFF321205**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to process farm wastes. It comprises functions such as collecting farm wastes, conducting waste identification and segregation, treating and processing farm wastes and performing housekeeping duties.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Collect farm wastes	1.1 ***Tools and materials*** are prepared for collection of farm wastes. 1.2. Wastes are collected following OSHS and waste collection requirements and plans. 1.3. Dangerous and hazardous wastes are collected following the HAZMAT (hazardous material) protocol. 1.4. Appropriate personal protective equipment (PPE) are worn as prescribed by Occupational Safety and Health Standards (OSHS).	1.1 Tools and materials used in wastes management 1.2 Categories of farm wastes 1.3 Waste collection and segregation procedures 1.4 Farm-waste handling, storage and disposal procedures 1.5 Dangerous and hazardous wastes, hazardous materials (hazmat) protocols 1.6 Personal Protective Equipment (PPE)	1.1 Occupational health and safety 1.2 Skills is using tools and equipment 1.3 Calculations 1.4 Communicate effectively
2. Identify and segregate wastes	2.1 Wastes are identified by categories according to industry standards and	2.1 Tools and materials used in wastes management 2.2 Categories of farm wastes	2.1 Occupational health and safety 2.2 Skills is using tools and equipment

RANGE OF VARIABLES

VARIABLE	SCOPE
1. Tools and materials	Tools and materials may include: 1.1. Tools 1.1.1 Spade 1.1.2 Wheelbarrow 1.1.3 Broomstick 1.1.4 Sprayer or pressurized pump 1.2. Materials 1.2.1 Sacks 1.2.2 Containers 1.2.3 Disinfectants 1.2.4 Detergents 1.2.5 First-aid kit 1.2.6 Chemical spill kit 1.2.7 Personal Protective Equipment 1.2.7.1 Goggles 1.2.7.2 Disposal gloves 1.2.7.3 Face mask 1.2.7.4 Rubber boots 1.2.7.5 Overall
2. Agricultural wastes	Agricultural wastes may include: 2.1. Plant materials 2.2. Hay 2.3. Weeds 2.4. Twigs 2.5. Twines 2.6. Empty wooden crates 2.7. Animal manure 2.8. Feed refuse 2.9. Spoiled feeds (Forage and feed supplements) 2.10. Spent bedding materials 2.11. Empty sacks 2.12. Trash fish 2.13. Fish meal 2.14. Effluent
3. Dangerous and hazardous wastes	Dangerous and hazardous wastes may include: 3.1 Pesticides 3.2 Syringes 3.3 Expired biologics 3.4 Expired veterinary drugs 3.5 Spoiled milk 3.6 Diseased plant and plant parts

VARIABLE	SCOPE
	3.7 Empty veterinary bottles/syringes
4. Categories	Categories may include: 4.1 Re-usable 4.2 Recyclable 4.3 Solid 4.4 Liquid

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1 Collected farm waste 1.2 Identified and segregated farm waste 1.3 Processed farm waste 1.4 Performed housekeeping
2. Resource Implications	The following resources should be provided: 2.1 Farm area 2.2 Different farm wastes 2.3 Farm-waste processing area 2.4 Tools, supplies and materials used in farm wastes collection, segregation, and processing 2.5 Housekeeping tools and supplies 2.6 Personal Protective Equipment
3. Method of Assessment	Competency in this unit may be assessed through: 3.1 Observation and questioning 3.2 Third-Party Report 3.3 Demonstration and oral questioning
4. Context of Assessment	Competency may be assessed individually in the actual workplace or in accredited farms or institutions.

UNIT OF COMPETENCY : **PERFORM RECORD-KEEPING**

UNIT CODE : **SOC 413206**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitude required to carry-out inventory activities, maintain production records and prepare financial records.

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Carry out inventory activities	1.1 ***Inventory inputs*** are determined according to enterprise requirements. 1.2 Defective tools and equipment are determined according to operation manuals 1.3 Facilities are inspected according to standard codes and laws.	1.1 Kinds of tools and equipment 1.2 Defects of tools and equipment 1.3 Monitoring method 1.4 Farm planning and budgeting 1.5 Methods and process of production 1.6 Quality control 1.7 Basic bookkeeping 1.8 Practice 3Rs and 5S 1.9 Program of work activities are implemented as scheduled	1.1 Work safety 1.2 Skills in determining defective tools and equipment 1.3 Measuring and calculations 1.4 Estimation 1.5 Basic mathematical skills 1.6 Skills in preparation of reports 1.7 Bookkeeping 1.8 Oral and written communication
2. Maintain production record	2.1 Production plans are prepared according to enterprise requirements. 2.2 Schedules for ***production activities*** are prepared based on enterprise requirements and plans. 2.3 ***Production report*** are prepared in accordance with enterprise reporting	2.1 Kinds of tools and equipment 2.2 Defects of tools and equipment 2.3 Monitoring method 2.4 Farm planning and budgeting 2.5 Methods and process of production 2.6 Quality control 2.7 Basic bookkeeping 2.8 Practice 3Rs	2.1 Work safety 2.2 Skills in determining defective tools and equipment 2.3 Measuring and calculations 2.4 Estimation 2.5 Basic mathematical skills 2.6 Skills in preparation of reports 2.7 Bookkeeping

