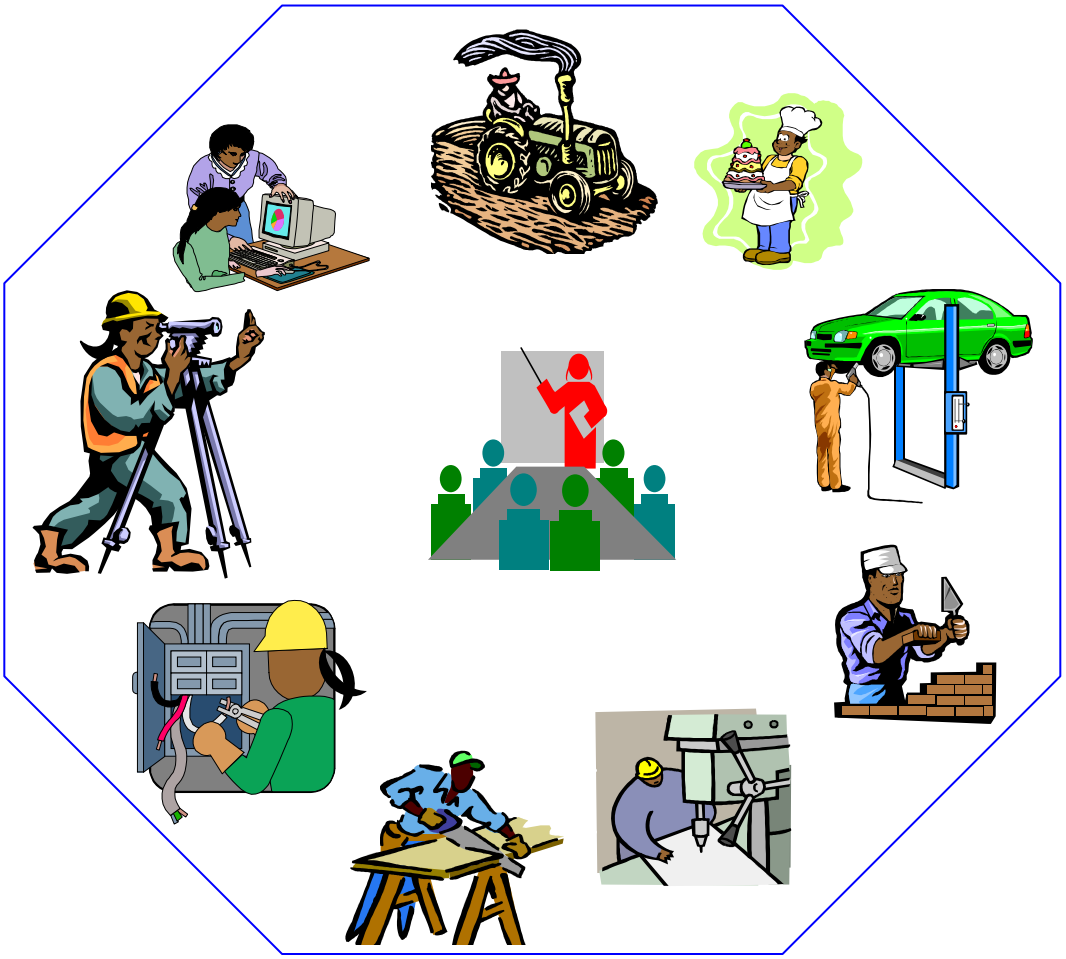
Federal Democratic Republic of Ethiopia

OCCUPATIONAL STANDARD

RUBBER TREE LATEX HARVESTING & PROCESSING

NTQF Level III



Ministry of Education
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Introduction

Ethiopia has embarked on a process of reforming its TVET-System. Within the policies and strategies of the Ethiopian Government, technology transformation – by using international standards and international best practices as the basis, and, adopting, adapting and verifying them in the Ethiopian context – is a pivotal element. TVET is given an important role with regard to technology transfer. The new paradigm in the outcome-based TVET system is the orientation at the current and anticipated future demand of the economy and the labor market.

The Ethiopian Occupational Standards (EOS) is the core element of the Ethiopian National TVET-Strategy and an important factor within the context of the National TVET-Qualification Framework (NTQF). They are national Ethiopian standards, which define the occupational requirements and expected outcome related to a specific occupation without taking TVET delivery into account.

This document details the mandatory format, sequencing, wording and layout for the Ethiopia Occupational Standard which comprised of Units of Competence.

A Unit Title describes a distinct work activity. It is documented in a standard format that comprises:

- Occupational title and NTQF level
- Unit title
- Unit code
- Unit descriptor
- Elements and Performance criteria
- Variables and Range
- Evidence guide

Together all the parts of a Unit Title guide the assessor in determining whether the candidate is competent.

The ensuing sections of this EOS document comprise a description of the occupation with all the key components of a Unit Title:

- chart with an overview of all Units of Competence for the respective level including the Unit Codes and the Unit Titles
- contents of each Unit Title(competence standard)
- occupational map providing the Technical and Vocational Education and Training (TVET) providers with information and important requirements to consider when designing training programs for this standards and for the individual, a career path

UNIT OF COMPETENCE CHART

Occupational Standard: Rubber Tree Latex Harvesting & Processing

Occupational Code: IND RLP

NTQF Level III

IND RLP3 01 0616 Sample Soils and Analyze Results	IND RLP3 02 0616 Design Rubber Tree Protection Strategy	IND RLP3 03 0616 Conduct Rubber Tree Inventory
IND RLP3 04 0616 Implement Rubber Tree Transplanting Program	IND RLP3 05 0616 Monitor Collection and Handling Rubber Tree Latex	IND RLP3 06 0616 Practice on Farm Soil & Water Conservation
IND RLP3 07 0616 Apply Rubber Tree Latex Harvesting and Utilization Techniques	IND RLP3 08 0616 Monitor Tapping, Extraction, Collection and Sorting of Rubber Tree Latex	IND RLP3 09 0616 Prepare, Handle and Apply Chemicals
IND RLP3 10 0616 Apply Community Income Generating Options	IND RLP3 11 0616 Apply Appropriate Protection and Prevention of Rubber Tree Disease	IND RLP3 12 0616 Undertake Land Preparation Rubber Tree Plantation
IND RLP3 13 0616 Undertake Latex Harvesting Activities	IND RLP3 14 0616 Perform Latex Processing Activities	IND RLP3 15 0616 Respond to Emergencies
IND RLP3 16 0616 Monitor Implementation of Work Plan/Activities	IND RLP3 17 0616 Apply Quality Control	IND RLP3 18 0616 Lead Workplace Communication
IND RLP3 19 0616 Lead Small Teams	IND RLP3 20 0616 Improve Business Practice	IND RLP3 21 0616 Prevent and Eliminate MUDA

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Sample Soils and Analyze Results**
Unit Code	**IND RLP3 01 0616**
Unit Descriptor	This competency standard covers the process of carrying out soil sampling and interpreting the results as a foundation for further rubber tree operations such as nutrition programs and irrigation scheduling. Carrying out soil sampling is likely to be under limited supervision from others and with checking only related to overall progress. Soil sampling at this level requires the application of rubber tree operations knowledge and a range of rubber tree operations skills. The work is usually done within routines, methods and procedures where some discretion and judgment is required in the selection of sites, equipment and materials, organization of work, services, actions and the achievement of outcomes within time and budgetary constraints.