ELEMENT	PERFORMANCE CRITERIA *Italicized terms* are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	procedures	and 5S 2.9 Reporting	2.8 Oral and written communication

RANGE OF VARIABLES

VARIABLE	SCOPE
1. Inventory inputs	Inventory inputs may include: 1.1 Plant 1.1.1. Planting materials 1.1.2. Fertilizer 1.1.3. Concoctions (Pesticides and insecticides) 1.1.4. Beneficial microorganisms 1.2 Animals 1.2.1. Stocks 1.2.2. Feeds 1.2.3. Concoctions 1.2.4. Medications 1.2.5. Beneficial microorganisms 1.3 Miscellaneous materials
2. Production activities	Production activities may include: 2.1 Plant 2.1.1 Planting 2.1.2 Fertilizer application 2.1.3 Pesticides application 2.1.4 Implementation of biosecurity measures 2.1.5 Irrigation/watering 2.1.6 Weeding 2.1.7 Harvesting 2.1.8 Post-harvesting 2.2 Animal 2.2.1 Feeding 2.2.2 Cleaning and Sanitation 2.2.3 Implementation of biosecurity measures 2.2.4 Growth and health condition 2.2.5 Harvesting 2.2.6 Post harvesting 2.3 Miscellaneous activities
3. Production report	Production report may include: 3.1. Categorize and record quality of harvest 3.2. Volume /quantity of products harvested
4. Input	Input may include: 4.1 Input(plant) 4.1.1 Fertilizer 4.1.2 Concoctions (Pesticides and insecticides) 4.1.3 Beneficial microorganisms

VARIABLE	SCOPE
	4.2 Input(animal) 4.2.1 Feeds 4.2.2 Concoctions 4.2.3 Medication 4.2.4 Beneficial microorganisms 4.3 Miscellaneous inputs
5. Production	Production may include: 5.1 Growth rate

EVIDENCE GUIDE

1. Critical Aspects of Competency	Assessment requires evidence that the candidate: 1.1. Determined inventory inputs according enterprise requirements 1.2. Determined defective tools and equipment according to operation manuals. 1.3. Inspected facilities according to standard codes and laws. 1.4. Prepared production plan and report according to enterprise requirements and reporting procedures.
2. Required Knowledge and Attitudes	2.1. Knowledge, Theory, Practices and Systems Operations 2.1.1. Kinds of tools and equipment 2.1.2. Defects of tools and equipment 2.1.3. Monitoring method 2.1.4. Farm planning and budgeting 2.1.5. Methods and process of production 2.1.6. Quality control 2.1.7. Basic bookkeeping 2.1.8. Practice 3Rs and 5S 2.1.9. Program of work activities are implemented as scheduled 2.2. Communication 2.2.1. Prepare and submit required reports 2.2.2. Documentation of production and financial data 2.3. Mathematics and Mensuration 2.3.1. Basic mathematical operations 2.3.2. Metric system 2.3.3. Computation for production of organic fertilizer 2.3.4. Unit conversion 2.4. Safety Practices 2.4.1. Safety during inspections of tools, farm implements and equipment. 2.5. Codes and Regulations 2.5.1. Codes and laws on quality control 2.5.2. Codes and laws on inspection of facilities 2.6. Materials, Tools & Equipment: Uses, Specifications and Maintenance 2.6.1. Tools and Equipment 2.6.1.1. Can understand and follow instructional manuals 2.6.2. Materials 2.6.2.1. Where to source good quality supplies and materials needed in record keeping

	2.6.3. Maintenance 2.6.3.1. Maintenance of records 2.7. Values 2.7.1. Time consciousness and management 2.7.2. Resourcefulness 2.7.3. Cost consciousness 2.7.4. Diligence 2.7.5. Determined
3. Required Skills	3.1 Work safety 3.2 Skills in determining defective tools and equipment 3.3 Measuring and calculations 3.4 Estimation 3.5 Basic mathematical skills 3.6 Skills in preparation of reports 3.7 Bookkeeping 3.8 Oral and written communication
4. Resource Implications	The following resources should be provided: 4.1. All supplies, materials and farm implements needed during farm operations should be readily available at the farm site: 4.1.1. Farm site 4.1.2. Office supplies, materials, tools and farm equipment 4.2. Protective clothing equipment and materials. All workers involved in different activities must be fully oriented and cautioned on the different specific work activities of the farm. 4.3. Technical supervisors should have skills and ability in the successful implementation of work program activities.
5. Method of Assessment	Competency in this unit may be assessed through: 5.1. Demonstration with questioning 5.2. Written examination
6. Context of Assessment	6.1. Assessment may occur in an appropriately simulated environment through TESDA accredited assessment centers

CORE COMPETENCY

UNIT OF COMPETENCY : PERFORM LAND PREPARATION

UNIT CODE : ABAFF0973320130001

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to conduct site selection, perform land preparation, and conduct field layout.

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Conduct Site Selection	1.1 ***Climatic pattern*** is determined according to oil palm Tree requirements. 1.2 ***Soil type*** is identified according to Oil Palm Tree requirements. 1.3 ***Area topography*** is identified according to Tree requirements. 1.4 Accessibility of farm to market road is identified based on easement right of way. 1.5 Soil testing is conduct based on Bureau of Soils and Water Management guidelines. 1.6 ***Personal Protective Equipment*** is used based on industry standard. 1.7 Safety procedure in conducting site selection is followed according to OSHS. 1.8 ***Tools, Materials and Equipment*** are prepared based on	**Science** 1.1 Weather Pattern 1.2 Feel Method 1.3 Type of Soil 1.4 Terrain Elevation 1.5 Soil Chemistry 1.6 PPE **Technology** 1.7 Techniques in Surveying 1.8 Soil Sampling 1.9 Rain gauge **Environment related laws and ordinances** 1.10 Waste Management standards 1.11 Awareness on RA11058 Occupational Health and Safety Standards 1.12 Awareness on Philippine National Standard/ Bureau of Agriculture and Fishery Sector code of GAP	1.1 Conducting Survey 1.2 Conducting soil sampling 1.3 Following safety procedure 1.4 Preparing tools, materials and equipment. 1.5 Determining climatic pattern 1.6 Determining rainfall volume in millimeters.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	industry requirements	**Mathematics** 1.13 Calculation of slope and area elevation 1.14 Sample calculation of nitrogen, phosphorus, potassium (NPK) 1.15 Plant population density (PPD) **Communication** 1.16 Prepare Data 1.17 Submit Site Survey Report	
2. Perform land clearing	2.1 Tools and materials are prepared for land clearing based on industry standards. 2.2 ***General clearing*** is conducted based on Philippine National Standard/Bureau of Agriculture and Fisheries Standards. 2.3 Felling and chopping of trees is followed according to environmental laws and ordinances 2.4 Safety procedure in land preparation is followed according to OSHS. 2.5 Personal Protective Equipment is used based on industry standard.	**Science** 2.1 PPE **Technology** 2.2 Land Clearing 2.3 Chainsaw Operation **Environment related laws and ordinances** 2.4 Waste Management standards 2.5 Awareness on RA11058 Occupational Health and Safety Standards 2.6 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 2.7 Area	2.1 Conducting general clearing 2.2 Operating chainsaw

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		Computation 2.8 Computation of man days **Communication** 2.9 Prepare report and record keeping. 2.10 Feedback	
3. Conduct Field Layout	3.1 Tools, Materials and Equipment are prepared based on job requirements 3.2 Personal Protective Equipment is used based on industry standard. 3.3 Staking base on triangular method is applied 3.4 ***Leguminous cover crops*** are planted based on industry requirements	**Science** 3.1 PPE 3.2 Types of Cover Crops **Technology** 3.3 Planting system **Environment related laws and ordinances** 3.4 Waste Management standards 3.5 Awareness on RA11058 Occupational Health and Safety Standards 3.6 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 3.7 Area Computation 3.8 Ratio and Proportion **Communication** 3.9 Prepare report and record keeping 3.10 Feedback	3.1 Using of PPE 3.2 Following safety rules and regulations 3.3 Performing staking

RANGE OF VARIABLES

VARIABLE	RANGE
1. Climatic pattern	May include: 1.1 Bio-dynamic Calendar 1.2 Seasonal calendar 1.3 Agro-meteorology 1.3.1 Rainfall 1.3.2 Temperature 1.3.3 Relative Humidity 1.3.4 Wind speed 1.3.5 Pressure
2. Soil type	May include: 2.1 Sandy clay loam 2.2 Clay loam soil
3. Area topography	May include: 3.1 Slope 3.2 Terrain 3.3 Elevation
4. Personal Protective Equipment	May include: 4.1 Rubber boots 4.2 Farmer's hat 4.3 Glove 4.4 Long sleeve 4.5 Long pants 4.6 Hard hat
5. Tools, Materials and Equipment	Tools may include: 5.1 Blunt bolo 5.2 Jungle bolo 5.3 Shovel 5.4 Slashing bolo 5.5 Hand trowel Materials may include: 5.6 Soil Test Kit 5.7 Empty sacks 5.9 Plastic pail 5.10 Zip lock 5.11 Record book 5.12 Pens 5.13 Calculator 5.14 Measuring tape 5.15 A-Frame