Elements	Performance Criteria
1. Prepare for soil sampling	1.1 The ***soils*** to be surveyed, ***surveying activity*** and ***contractors*** are identified according to site plans and ***enterprise work procedures.*** 1.2 ***Tools, equipment and machinery*** are selected according to site conditions, testing agency requirements and enterprise work procedures. 1.3 If required, pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers specifications and enterprise work procedures. 1.4 Areas of homogeneous soil types are identified for sampling. 1.5 ***Services*** are located using site plans and in consultation with the supervisor. 1.6 ***OHS hazards*** are identified, risks assessed, controls implemented and reported to the supervisor. 1.7 Suitable safety equipment and ***Personal Protective Equipment (PPE)*** are selected, used and maintained. 1.8 A clean and safe work area is ***maintained*** throughout and on completion of work.
2. Determine soil characteristics by performing soil sampling	2.1 The density and depth for a representative sampling of the area are determined according to enterprise work procedures.

	2.2 Holes are excavated at identified sampling sites according. *2.3* to enterprise work procedures, OHS requirements and with due consideration of the environmental implications. 2.4 Samples for off-site testing are collected and prepared, packaged, accurately labeled and dispatched according to testing agency requirements and enterprise work procedures. 2.5 The ***physical and chemical characteristics*** of the soil are determined according to investigative requirements and best practice guidelines. 2.6 Sampling and testing tools and equipment are cleaned of all ***residues*** and returned to storage according to manufacturers specifications and enterprise work procedures. 2.7 Results are recorded in an established format according to enterprise work procedures.
3. Interpret results of soil analysis	3.1 The soil types of the sample area are classified according to standards for soil classification. 3.2 The acceptable soil physical and chemical parameters for a specified rubber Tree are determined from published data and historical records. 3.3 Collected analytical results are compared with acceptable physical and chemical parameters for a specified rubber tree. 3.4 Soil characteristics are evaluated to determine whether they can be altered to meet rubber Tree needs. 3.5 The Readily Available Water (RAW) values for irrigation sites are determined according to industry standards and enterprise work procedures.

Variables	**Range**
Soils surveyed	May Include: • Field soil sites and specialist growing media.
Surveying activity	May Include: • Collecting • Preparing • packaging • labeling soil samples for off-site testing and/or on-site testing and analysis

Contractors	May Include: • off-site testing agencies such as government • commercial or private consultants • contractors engaged for the mechanical extraction of soil samples by the use of machinery such as an auger or backhoe
Enterprise work procedures	May Include: • Work procedures will be based on sound rubber tree operation principles and practices may include supervisors oral or written instructions • soil surveying program • enterprise standard operating procedures (SOP) • specifications • routine maintenance schedules, work notes; product labels and Material Safety Data Sheets (MSDS) • manufacturers service specifications and operators manuals • waste disposal • recycling and re-use guidelines • OHS procedures.
Tools , equipment and machinery required	May Include: • a hand or powered auger • backhoe, pH test kit or electronic pH testing device • hand held salinity or EC meter • tape measure • sample bags • plastic overlays • aerial photographs • charts and tables of soil characteristics • rubber tree soil parameters
Services	May Include: • water supply • distilled water • Gas • power (electricity) • Telecommunications • drainage
OHS hazards	May Include: • disturbance or interruption of services • solar radiation • dust • Noise • soil- and water-borne micro-organisms • chemicals and hazardous substances

	• sharp hand tools and equipment • manual handling • moving machinery and machinery parts • falling objects and uneven surfaces • Safety equipment may include signage and barriers.
PPE required to perform a soil survey	May Include: • Hat • Boots • Overalls • Gloves • Goggles • respirator or face mask • face guard • hearing protection • sunscreen lotion and hard
Maintaining	May Include: • Soil surveying activities may have beneficial environmental impacts where the analysis is applied to improve the soil structure and reduce excess water, nutrient and chemical flow into the external environment, including natural waterways, through better targeting of rubber Tree's water needs and reduction of water applied, thus minimizing the draw on water resources. • Beneficial impacts may also result from the construction of a soil profile with more efficient water and nutrient utilization than the original soil profile of the site. • Detrimental environmental impacts may arise where mechanized sampling activities produce excess noise, dust or water run-off.
Physical characteristics of soil	May Include: • Color • Texture • Structure • depth of root zone a • depth of water table
Chemical characteristics of soil	May Include: • pH • salinity • nutrient content such as N, K, P and carbonate content
Residues those may affect sampling and analytical accuracy	May Include: • Rubber Tree and soil-based residues • any detergents or other cleaning chemicals may pollute the soil samples taken for analysis

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • prepare for surveying activities, • coordinate work activities with others, survey, test and report in the required format on the soil characteristics identified
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Practical understanding of the range of sample collection, testing and analytical methods that may be used to perform soil surveys, and the association of surveying methods with site conditions, environmental implications and intended rubber tree operations use of the surveyed site. • The physical and chemical properties of soils in relation to their ability to support specified rubber tree operations production. • The capacity of soils to provide water to rubber Trees. • The importance of organic matter in soil in relation to the intended rubber tree operations use. • Awareness of ameliorants and soil improvement techniques for addressing site limitations identified through surveying. • Awareness of the comparative environmental implications associated with soil surveying activities and the application of analytical results
Underpinning Skills	Demonstrate Skills to: • Communicate with work team members, supervisors and contractors, • interpret and apply soil surveying specifications, • reporting, analysis and work procedure documents, and understand soil surveying data • Measure distance, depth and spacing, • calculate area, volume and Readily Available Water values, • Calibrate tools and equipment, and interpret analytical results. • Coordinate own activities with the requirements and schedules of contractors and other work teams to sequentially and effectively complete surveying activities in a timely and cost effective manner
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Design Rubber Tree Protection Strategy**
Unit Code	**IND RLP3 02 0616**
Unit Descriptor	This unit of competence covers overall design and strategy development to protect rubber tree from fire, pests, invasive species and Disease, weed and insect.

Elements	Performance Criteria
1. Undertake landscape assessment to develop a fire protection strategy	1.1. Negative ("wildfire threat assessment") and positive ("fire regime analysis") impacts of rubber tree fires are assessed in the rubber tree landscape. 1.2. In accordance of landscape assessment, strategy to reduce fire threat is developed. 1.3. Guidelines are prepared to implement the strategy.
2. Undertake assessment to develop rubber Tree pest protection strategy	2.1 ***Pest*** surveillance is conducted according to rubber Tree pest control work procedures. 2.2 In accordance of assessment, strategy to combat pest threat is developed. 2.3 Guidelines are prepared to implement the strategy.
3. Undertake assessment to develop rubber Tree Disease ,weed and insect protection strategy	3.1 ***Disease, weed and insect*** surveillance is conducted according to Disease ,weed and insect control work procedures. 3.2 In accordance of assessment, strategy to combat rubber tree disease ,weed and insect threat is developed. 3.3 Guidelines are prepared to implement the strategy.
4. Identify Problem of Invasive Rubber Tree s and develop a strategy	3.4 A comprehensive database of ***exotic invasive rubber trees*** in the landscape is developed. 4.2 A comprehensive strategy for managing exotic invasive rubber trees developed. 4.3 Guidelines are prepared to implement the strategies.

Variables	Range
Rubber Tree Pest	May Include those organisms that affects the normal growths of the rubber tree
Rubber Tree Disease ,weed and insect	abnormalities caused by biotic and a biotic factor
Exotic Invasive Rubber Trees	May include are alien species that inhibits the growth of other species e.g. Prosopis juliflora, Lantana camara, Parthinium

Types and Sources of Information	May Include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history

Evidence Guide	
Critical Aspects of Competence	A person must demonstrate the ability to: • communicate and work safely with others in the work area • safely and accurately detect fires and accurately report and record details of sightings and the ability to develop strategy and guidelines • undertake landscape assessment to develop a fire protection strategy • undertake assessment to develop rubber Tree pest protection strategy • undertake assessment to develop rubber Tree Disease ,weed and insect protection strategy identify problem of invasive • plan and develop protection techniques • describe and discuss rubber Tree protection techniques
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Rubber Tree development practices • Rubber Tree insect and Disease ,weed and insects protection practices • Natural Resources Management(NRM) principles • Engineering and GIS and Remote sensing • Application of surveying techniques
Underpinning Skills	Demonstrate Skills to: • Undertake landscape assessment to develop a fire protection strategy • Undertake assessment to develop rubber Tree pest protection strategy • Undertake assessment to develop rubber Tree Disease ,weed and insect protection strategy • Identify problem of invasive • Plan and develop protection techniques
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Conduct Rubber Tree Inventory**
Unit Code	**IND RLP3 03 0616**
Unit Descriptor	This unit of competence covers operating measuring tools and equipments, surveying and delineation of rubber tree area, estimation of volume and yield of stand using various sampling techniques and establishment of rubber tree database management system for utilization. This unit of competence applies to volume and yield estimation of rubber tree stands through surveying, and rubber tree data base management system establishment using appropriate soft ware program.

Elements	Performance Criteria
1. Operate measuring tools and equipments	1.1. Available tools and equipments are procured based on the standard operating procedure according to ***Occupational Health & Safety***. 1.2. Technicians are trained for efficient utilization of tools and equipments. 1.3. Technicians are acquainted with newly introduced ***tools and equipments***. 1.4. ***Sources of information*** for tools and equipments are stored according to utilization procedures.
2. Survey and delineate rubber tree area	2.1. Preliminary survey is conducted based on information needed. 2.2. Rubber tree area is mapped based on collected baseline data. 2.3 Mapped area is classified into ***blocks*** and ***compartments*** based on age and species type. 2.4. Formal ***survey*** is conducted based on needed information.
3. Use appropriate sampling techniques	3.1. Random, stratified, systematic and cluster sampling techniques are applied based on the population size and type. 3.2. ***Sample size*** is determined based on population size.
4. Estimate volume and yield of stand	4.1.Diameter and height of stand are measured to calculate volume of stand 4.2.***Mean annual*** and ***current annual increment*** of stand are calculated to understand current and annual status of stand

	4.3. Cost-benefit analysis is determined based on estimated yield
5. Establish rubber tree data base management system	5.1. ***Sampling*** data is collected based on available resources. 5.2. Collected data is encoded, analyzed and interpreted using the established data base management system 5.3. Information is available to users through various means of communication

Variables	**Range**
Occupational Health & Safety	May include: • Use kit bags and helmets • Be far away from home range of wild animals • Take care of landslide at hilly areas
Tools and equipments	May include: • Measuring tape • Ranging pole • Peg • Caliper • Diameter tape • Hypsometer • Clinometers • Compass • Bark gage • Topo map • Arial photo • Mirror stereoscope • GPS • ARCGIS and Remote Sensing Software • Computer and stationary
Sources of Information	May include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history
Blocks	May include: • The largest unit of rubber tree stand
Compartments	May include: • The smallest unit of rubber tree stand

Survey	May include: • is a technique and science of accurately determining the terrestrial or three-dimensional space position of points and the distances and angles between them.
Sample size	May include: • A proportion used to conduct sample e.g.10 %,20 % of a given population
Mean annual increment	May include: • Average volume growth recorded for a stand
Current annual increment	May include: • Volume growth recorded during growing season.
Sampling	May include: • A technique used to take representative unit of population it includes random, cluster, systematic and stratified sampling.

Evidence Guide	
Critical Aspects of Competence	The candidate must be able to : • Operate and maintain measuring tools and equipments • Map forest area • Estimate yield and volume of stand • Establish rubber tree data base
Underpinning Knowledge and Attitudes	Demonstrate the knowledge of: • Rubber tree • National Resource Management • Computer and GIS software
Underpinning Skills	Demonstrate the required skills to: • Operate measuring tools and equipments • Survey and delineate forest area • Use appropriate sampling techniques • Estimate volume and yield of stand • Establish rubber tree data base management system
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Implement Rubber Tree Transplanting Program**
Unit Code	**IND RLP3 04 0616**
Unit Descriptor	This competency standard covers the process of implementing a rubber tree transplanting program. This would include co-ordination of excavating the tree, transporting, re-planting and providing post-trans rubber Tree treatments. Tree transplanting is likely to be under limited supervision from others, with checking only related to overall progress and is usually done within routines, methods and procedures, according to an established program. Some discretion and judgment may be required depending on whether the tree was deciduous or evergreen, and what time of the year the transplanting program is to be implemented. Competency in the implementation of a tree transplanting program requires the application of extensive rubber tree knowledge and skills including how different root systems of different trees will react to transplantation.

Elements	Performance Criteria
1. Prepare for rubber tree transplantation	1.1 ***OHS hazards*** associated with transplanting operations are identified, risks assessed and ***suitable controls*** implemented. 1.2 ***Legislation, local by-laws and regulations*** governing tree transplanting /removal are identified. 1.3 Tree is assessed to ensure the appropriate transplanting 1.4 operations are implemented according to an identified program, and to ensure the safety of personnel, the public and property is maintained throughout and upon completion of work. 1.5 Root ball and crown ***treatments*** are selected, prepared and used according to the needs of the species to ensure the tree remains viable throughout the transplanting process. 1.6 Site is ***prepared*** for transplanting activities including notification of local residents and authorities where necessary. 1.7 Surrounding property/vegetation is relocated, secured and/or protected from potential damage during rubber tree transplanting.

	1.8 ***Tools, equipment*** and machinery necessary to implement rubber tree transplanting activities are selected, prepared and used according to enterprise guidelines and manufacturers recommendations.
2. Implement transplantation operations	2.1 Soil around the root zone is excavated according to enterprise guidelines. 2.2 Rubber tree is stabilized as the root system is undercut. 2.3 Rubber tree is ***lifted and secured*** for potential storage and/or transportation using ***safe lifting techniques*** and in accordance with enterprise guidelines. 2.4 Rubber tree is ***re-installed*** ensuring that the root system can colonize new ground. 2.5 Tools, equipment and machinery are cleaned and stored according to enterprise guidelines and manufacturers recommendations. 2.6 Completed transplanting program is recorded and communicated to management and/or the client according to enterprise guidelines.
3. Maintain health and viability of transplanted rubber tree	3.1 Water is applied to the transplanted rubber tree over a sustained period to ensure minimal leaf loss and that new growth is apparent. 3.2 Rubber tree tonic and/or fertilizer is applied according to the nutritional requirements of the species. 3.3 Rubber tree protection devices are installed to ensure adequate support and protection is provided. 3.4 Rubber tree condition and site is ***monitored*** to ensure the rubber tree remains healthy.