VARIABLE	RANGE
	5.16 Rope Equipment may include: 5.17 Chain Saw 5.18 Wood Chipper
6. General Clearing	May include: 6.1 Land clearing 6.3 Felling and Chopping 6.4 Levelling
7. Leguminous Cover Crops	Leguminous Cover Crops may include 9.1 Mucuna 9.2 Kudzu

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1. Conducted Site selection according to Oil Palm Tree requirements. 1.2. Performed land clearing according to environmental laws and ordinances. 1.3. Conducted field lay-out based on Philippine National Standard/Bureau of Agriculture and Fisheries Standards.
2. Resource Implications	The following resources **MUST** be provided: 2.1. Demo Farm 2.2. Chainsaw 2.3. Rope 2.4. Sticks 2.5. PPE
3. Methods of Assessment	Competency in this unit must be assessed through 1.1 Observations/Demonstration 2.1 oral interview 3.1 Written
4. Context for Assessment	4.1. Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY : **PLANT OIL PALM TREE**

UNIT CODE : **ABAFF0973320130002**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required to perform pre-planting, planting, and post-planting activities.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform pre-planting activities	1.1 Appropriate ***tools, materials and equipment*** are used in accordance to the industry requirement 1.2 Handling Quality ***seedling****s* are performed in accordance with planting requirements. 1.3 Digging ***Holes*** are performed in accordance to industry requirements 1.4 ***Basal fertilizer*** application is performed based on recommended amount 1.5 Safety precautions and practices are followed according to occupational safety and health standards (OSHS) and Good Agricultural Practices (GAP)	**Science** 1.1 System of Planting 1.2 Handling of Fertilizers 1.3 Variety of oil palm tree 1.4 Handling of seedlings **Technology** 1.5 Collection of soil sample 1.6 Proper use of tools and equipment. 1.7 Proper use and maintenance of cutting, digging and tillage tools. **Environment related laws and ordinances** 1.8 Waste Management standards 1.9 Awareness on RA11058 Occupational Health and Safety Standards 1.10 Awareness on Philippine National Standard/Bureau	1.1 Preparing tools, materials and equipment 1.2 Interpreting lay out 1.3 Performing proper handling of seeds 1.4 Performing basal fertilizer application 1.5 Performing digging holes

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		of Agriculture and Fishery Sector code of GAP **Mathematics** 1.11 Mensuration and calculation 1.12 Rate of Fertilizer 1.13 Ratio and proportion **Communication** 1.14 Record Keeping	
2. Perform Planting of Oil Palm Trees	2.1 Appropriate tools, materials and equipment are used in accordance to the industry requirement 2.2 ***Planting*** is performed according to the standard operating procedure. 2.3 ***Rat guard*** and plant support are installed following good agricultural practices	**Science** 2.1 System of Planting 2.2 Handling of Seedlings **Technology** 2.3 Use of tools and equipment 2.4 Standard Hole Size 2.5 Rat Guard **Environment related laws and ordinances** 2.6 Waste Management standards 2.7 Awareness on RA11058 Occupational Health and Safety Standards 2.8 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP	2.1 Using tools and equipment 2.2 Planting of Oil Palm 2.3 Installing of Rat Guard

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		Communication 2.9 Record Keeping	
3. Perform Post Planting Activities	3.1 Appropriate tools, materials and equipment are used in accordance to the industry requirement 3.2 ***Post planting*** are monitored according to industry practices 3.3 ***Replanting*** is timely done according to recommended practices and planting protocol.	**Science** 3.1 System of Planting 3.2 Handling of Fertilizers **Technology** 3.3 Replanting 3.4 Perform use of tools and equipment **Environment related laws and ordinances** 3.5 Waste Management standards 3.6 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Communication** 3.7 Record Keeping 3.8 Monitoring Report	3.1 Performing Handling tools and equipment 3.2 Conducting monitoring and recording 3.3 Performing replanting