Variables	**Range**
OHS hazards	May Include: • overhead or underground services and utilities, solar radiation, dust, noise, through traffic, holes, moving machinery and machinery parts, blunt/sharp tools, surrounding property, fertilizers, heavy and awkward shaped trees, falling debris, slopes, water, rock, and undergrowth.
Suitable controls	May Include: • procedures for handling, transporting and storing fertilizers

	• safe operation and maintenance of machinery and equipment • safe procedures for working outdoors • appropriate use of personal protective clothing and equipment such as hats • Boots • Overalls • sunscreen lotion • gloves and goggles • correct manual handling techniques • safe lifting techniques and basic first aid training
Legislation, local by-laws and regulations	May Include: • local government by-laws and government legislation such as the Environmental Protection Act • Tree preservation orders • Significant Tree registers and/or legislation • Notification orders • Ethiopian Standards for rubber tree and equipment and traffic control devices • regulations governing the proximity of power lines to trees
Treatments	May Include: • Pruning • de-leafing and the application of anti-transpirants.
Site preparation	May Include: • checking there is easy access for tools • equipment and machinery to the tree and that it can be easily moved to its new location • checking the site for power lines • telecommunication cables • water pipes, gas and sewerage services • watering the tree and the area around it • removing any objects that may affect digging such as rocks • stones and other obstructions • erecting temporary barriers • warning signs to limit the access of pedestrians and vehicles.
Tools and equipment	May Include: • lifting chains • frames • Clamps • Cranes • Trucks

	• tree spades • front end loaders • hand tools for digging and/or cutting parts of the tree such as spades and secateurs • watering equipment • wheel barrow or flat topped nursery trolley • hessian or sacking (also known as burlap) • Ropes • stakes or long pegs
Lifting and securing	May Include: • lifting the tree onto material • wrapping around the root ball before lifting • sliding material under the tree before lifting • bare rooting the tree prior to lifting • using a sling to lift the tree • applying ropes to the material around the root ball • binding the crown with twine or hessian
Safe lifting techniques	May Include: • bending knees • using legs to lift (not back) • lifting simultaneously with others
Re-installing	May Include: • the preparation of the planting hole • incorporation of a drainage system to ensure root system survival • modifying the soil according to cultural requirements of the species • installing tree support devices.
Monitoring	May Include: • regularly checking the stakes to ensure they do not cut into the stem of the tree • observing soil moisture levels at regular intervals over a growing season • checking the tree for pests and Disease • weed and insects • assessing any physical damage to the leaves or trunk of the tree, removing weeds from around the base of the tree • applying mulch as necessary.

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • prepare for rubber tree transplanting activities, • Implement transplanting operations and maintain the

	health and viability of a rubber tree after transplanting occurs.
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • environmental impact of rubber tree removal and plant i.e. the effect of soil disturbance and water run-off • principles and methods of operating rubber tree moving equipment • causes of stress in rubber trees resulting from storage and/or transportation • safety procedures and potential hazards of removing and transplanting rubber trees • requirements for securing and signage when transporting rubber trees on road vehicles • Problems and methods relating to the aftercare of trees during their establishment period. • environmental impact of rubber tree removal and plant i.e. the effect of soil disturbance and water run-off • principles and methods of operating rubber tree moving equipment • causes of stress in rubber trees resulting from storage and/or transportation • safety procedures and potential hazards of removing and transplanting rubber trees • requirements for securing and signage when transporting rubber trees on road vehicles • Problems and methods relating to the aftercare of trees during their establishment period.
Underpinning Skills	include the ability to: • monitor and minimize environmental impacts of transplanting operations • dispose of rubber tree debris in an environmentally safe and sensitive manner • calculate rubber tree and branch weights and sizes for safe removal • communicate with work team members to ensure implementation is carried in accordance with the identified program • Bind and/or wrap root balls and crowns. • communicate of ideas and information associated with the job such as transplanting methods, appropriate tools and equipment, and hazards encountered • Collect, analyze and organize information on a particular species of tree and its transplanting requirements. • Plan and organize activities according to seasonal conditions.

	• Use mathematical ideas and techniques when estimating and calculating tree and branch weights and sizes, in particular when calculating safe working loads. • Use technology such as rubber tree machinery and equipment including cranes, trucks and front end loaders may be used in the removal program.
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Monitor Collection and Handling Rubber Tree Latex**
Unit Code	**IND RLP3 05 0616**
Unit Descriptor	This Unit Title covers monitoring and assessment of the existing potential, collection and handling of rubber tree latex for rubber sheet production.

Elements	Performance Criteria
1. Prepare for monitoring	1.1 Applicable ***Occupational Health and Safety (OHS)***, ***legislative*** and ***organizational requirements*** relevant to monitoring, Collection and Handling of Rubber tree latex are identified and complied with 1.2 Collection and Handling of Rubber tree latex are researched and recorded for the location to be assessed 1.3 Methods of Collection and Handling of Rubber tree latex are selected 1.4 Site environmental protection measures are adhered to in accordance with relevant legislation and regulations 1.5 ***Communication*** with others is established and maintained in accordance with OHS requirements
2. Identify rubber tree latex	2.1 Criterion are set for identification of rubber tree latex from foreign materials 2.2 ***Rubber tree latex*** are identified from foreign materials based on various identification criterion
3. Cultivate rubber tree latexs	3.1 Required materials like agar and growing media are prepared for plantation and utilization of ***rubber tree latex***. 3.2 Rubber tree latex is cultivated and managed based on demand
4. Collect and market rubber tree latex	4.1 ***Rubber tree latex*** are collected, packed and made ready for market. 4.2 Packed rubber tree latex are supplied to local, regional and national market based on market demand

Variables	Range
OHS	May Include: • Use kit bags • gloves • eye goggle • Properly identify foreign material

	• Post precaution notice in appropriate place
Legislative requirements	May Include: • award and enterprise agreements • industrial relations • confidentiality and privacy • OHS • the environment • equal opportunity • anti-discrimination • relevant industry codes of practice • duty of care • heritage and traditional land owner issues
Organizational requirements	May Include: • legal, organizational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OHS, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines)
Communication	May Include: • verbal and non-verbal language, constructive feedback, active listening, questioning to clarify and confirm understanding, use of positive, confident and cooperative language, use of language and concepts appropriate to individual social and cultural differences, control of tone of voice and body language
Types and Sources of Information	May Include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history
Rubber tree latex	May include rubber tree latex those are not foreign materials
Tools and equipments	May Include: • Required species(rubber tree seed, matured rubber trees) • Standard documents • Spade • Shovel • Canvas carpet

	• Agar • Digging tools • Harvesting tools and equipments • Transportation facilities

Evidence Guide	
Critical Aspects of Competence	A candidate must demonstrate the ability to: • cultivate and collect rubber tree latex • harvest and handle collected rubber tree latex • identify and describe rubber tree latex and foreign materials
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Rubber tree product utilization techniques • Natural Resources Management • Environmental requirements and rubber tree latex collecting and handling techniques • rubber tree latex classification techniques • Harvesting and handling of collected rubber tree latex
Underpinning Skills	include the ability to: • Identify rubber tree latex • Cultivate rubber tree latex • Collect and market rubber tree latex
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Practice on Farm Soil & Water Conservation**
Unit Code	**IND RLP3 06 0616**
Unit Descriptor	This unit of competence standard covers the process of constructing excess water draining structures, micro catchments water harvesting structures and implementation of the designed physical and biological soil and water conservation practices. It requires the ability to identify and measure general and cross slopes, estimate the amount of excess water, locate disposal point and reuse excess water, develop or set design criterion for excess water draining structures determine the dimension and specification of physical soil and water conservation measures, and micro catchments water harvesting structures, and characterize and select the type and species of rubber tree for biological soil and water conservation measures. Practice of on farm soil and water conservation requires knowledge of understanding erosive and erodibility of project site, soil loss estimation methods, soil moisture determination technique and engineering survey technique, drawing and interpreting sketch.

Elements	Performance Criteria
1. Construct excess water draining structure	1.1 Area of the land irrigated & amount of excess water is estimated and design discharge identified considering irrigation method used and local rainfall. 1.2 General and cross slope of field is examined to decide excess water draining channel and alignment. 1.3 Size and cross-sections of channel is determined using standard technique. 1.4 All ***tools and equipments*** are organized using standard technique. 1.5 Excess water reuse and disposal point is planned using standard technique.
2. Implement physical and biological soil and water conservation techniques	2.1 Indigenous soil and water conservation techniques are assessed. 2.2 Physical and biological soil and water conservation technique are prioritized considering cost, severity and adaptability using standard technique. 2.3 Community awareness and participation are enhanced using standard technique.