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools, Materials and Equipment	May include: 1.1 Bolo 1.2 Spade and shovel 1.3 Garden Hoe 1.4 Grass Cutter
2. Seedling	May include: 2.1 Quality Seedling 2.2 F1 tenera
3. Holes	May Include: 3.1 18 inches diameter 3.2 16 inches depth
4. Basal fertilizer	May Include: (Based on the result of soil analysis) 4.1 Complete Fertilizer 4.2 Rock phosphate
5. Planting	May include: 5.1 Prepare the site 5.2 Pegging the Planting Pattern 5.3 Planting out the oil palm seedlings 5.4 Putting Wire netting around seedlings
6. Rat Guard	May include: 6.1 Rat Guard for Power Lines 6.2 Rat guards for Trees and Utility Poles 6.3 Rat Guards on Ship's Mooring Lines
7. Post Planting	May include: 7.1 Planting out the oil palm seedlings 7.2 Appropriate Schedules of Post Planting 7.3 Size of area
8. Replanting	May include: 7.1 Optimal age of replanting 7.2 Replant a branch plant 7.3 Transplant a parlor palm 7.4 Transplant a palm tree

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed pre-planting activities 1.2 Performed planting of Oil Palm Trees according to the standard operating procedure 1.3 Performed Post Planting Activities
2. Resource Implications	The following resources **MUST** be provided: 2.1 Demo Farm 2.2 Farm tools equipment 2.3 Pen/Pencil 2.4 Farm supplies 2.5 Logbook 2.6 References (OP manual / catalogue, fertilizer / pesticides manual, protocols, field guides OHSP and GAP manual 2.7 OP production guide 2.8 PPE 2.9 First Aid Kit 2.10 Seedlings (Oil Palm Tree) 2.11 GI Wire Mesh
3. Methods of Assessment	Competency in this unit must be assessed through: 3.1 Observations/demonstration 3.2 Oral interview 3.3 Written
4. Context for Assessment	4.1 Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY : MAINTAIN OIL PALM TREE PLANTATION

UNIT CODE : ABAFF0973320130003

UNIT DESCRIPTOR : This modules covers the knowledge/skills and attitude required to perform watering management, perform quarterly weeding operation based on canopy size, apply pest and disease management according to degree of infestation, apply fertilizer and perform after care activities.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform watering management	1.1 Tools, materials and equipment are prepared according to job requirements 1.2 ***Watering program*** is performed based on oil palm tree requirements 1.3 Safety procedure in watering oil palm is followed according to OSH. 1.4 ***Personal Protective Equipment*** is used based on industry standards.	**Science** 1.1 PPE 1.2 Soil Moisture Content **Technology** 1.3 Frequency and Timing of Watering 1.4 Drip irrigation **Environment related laws and ordinances** 1.5 Waste Management standards 1.6 Awareness on RA11058 Occupational Health and Safety Standards 1.7 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 1.8 Conversion of Unit of measurement	1.1 Preparing Tools and Equipment 1.2 Performing Watering program

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		Communication 1.9 Record Keeping	
2. Perform quarterly weeding operation	2.1 ***Tools and materials*** are prepared based on weeding activities 2.2 ***Weeding*** is performed based on canopy size 2.3 Weeding is performed using methods and techniques 2.4 Safety procedure in weeding and hilling up is followed according to OSHS. 2.5 Personal Protective Equipment is used based on industry standards	**Science** 2.1 PPE 2.2 Weed Management **Technology** 2.3 Weeding Methods and Techniques **Environment related laws and ordinances** 2.4 Waste Management standards 2.5 Awareness on RA11058 Occupational Health and Safety Standards 2.6 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 2.7 Conversion of Unit of measurement **Communication** 2.8 Record keeping	2.1 Preparing Tools and Equipment 2.2 Performing Weeding techniques
3. Apply pest and disease management	3.1 Monitor ***pest and disease*** incidence 3.2 Follow pest and disease management based on GAP 3.3 Tools and materials are prepared	**Science** 3.1 PPE 3.2 Pest and Disease Management **Technology** 3.3 Prevention and Control of Pest	3.1 Preparing Tools and Equipment 3.2 Performing pest and disease control 3.3 Applying

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	according to pest and disease control measures. 3.4 ***Pest and diseases management*** are followed based on Good Agricultural Practices 3.5 Safety measures are practiced according to Occupational Health and Safety (OHS) procedures. 3.6 Personal Protective Equipment is used based on industry standards	and disease **Environment related laws and ordinances** 3.4 Waste Management standards 3.5 Awareness on RA11058 Occupational Health and Safety Standards 3.6 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 3.7 Rate of pesticides **Communication** 3.8 Record Keeping	pesticides
4. Apply fertilizer	4.1 ***Fertilizers*** are identified according to tree requirements 4.2 Fertilizer rates are computed based on tree requirements 4.3 Tools and materials are prepared according to the prescribed user's manual. 4.4 Fertilizers are identified based on tree growth. 4.5 Fertilizer rates are computed based on tree requirements. 4.6 ***Method of fertilizer application*** is	**Science** 4.1 PPE 4.2 Kinds of Fertilizers 4.3 Methods of Fertilizer Application **Technology** 4.4 Application of Fertilizers **Environment related laws and ordinances** 4.5 Waste Management standards 4.6 Awareness on RA11058	4.1 Preparing Tools and Equipment 4.2 Performing fertilizer application