	2.4 Types and species of trees are identified using standard technique. 2.5 Design criteria and specification are set for physical soil and water conservation practice considering soil type, slope and construction materials.
3. Construct micro-catchment's water harvesting structures	3.1 Adaptability of different micro-catchment's water harvesting structures assessed based on topography and crop type. 3.2 Community awareness and participation is enhanced using standard technique. 3.3 Design criteria and specification are set for the chosen micro-catchment's water harvesting structure considering soil type, slope and crop type.

Variables	**Range**
Tools and equipments	May Include: • Auger • core sampler • Computer and software • Spatula • Oven • pressure apparatus • sensitive balance • Sieve • soil grinder • hydro meter • shaker and measuring cylinder • Thermometer • stop watch • Flasks • Pin • Clinometers • topographic map Planimeter • Tape meter • line level • theodolite(stadia) • chaining pins • ranging pole • Staff • Clinometers • Global positioning system • compass set and compass

Types and Sources of Information	May Include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • Sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history
Occupational Health & safety	May Include: • Hazards • Chemicals • slippery or uneven surfaces • moving machinery and vehicles • Snake • spider and Insect bites • solar radiation and dust • Glove • safety wear • helmet • eye glass

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • Examine general and cross slope of field to decide excess water draining channel and alignment. • Plan excess water reuse and disposal point • Assess indigenous soil and water conservation techniques • Prioritize physical and biological soil and water conservation technique considering cost, severity and adaptability • Identify types and species of trees for biological measures. • Set design criteria and specification for physical soil and water conservation practice • Construct Micro-catchment's water harvesting structures
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Practicing on Farm Soil & water conservation requires knowledge of: • Erosivity and erodibility of project site, • Soil loss estimation methods, • Soil moisture determination technique • Engineering survey technique, • Drawing and interpreting the sketch.

Underpinning Skills	Demonstrates skills to: • Construct excess water draining structure • Implement physical and biological soil and water conservation techniques • construct micro-catchment's water harvesting structures
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Apply Rubber Tree Latex Harvesting and Utilization Techniques**
Unit Code	**IND RLP3 07 0616**
Unit Descriptor	This Unit Title covers assessment of existing potential area and species of rubber tree, harvesting and marketing of rubber tree, for local consumption as well as national market. This Unit Title applies to assess existing potential area and species, harvesting and marketing, of rubber tree for local consumption as well as national market using necessary traditional and modern skills to supply quality materials to industries and customers.

Elements	Performance Criteria
1. Identify potential rubber tree species	1.1. Potential rubber tree producing areas are identified based on their agro-ecological zone. 1.2. Existing species of rubber tree in each agro-ecological zone are identified and propagated based on various means of propagation.
2. Harvest Rubber tree latex	2.1. Matured rubber tree are harvested and processed for various purposes based on available technology. 2.2. Harvested rubber trees are handled with appropriate post-harvest handling techniques.
3. Market Rubber tree latex	3.1. Market access for rubber tree latex is assessed at local, regional, and national level. 3.2. Harvested rubber trees latex are supplied to the market based on its quality.

Variables	Range
Occupational Health & safety	May Include: • Use kit bags • Helmets • gloves • eye goggle • Post precaution notice in appropriate place
Tools and equipments	May Include: • Required species(matured trees) • Standard documents • Spade • Shovel • Digging tools • Harvesting tools and equipments

	• Transportation facilities
Types and Sources of Information may include:	• Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history

Evidence Guide	
Critical Aspects of Competence	A person must be able to: • Identify rubber tree species • Describe rubber tree utilization purposes and techniques • Harvest, handle and transport rubber tree latex • Comply with the requirements for handling and disposal of harvesting lands.
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Rubber tree products utilization techniques • Natural Resources Management • Environmental requirements for rubber tree and rubber tree latex • Rubber tree latex classification • Maintenance requirements of tools and equipment used for harvesting. • OHS requirements of employees. • Record keeping relevant to the work function. • Enterprise requirements for handling and disposal of harvesting lands. • Environmental and economic benefits of rubber tree . • Common problems that may occur while performing harvesting activities • Harvesting methods required for a range of rubber trees. • OHS legislative requirements, procedures and Codes of Practice
Underpinning Skills	Demonstrates skills to: • identify potential rubber tree species • Harvest and handle rubber tree • Market Rubber tree latex • Implement enterprise requirements for handling and disposal of harvesting lands.
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Monitor Tapping, Extraction, Collection and Sorting of Rubber Tree Latex**
Unit Code	**IND RLP3 08 0616**
Unit Descriptor	This Unit Title covers monitor and assessment of the existing potential, conservation, tapping, extraction, collection and marketing of rubber tree latex for local consumption as well as export products. The Unit Title applies to assess the existing potential, conservation, tapping, extraction, harvesting, collection and marketing of rubber tree latex for local consumption as well as export products using necessary traditional and modern skills to supply quality materials to industries and customers.

Elements	Performance Criteria
1. Monitor extract, collect and sorting rubber tree latex	1.1 ***Environmental parameters*** are monitored against the needs of the rubber tree and enterprise guidelines. 1.2 Environmental parameters are altered, as required, to meet the needs of nursery rubber tree and ***market requirements***.
2. Identify potential rubber tree latex bearing species	2.1 Potential rubber tree latex producing areas and species are identified based on their agro-ecological zone. 2.2 Strategic plan is developed for use of available resource based on financial and human resource.
3. Tap and extract rubber tree latex	3.1 Matured rubber tree latex bearing trees are marked for tapping. 3.2 Rubber tree latex is tapped and extracted using appropriate technologies.
4. Collect, grade and market rubber tree latex	4.1 Tapped rubber tree latex is collected using appropriate materials. 4.2 Rubber tree latex products are graded based on ***quality standard characteristics***. 4.3 Graded rubber tree latex are supplied to market based on demand.

Variables	Range
Environmental parameters	May Include: • Light • Temperature • humidity and wind

Market requirements	May Include: • amount of rubber tree latex produced • quality a • time of sale
Quality standard characteristics	May Include: • Species • viscosity and age of rubber tree
Occupational Health & Safety	May Include: • Use kit bags • Helmets • Gloves • eye goggle • Post precaution notice in appropriate place
Tools and equipments	May Include: • Required species(matured rubber trees) • Standard documents • Tapping tools and equipments • Spade • Shovel • Digging tools • Harvesting tools and equipments • Transportation facilities
Types and Sources of Information	May Include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history

Evidence Guide	
Critical Aspects of Competence	A person must able to: • Describe processes of extracting, collecting and sorting rubber tree latex • Extract, collect and grade rubber tree latex
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Rubber tree development and conservation • Natural Resources Management • flora protection principles • extracting, collecting and sorting rubber tree latex • rubber tree protection from Disease ,weed and insects and insects • post harvest handling of rubber tree products

Underpinning Skills	Demonstrates skills to: • extract, collect and sorting rubber tree latex • tap and extract rubber tree latex • collect, grade and market rubber tree late
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Prepare, Handle and Apply Chemicals**
Unit Code	**IND RLP3 09 0616**
Unit Descriptor	This competency standard covers the process of prepare, transporting, handling storing, and apply chemicals safely without supervision. It requires minimizing risks, including avoiding spills and accidents, and following procedures, safety and environmental regulations, and Occupational Health and Safety (OHS) requirements to protect the health and safety of everyone in the workplace when handling chemicals. It requires knowledge of the chemicals used in a particular environment and the hazards involved in their handling and storage. The process of preparing and applying chemicals for the control of weeds, pests and diseases.