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
	employed based on tree requirements. 4.7 Precautionary measures are applied based on Good Agricultural Practices. 4.8 Safety procedures are followed according to Occupational Safety and Health Standards. 4.9 Personal Protective Equipment is used based on industry standards	Occupational Health and Safety Standards 4.7 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 4.8 Rate of Fertilizer Computation **Communication** 4.9 Record Keeping	
5. Perform after care activities	5.1 Prepare reports and records based on industry requirements 5.2 Maintenance and sanitation of tools are performed based on standard procedure. 5.3 Wastes are disposed according to industry standards. 5.4 Reports and records are prepared based on industry requirements.	**Science** 5.1 PPE 5.2 Waste Management 5.3 Maintenance and Sanitation of Tools **Technology** 5.4 After Care Techniques **Environment related laws and ordinances** 5.5 Waste Management standards 5.6 Awareness on RA11058 Occupational Health and Safety Standards 5.7 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector	5.1 Preparing tools and equipment 5.2 Performing after care activities

ELEMENT	PERFORMANCE CRITERIA *Italicized* terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		code of GAP **Communication** 5.8 Reporting and Record Keeping 5.9 Monitoring Report	

RANGE OF VARIABLES

VARIABLE	RANGE
1. Watering Program	May include: 1.1 3 to 4 liters per day 1.2 Estimate the irrigation water requirement (at different stage of plant growth) 1.3 Actual weather and soil conditions
2. Personal Protective Equipment	May include: 2.1 Farmers Hat 2.2 Long sleeves 2.3 Long pants 2.4 Rubber boots 2.5 Gloves (cloth) 2.6 Spraying Purpose only 2.6.1 Google 2.6.2 Mask respirator 2.6.3 Cover all 2.6.4 Rubber gloves
3. Tools and Materials	Tools may include: 3.1 Weeding 3.1.1 Slashing bolo 3.1.2 Hoe 3.1.3 Rake 3.1.4 Blunt bolo 3.1.5 Empty sacks 3.2 Fertilization 3.2.1 Fertilizer 3.2.2 Measuring cup 3.2.3 Weighing scale 3.2.5 Empty sacks 3.3 Watering 3.3.1 Pail 3.3.2 Shovel Plastic drums 3.4 Pest and diseases 3.4.1 Knapsack sprayer Materials may include: 3.5 Weeding 3.5.1 Empty sacks 3.6 Fertilization 3.6.1 Fertilizer

VARIABLE	RANGE
	3.6.2 Empty sacks 3.7 Pest and diseases 3.7.1 Pesticides 3.7.2 Measuring cup 3.7.3 Repellants
4. Weeding	May include: 4.1 Round weeding 4.2 Strip weeding
5. Pest and disease	May include: 5.1 Weeds 5.1.1 broad leaves 5.1.2 grasses 5.1.3 sedges 5.2 Insects 5.2.1 Aphids 5.2.2 Weevil 5.2.3 Slug caterpillar 5.3 Diseases 5.3.1 Viral Disease 5.3.2 Mosaic Disease 5.3.4 Bract mosaic 5.3.5 Bacterial 5.3.6 Bacterial wilt 5.3.7 Fungal 5.4 Mites 5.5 Rodents 5.6 Stray animals
6. Pest and diseases management	May include: 6.1 Physical 6.2 Mechanical 6.3 Biological 6.4 Cultural 6.5 Chemical (bio pesticide, synthetic) 6.6 Sanitation
7. Fertilizers	May include: 7.1 Organic fertilizer 7.2 Inorganic fertilizer
8. Method of fertilizer application	May include: 8.1 Basal 8.2 Side dressing 8.3 Localized 8.4 Band

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1 Performed watering management 1.2 Performed quarterly weeding operation based on canopy size 1.3 Applied pest and disease management according to degree of infestation 1.4 Applied fertilizer 1.5 Performed after care activities
2. Resource Implications	The following resources should be provided: 2.1 Farm or plantation area 2.2 Storage shed 2.3 Farm tools and materials 2.4 Farm supplies 2.5 Logbooks 2.6 References:
3. Methods of Assessment	Competency in this unit may be assessed through: 3.1 Direct Observation 3.2 Demonstration with oral questioning 3.3 Oral Interview 3.4 Written Exam
4. Context for Assessment	4.1. Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

UNIT OF COMPETENCY : **PERFORM OIL PALM FFB HARVEST AND POST-HARVEST OPERATION**

UNIT CODE : **ABAFF0973320130004**

UNIT DESCRIPTOR : This unit covers the knowledge, skills and attitudes required in perform oil palm FFB harvest, perform harvesting activity and perform post-harvest operation.

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
1. Perform Pre-Harvest Operation	1.1 ***Tools and equipment*** are prepared according to prescribed farm practices. 1.2 Harvesting tools are Disinfected based on industry requirement 1.3 Site inspection is performed based on Industry requirements 1.4 ***FFB maturity*** is identified according to parameters affecting physical indicators 1.5 Cost Economy Computations are performed based on microeconomic and macroeconomic elements 1.6 Harvesting pathways are constructed based on cultural practices established.	**Science** 1.1 Oil Palm FFB maturity indicators **Technology** 1.2 FFB maturity **Environment related laws and ordinances** 1.3 Waste Management standards 1.4 Awareness on RA11058 Occupational Health and Safety Standards 1.5 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP 1.6 Consumer Price Index, Wage and Labor Costs, Tariffs and Taxes, Supply and demand	1.1. Conducting Site Survey 1.2. Identifying Matured FFB 1.3. Performing Cost Economy Computations

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		Mathematics 1.7 Estimated Volume of harvest 1.8 Cost Economy **Communication** 1.9 Notify pre harvest operation	
2. Perform harvesting activity	2.1 Tools, Materials and Equipment are prepared based on job requirements 2.2 Identify FFB maturity based on industry requirements 2.3 Proper ***harvesting procedure*** implemented based on the industry standard 2.4 Collect loose fruit with established industry protocol. 2.5 Pile and stack fronds in accordance to industry requirements	**Science** 2.1 Oil Palm FFB maturity indicated **Technology** 2.2 FFB maturity **Environment related laws and ordinances** 2.3 Waste Management standards 2.4 Awareness on RA11058 Occupational Health and Safety Standards 2.5 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 2.6 Estimated Volume of harvest 2.7 Cost Economy **Communication** 2.8 Notify pre	2.1 Preparing tools, materials and equipment 2.2 Identifying FFB Maturity 2.3 Performing proper harvesting procedure 2.4 Collecting loose fruit 2.5 Piling and stacking fronds

ELEMENT	PERFORMANCE CRITERIA ***Italicized*** terms are elaborated in the Range of Variables	REQUIRED KNOWLEDGE	REQUIRED SKILLS
		harvest operation	
3. Perform Post-harvest operation	3.1 Transport FFB to loading point accordance to good agricultural practices (GAP) 3.2 Perform quality check of FFB accordance to good agricultural practices (GAP) 3.3 Perform records keeping in accordance to industry requirements 3.4 ***Pile and stack FFB*** according to industry standard	**Technology** 3.1 Transporting FFB 3.2 Procedure for FFB Piling and stacking 3.3 Procedure for fronds Piling and stacking. **Environment related laws and ordinances** 3.4 Waste Management standards 3.5 Awareness on RA11058 Occupational Health and Safety Standards 3.6 Awareness on Philippine National Standard/Bureau of Agriculture and Fishery Sector code of GAP **Mathematics** 3.7 Volume of Harvest 3.8 Computation for average bunch weight (AVW) **Communication** 3.9 Record Keeping	3.1 Transporting FFP to Loading point 3.2 Performing Quality check 3.3 Performing Record Keeping 3.4 Piling and stacking FFB 3.5 Piling and stacking fronds

RANGE OF VARIABLES

VARIABLE	RANGE
1. Tools and Equipment	May include: Tools 1.1 Chisel 1.2 Sickle 1.3 Harvesting Pole 1.4 Cutting Knife 1.5 Wheelbarrows/Collection Carts 1.6 Harvesting Basket Equipment: 1.7 Motorized/Mechanical Pole Pruners
2. FFB maturity	May include: 2.1 Physiological attributes 2.2 At least 5 loose fruit in a bunch
3. Harvesting Procedures	May include: 3.1 Sterilization 3.2 Threshing 3.3 Digesting 3.4 Pressing 3.5 Oil Clarification 3.6 filtration
4. Pile and stack FFB	May include: 4.1 Not more than 3 layers 4.2 Removal of long stalk

EVIDENCE GUIDE

1. Critical aspects of Competency	Assessment requires evidence that the candidate: 1.1. Performed Pre-Harvest Operation according to parameters 1.2. Performed Harvesting Activity 1.3. Performed Post-Harvested Operation based on the industry standard
2. Resource Implications	The following resources **MUST** be provided: 2.1. Harvesting tools 2.2. Harvesting PPE 2.3. Demo Farm
3. Methods of Assessment	Competency in this unit must be assessed through 3.1. Observation/Demonstration 3.2. Questioning
4. Context for Assessment	4.1. Competency may be assessed in the actual workplace or simulation environment in TESDA accredited institutions.