Elements	Performance Criteria
1. Transport and handle chemicals and biological agents	1.1 Transport methods according to label and Material Safety Data Sheets (MSDS) are identified and confirmed to safely transport the ***chemical***. 1.2 ***Risks*** involved in transport and handling are identified and minimized. 1.3 Personal Protective Equipment (PPE) is used to transport and handle chemicals where required. 1.4 Requirements for ***safe working procedures*** and ***legislation*** are recognized and followed during transport. 1.5 ***Procedures*** and risk control measures are in place and followed in the event of a spill or accident. 1.6 Reports of injury or poisoning associated with transport of chemicals are made to the manager.
2. Prepare and Store appropriate chemical in the workplace	2.1 ***Storage method*** selected is appropriate for the chemical concerned. 2.2 Occupational Health and Safety hazards in the ***storage area*** are identified and risks controlled. 2.3 Storage method selected is appropriate to prevent contact with people or animals, and contamination of produce or the environment. 2.4 Requirements to maintain storage area in accordance with ***directions and standards*** related to chemicals are defined.

	2.5 Safe working procedures for the storage of chemicals are defined. 2.6 Chemicals are prepared from those registered for the intended purpose, and to suit the organization's chemical use strategy.
3. Prepare to use chemicals according to the label and MSDS	3.1 Requirements for ***pre and post-operative checks*** on equipment are followed. 3.2 Damage, wear or malfunctions of any equipment is identified and reported or repaired. 3.3 Requirements for the selection, preparation and adjustment of ***application equipment and tools*** for the appropriate chemicals are followed. 3.4 Mixing rates are defined and calculated. 3.5 Directions, standards and legislative requirements for mixing chemicals are followed.
4. Apply chemicals	4.1 ***Meteorological conditions*** and forecasts are assessed prior to and during application. 4.2 ***Hazards*** of particular chemicals are identified. 4.3 ***Risks*** to others and the environment are assessed and controlled. 4.4 Application equipment calibration procedures are followed. 4.5 Procedures and precautions for the use of the chemicals are interpreted from labels and accreditation requirements. 4.6 Requirements for chemical handling and application are determined from directions, standards and legislative requirements. 4.7 Chemicals are applied safely and effectively according to directions. 4.8 Chemical spills or accident procedures are followed. 4.9 First aid equipment is made available on site.
5. Clean up following chemical application	5.1 ***Tools or equipment*** required to clean up chemicals are selected. 5.2 Requirements for cleaning equipment and sites are defined and followed according to directions and standards.

	5.3 Requirements for disposing of unused chemicals, empty containers or spilled material are defined from directions and standards. 5.4 Procedures for reporting chemical spills are followed.
6. Record application details	6.1 Application of chemicals is recorded according to ***organizational procedures***, label directions and legislation. 6.2 Details of the specific chemical concerned are recorded correctly in the chemical inventory according to regulations. 6.3 Inventory of personal protective equipment and application equipment is recorded. 6.4 Procedures and requirements for reporting application details to senior management or client are followed. 6.5 Records of injury or poisoning associated with application of chemical are made and provided to the ***appropriate person***.

Variables	**Range**
Chemical	May Include: • insecticides • fungicides • herbicides • bactericides • algaecides • biological • nematacides • rodenticides • antimicrobial agents • antelintics • hormone growth promotants
Risks	May Include: • serious potential affects on worker's health during transport due to spillage or accident, poisoning • affects on public health through possible cross-contamination of produce • damage to the environment and the general public in the event of spillage or leakage during transport • lack of appropriate insurance coverage • chemicals flowing into drains, water sources or produce growing areas

Safe working procedures	May Include: • following manufacturer's instructions • separating chemicals from passengers • observing loading instructions • ensuring liquids are top side up • ensuring chemicals are correctly labelled • ensuring no cross-contamination • safe driving and vehicle operation • ensuring load is not stacked too high • ensuring the chemicals are protected from the weather • ensuring the load is secure
Legislation	May Include: • Pesticides Acts • Occupational Health and Safety Acts and associated Hazardous Substances Regulations/ Codes of Practice • Dangerous Goods Acts • Poisons Act or Protection of the Environment Acts
Procedures	• directions on labels • Material Safety Data Sheets • Occupational Health and Safety and environmental regulations • or operator's manuals • may cover • cleaning the site • monitoring and protecting the environment where possible securing the area and notifying authorities
Storage methods	May Include: • on site or off site approved drums • bottles or containers
Equipment found in storage areas	May Include: • specific dispensing and preparation equipment • recording of processes and use • associated safety equipment such as eyewash and emergency showers
Directions and standards	May Include: • directions on a label, in an operator's manual on a Material Safety Data Sheets in an industry standard, or from Codes of Practice • advisory material outlying legislation relevant to chemical use • regulations to be followed may include segregation, wash down areas and sumps
Pre and post operational checks	May Include: • Checks may be made to weather conditions (e.g., wind)

	• Nozzles • Hoses • regulators/gauges • respirator cartridges • drench and protective clothing and equipment.
Application equipment and tools	May Include: • Include knapsacks or hand held pneumatic sprayers, • drench guns • spot on applicators • CDA and air assisted • Units • self-propelled sprayers • controllers or power • operated equipment like boom sprays • pressure wand • jetting race • shower/plunge dips • hand jetting or air blast sprayer
Meteorological Conditions	May Include: • rain • wind • temperature • relative humidity • inversion or stable air conditions
Hazards	May Include: • contact with chemicals through the skin, inhalation or ingestion may cause acute poisoning, or chronic or long-term health effects • these may occur through direct contact with a spilled chemical, or through contamination of food • Material Safety Data sheets (MSDS) provide health information • other hazards and risks include fire and explosion • flammability • toxicity • health hazards • damage to non-target organisms • environmental damage or residues in foods • Risks that may be assessed include spillage, contact of • chemical with skin or eyes, accidental ingestion, incorrect • concentrations in mixtures, faulty or inappropriate storage • containers, incorrectly calibrated equipment, spray drift, • contamination of waterways, incorrect disposal of unused • chemicals or faulty equipment

Appropriate person	May Include: • Include relevant authorities • Supervisor • manager • business owner or colleague

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • sufficient knowledge in transporting, handling, storing and applying chemicals safely without supervision • handle, store and apply chemicals in the workplace without • harming people, foodstuffs or the environment • Communicate orally and in writing. • Read and interpret labels. • Measure quantities, application rates and calibrate equipment. • Report on and record activities. • Use safe and environmentally responsible work practices • apply OHS issues, legislative requirements and Codes of Practice relevant to chemical use and hazardous substances. • Use, maintenance and storage of equipment to prepare and apply chemicals • Calibrate and adjust equipment to apply chemicals
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Risks to the environment • Different methods of transport • Occupational Health and Safety risks management principles as they apply to hazardous substances • Hazards and risks involved in the transport of the specific chemical concerned and related control measures • Relevant Occupational Health and Safety legislative requirements and Codes of Practice with regard to hazardous substances and the use of chemicals • Correct wearing/fit of personal protective equipment • Chemical free options for pest control. • Use, maintenance and storage of equipment to prepare and apply chemicals. • OHS issues, legislative requirements and Codes of Practice relevant to chemical use and hazardous substances. • Use, maintenance and storage of personal protective