GLOSSARY OF TERMS

1. **Biodiversity:** The variety of life in a particular habitat.
2. **Buncher**: A worker who cuts down and collects FFBs.
3. **Certification:** A process that verifies that palm oil is produced sustainably.
4. **Crude Palm Oil (CPO)**: The primary oil extracted from the FFB.
5. **Deforestation**: The clearing of forests for oil palm plantations.
6. **Digester:** Equipment that extracts oil from the fruit pulp.
7. **Fertilization:** Applying nutrients to the soil to support palm growth.
8. **Fresh Fruit Bunch (FFB):** The cluster of oil palm fruits harvested from the tree.
9. **Intercropping:** Growing other crops between oil palm trees to maximize land use.
10. **Kernel Cracke**r: A machine that breaks open the palm kernels.
11. **Kernel Dryer:** Equipment that removes moisture from palm kernels.
12. **Mill Expansion:** Increasing the capacity of an oil palm mill to process more FFB.
13. **Nursery:** The place where young oil palm seedlings are grown before transplanting.
14. **Oil Extraction Rate (OER):** The amount of oil extracted from a given quantity of FFB.
15. **Oil Palm:** A tropical palm tree cultivated for its oil-rich fruits.
16. **Palm Kernel Oil (PKO)**: Oil extracted from the palm kernel, the seed within the fruit.
17. **Palm Oil Derivatives:** Products made from palm oil, such as biodiesel, oleo chemicals, and food products.
18. **Palm Oil Mill Effluent (POME):** Wastewater generated during the oil extraction process.
19. **Pest and Disease Management:** Controlling insects, fungi, and other organisms that harm oil palms.
20. **Planting Density:** The number of oil palm trees per unit area.
21. **Replanting:** The process of replacing old or unproductive trees with new ones.
22. **Roundtable on Sustainable Palm Oil (RSPO):** A global standard-setting organization for sustainable palm oil.
23. **Smallholder:** A farmer who owns and operates a small oil palm plantation.
24. **Sterilization:** The process of heating FFBs to prevent deterioration.
25. **Sustainable Palm Oil (SPO)**: Palm oil produced without harming the environment or exploiting workers.

26. **Thresher:** A machine that separates the fruit from the bunch.
27. **Traceability:** The ability to track palm oil from the plantation to the final product.
28. **Weed Control:** Managing unwanted plants that compete with oil palms for resources.

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THE TECHNICAL EXPERT PANEL (TEP)

EDELINO D. BIOL
Division Manager
Siraway Plywood and Lumber Corporation

SAMUEL M. LASACA
Resident Manager
Siraway Plywood and Lumber Corporation

IAN POLE M. VALERIO, PME
Palm Oil Mill Manager
Siraway Plywood and Lumber Corporation

ARIEL B. ALOJADO
Operation Manager - Development and Production
Siraway Plywood and Lumber Corporation

ALBIN D. IGUANA
Outgrowers Representative
Siraway Plywood and Lumber Corporation

EDWIN B. TEMPLADO
Trainer
Dacon Agricultural Institute Inc.

RENA A. IGUANA
School Administrator
Dacon Agricultural Institute Inc.

ENGR. HERMIL B. CONTRIVIDA
Administrator/Supervising TESD Specialist
Provincial Training Center-Sindangan
Region IX

GLORIA O. HALIRIN
Supervising TESD Specialist
Zamboanga City- Isabela City District Office
Region IX

IBRAHIM H. ASAMUDDIN
Senior TESD Specialist
Provincial Training Center - Zamboanga City
Region IX

ENGR. AMY N. MABATID
Assistant Professor I
Zamboanga Sibugay Polytechnic Institute
Region IX

BEN RAYMUNDO S. HELAR
Senior TESD Specialist
Provincial Training Center – Pagadian
Region IX

ROSALIE R. ESTURCO
Supervising TESD Specialist
Regional Training Center - Zamboanga Peninsula
Region IX

MARYLYN L. TAYAN
Senior TESD Specialist
Provincial Training Center - Zamboanga Sibugay
Region IX

NANITH L. CARBON
ROD Chief

KRYZHIA A. SAMSON
TESD Specialist II

TESDA, Region IX

TESDA, Region IX

GRACE D. BAHINTING
Senior TESD Specialist
TESDA, Region IX