	equipment, including how, when and why it should be used. • Licensing requirements and relevant State authorities. • Modes of chemical absorption and paths of entry associated with risks to bystanders/public and applicators. • Environmental effects of chemicals. • Calibration and adjustments. • Integrated Pest Management and Integrated Resistance Management principles. • Cost effective use of chemicals. • Hazard identification, assessment and control, and emergency response. • Correct wearing/fit of personal protective equipment.
Underpinning Skills	Demonstrates skills to:- • Accurate read and interpret instructions for transporting and handling chemicals • Accurately read and interpret instructions for action to be taken to control and minimize the effects of a spillage of chemicals • Communicate with others regarding transport and storage processes • Communicate ideas and information about the transport arrangements for chemicals • Collect, analyze and organize information about hazards and risks associated with transporting chemicals • Plan and organize activities transport and storage • Work with others and in teams ensuring others are aware of transport of chemicals, and the hazards and control measures • Use mathematical ideas and techniques amounts of chemicals that can be safely transported in one load and how they can be stored • Solve problems difficulties with transport vehicles or the storage area may require problem solving • Communicate orally and in writing. • Read and interpret labels. • Measure quantities, application rates and calibrate equipment. • Use safe and environmentally responsible work practices
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Apply Community Income Generating Options**
Unit Code	**IND RLP3 10 0616**
Unit Descriptor	This unit describe about the creation of different community income generating activities. This unit of competency is applicable to rubber tree development technical assistance/techniques and working. This unit covers the attainment of knowledge required to conduct Participatory Rural area Appraisal (PRA), identify income generating alternatives, implementation, follow up and evaluate the activities.

Elements	Performance Criteria
1. Identify the community affected by rubber tree development activities	1.1 The total number of household living in and the outside rubber tree area is identified according to working manuals. 1.2 The households are categorized according to their economic and living conditions. 1.3 Rubber tree villages are organized in order to support the target communities with relevant infrastructure facilities according to work manuals. 1.4 Target community is organized in ***community based organizations*** according to work manuals.
2. Identify potential income generation alternatives relevant to the community	2.1 The target community is informed about the income generation options according to work manuals. 2.2 The target community is organized according to their interests related to income generating development options. 2.3 The target community is supplied with the required inputs according to work manuals. 2.4 Short term trainings on the selected income generating rubber tree development tasks are provided based on organizational work manuals.
3. Implement income generating alternatives	3.1 The target community is encouraged to enact the activities according to the plan of action designed. 3.2 Continuous technical support is provided based on organizational working standards. 3.3 Market linkages are facilitated in order to promote the economic growth of beneficiary households according to organizational working guidelines.

4. Follow up and asses outputs and impact of income generating options	4.1 The progress and the problems encountered related to the income generation activities are reviewed based on the plan of action. 4.2 Records are kept regarding the impact and the outcomes of the income generating activities implemented based on organizational working guidelines. 4.3 Reports are made to the higher developmental agent offices on the relative progress and problem encountered of the income generating activities based on work manuals.

Variables	**Range**
Tools and equipments	May Include: • Stationary materials • Clip boards and • Audio and visual materials
Types and Sources of Information	May Include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history

Evidence Guide	
Critical Aspects of Competence	Candidate must able to: • Communicate effectively • Efficiently implement rural development plan • Effectively coordinate the target community to follow planning, communication and scheduling
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Participatory Rural area Appraisal (PRA) • Basic knowledge and understanding related to rural development and leadership
Underpinning Skills	Demonstrates skills to: • Identify the community affected by rubber tree development activities • Identify potential income generation alternatives relevant to the community • Implement income generating alternatives • Follow up and asses outputs and impact of income generating options

Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Apply Appropriate Protection and Prevention of Rubber Tree Disease**
Unit Code	**IND RLP3 11 0616**
Unit Descriptor	This unit of competence covers application of preventive and controlling mechanism to detect, protect and control rubber tree Disease ,weed and insects ,weed and insect

Elements	Performance Criteria
1. Prepare requirements	1.1 Organizational ***Occupational Health and Safety*** procedures, practices, policies, and precautions are observed and followed. 1.2 Disease, weed and insect surveillance is conducted according to ***disease, weed and insect*** and pest control work procedures. 1.3 Important disease ,weed and insect are identified according to disease ,weed and insect and pest control work procedures.
2.Apply preventive and / or control mechanism	2.1 Organizational occupational health and safety procedures, practices, policies, and precautions are observed and followed. 2.2 Preventive techniques are identified to protect disease ,weed and insect occurrence in rubber tree according to rubber tree disease ,weed and insect prevention guidelines. 2.3 Control mechanisms are applied to control pest and disease ,weed and insect in rubber tree according to rubber tree disease ,weed and insect control guidelines. 2.4 Monitoring and evaluation are conducted according to the assessment procedures.

Variables	Range
Occupational Health & Safety	May Include: • The use of personal protective equipment and clothing • Safety equipment • First aid equipment • Rubber tree pest and disease ,weed and insect fighting equipment • Hazard and risk control

	• Elimination of hazardous materials and substances • Appropriate fitness for the task
Disease ,weed and insect	May Include: • Abnormalities caused by biotic and a biotic factor • parasitic weed and different insects
Tools and equipments	May Include: • Chemicals • safety equipments • spray equipments and detergents.
Types and Sources of Information	May Include: • Organizational rules, regulation and guidelines • Internet, related books and related materials • Technical manuals • sharing best practice • Virtual library • Workplace guidelines • Recorded documents/logo/history

Evidence Guide	
Critical Aspects of Competence	Candidate must able to: • communicate and work safely with others in the work area • follow efficiently rubber tree Disease ,weed and insect prevention and control mechanisms in accordance with environmental legislation and workplace procedures
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Disease ,weed and insect detection and identification • Implementing technical know how • Implementing organizational rules, regulation and guidelines
Underpinning Skills	Demonstrates skills to: • prepare requirements • Apply preventive and / or control mechanism • communicate and work safely with others in the work area • implement rubber tree disease ,weed and insect prevention and control mechanisms
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Undertake Land Preparation Rubber Tree Plantation**
Unit Code	**IND RLP3 12 0616**
Unit Descriptor	This competency standard covers the process of preparing equipment, cultivating the site, applying any pre-rubber tree planting treatments, and caring for the vehicles and equipment on completing the activity. It includes the completion of documentation and logbooks for the operation. Preparing land for rubber tree plantation is likely to be carried out under limited supervision from others with checking only related to overall progress. Preparing land for rubber tree plantation is usually done within established routines, methods and procedures. Some discretion and judgment is required in the selection of equipment and materials, organization of work and services. The outcomes should be achieved within specified timelines.

Elements	Performance Criteria
1. Prepare for plantation	1.1 Requirements for the work to be undertaken are interpreted from the ***rubber tree planting plan*** and confirmed with the manager. 1.2 The method and order of plantation is identified and interpreted from the rubber tree planting plan. 1.3 ***OHS*** hazards are identified; risks assessed and suitable controls are implemented. 1.4 Suitable ***personal protective equipment*** is selected, used and maintained. 1.5 The ***environmental implications*** of cultivating the ***site*** are identified, likely outcomes assessed and, if necessary, responsible action is taken.
2. Prepare the cultivating equipment	2.1 The ***vehicles and equipment*** required for site plantation are selected according to the rubber tree planting plan and organization guidelines. 2.2 The vehicles and equipment are serviced, adjusted for the conditions and worn parts are replaced to ensure reliability during plantation. 2.3 All containers, leftover fluids, waste and debris from the maintenance and servicing work are disposed of safely and appropriately. 2.4 All maintenance and servicing is ***documented*** according to the requirements of the organization's record keeping system.

3. Cultivate soil	3.1 ***Previous crop or land clearance debris*** is removed, incorporated or burnt according to the organization's guidelines. 3.2 The plantation plan is followed and completed for each paddock. 3.3 OHS hazards are identified; risks assessed and suitable controls are implemented. 3.4 Suitable personal protective equipment is selected, used and maintained. 3.5 Vehicles and equipment are ***operated in a safe,*** effective and efficient manner and at speeds to suit the conditions. 3.6 The quality of plantation is maximized by continually checking and adjusting the vehicles and equipment as necessary. 3.7 All time, resource and quality requirements of the rubber tree planting plan are met.
4. Prepare site for rubber tree planting	4.1 The rubber tree planting layout and ***soil profiles*** are completed as required by the rubber tree planting plan. 4.2 ***Weed and pest control measures*** are taken as required by the rubber tree planting plan. 4.3 Fertilizers, ameliorants, and/or other pre-rubber tree planting ***treatments*** are applied as required by the rubber tree planting plan. 4.4 The ***environmental implications*** of site preparation are identified, likely outcomes assessed and, if necessary, responsible action is taken.
5. Complete land operations	5.1 Equipment is cleaned in accordance with manufacturers specifications, organizational procedures and regulations. 5.2 Vehicles and equipment are cleaned and stored to minimize damage according to manufacturers' specifications, organizational procedures and regulations. 5.3 All containers, leftover fluids, waste and debris from the cleaning and maintenance work are disposed of safely and appropriately. 5.4 All required ***records and documentation*** are completed accurately and promptly according to organizational requirements.

Variables	Range
Rubber tree planting plan	May include rubber tree grown by the organization for production of latex
OHS	May include the range of actions are both systemic and at an operational level. These are listed below: • Systems should be in place to ensure the safe operation and maintenance of machinery and equipment. Precautions should also be in place to minimize exposure to noise and organic and other dusts, and to external elements, including solar radiation. • Systems and procedures for preparing sites for rubber tree planting, as well as working with and around electricity, should also be in place. Safe systems should be in place for stubble and grass burning, and for storing, handling and transporting hazardous substances. • Fixtures should be in place in all storage sheds, including appropriate access ladders, hand rails and ladder cages • Personal protective equipment should be selected, used and maintained • Environmental conditions should be controlled e.g., keeping moisture levels as low as possible will reduce the likelihood of fire • Procedures should be in place and used for working with moving vehicles and equipment • Record keeping should ensure that requirements in relation to properly observing and using product labels and MSDS sheets, instruction manuals and written organizational procedures.
Personal protective equipment	May Include: • Boots • hat/hard hat • overalls • Gloves • protective eyewear • hearing protection • respirator or face mask • and sun protection (sun hat, sun screen)
Environmental implications	May include detrimental environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oils, containers, and chemical residues), dust, and hazardous substances (fuel). Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities. • Detrimental effects such as erosion

	• loss of moisture, debilitating germination rates • polluting water bodies.
Condition of the site	May Include: • It might be the site of a previous years crop or have been used for grazing or laid fallow for a period prior to plantation. It may also be land cleared of virgin land • low lying land verging on mangroves • sloping high land • existing cleared land • have soil or surface water
Vehicles and equipment	May Include: • Vehicles might include tractors, trucks and four-wheel drive vehicles and heavy duty machines. • Equipment might be mounted or trailing • Ploughs • Cultivators • Scarifies • fertilizer spreaders • spraying • Equipment • crop/stick puller • Cultivators • Buster • Disc • Liste • Ripper • Mulcher • tandem or offset discs • or rakes.
Documenting	May Include: • Either paper-based or digital, and information will be recorded into logbooks or other records. • All chemical usage should be recorded as well as any necessary recording of paddock size, and vehicle and equipment use. Additionally, any assessment of pests and weeds, OHS hazards, or other observations should be recorded appropriately.
Previous crop or land clearance debris	May Include: • The rubber tree planting plan might require that such debris is removed (or sprayed) • incorporated (smashing, cultivating, mulching, slashing), burnt or used for grazing for a period
Actions taken to ensure that equipment is	May Include: • The speeds used should be appropriate for the equipment

operated safely	• ground and the rubber tree conditions • all pre- and post-start up checks should be undertaken.
Completing a soil profile	May Include: • Where laser leveling is required, assistance may be required for contractors in surveying and pegging. Also soil testing and analysis may be required.
Weed and pest control measures may be	May Include: • Weeds may be controlled by using an integrated pest management program including the application of herbicides and biological control agents, grazing, slashing, burning or hay cutting. Weeds may be controlled at various times, in the preceding year, pre-planting, post-planting, pre-emergent, at various stages of rubber tree and weed growth, as recommended. • Insect pests may be controlled by using an integrated pest management program including cultural means - plantation, etc., insecticides, biological control agents, or removal of food supply using weed control techniques.
Treatments	May Include: • Use of insecticides, herbicides, pesticides, fertilizers and physical agents should meet legislative, manufacturers and organization requirements.

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • prepare land for rubber tree plantation • Describe and demonstrate different methods of cultivating a range of soil types • apply OHS guidelines, procedures, and principles including manual handling • interpret rubber tree planting plans, produce standards, quality specifications, work procedure documents • measure materials and site plan specifications • operate, adjust and calibrate plantation equipment safely • complete pre- and post-operational checks on tools,
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • methods of cultivating a range of soil types • environmental issues of cultivating soil for rubber tree planting, such as drainage and irrigation systems, soil amelioration and waste disposal procedures • a range of pre-rubber tree planting treatments, their purpose and method of application • OHS guidelines, procedures, and principles including manual handling.

Underpinning Skills	Demonstrates skills to: • interpret rubber tree planting plans, produce standards, quality specifications, work procedure documents • measure materials and site plan specifications • operate, adjust and calibrate plantation equipment safely • complete pre- and post-operational checks on tools, vehicles and equipment • perform routine safety, service and maintenance procedures on tools, harvester and equipment • read and interpret manufacturers specifications, work and maintenance plans, and Material Safety Data Sheets • interpret and apply task instructions, communicate with work team and supervisor, and record and report faults, workplace hazards and accidents. • collect, analyze and organize information, organization guidelines, production and rubber tree planting plans • use mathematical ideas and techniques to calculate the spatial and logistical requirements of the rubber tree planting site, to calibrate machinery or calculate amounts of rubber tree planting material needed for the size of a field or paddock.
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Undertake Latex Harvesting Activities**
Unit Code	**IND RLP3 13 0616**
Unit Descriptor	This competency standard covers the process of harvesting rubber tree latex. It includes preparing machinery and equipment, harvesting, cleaning and maintaining machinery and equipment and completing workplace records. Harvesting is likely to be carried out under limited supervision. Overall progress may be checked periodically and will usually follow set routines, methods and procedures. Some discretion and judgment is required in the selection of equipment and materials, organization, or work and services. The outcomes should be achieved within specified timelines.

Elements	Performance Criteria
1. Prepare to harvest rubber tree latex	1.1 Requirements for the work to be undertaken, method and order of harvesting is interpreted from the harvest strategy and confirmed with the supervisor. 1.2 ***OHS*** hazards are identified, risks assessed and suitable controls are implemented. 1.3 Suitable ***personal protective equipment*** is selected, used and maintained. 1.4 The ***environmental implications*** of harvesting the ***rubber tree latex*** are identified, likely outcomes assessed and, if necessary, responsible action is taken. 1.5 Windrowing/swathing is completed to the standard required by the harvest strategy. 1.6 Rubber tree latex is sampled for test against the ***classification standards*** . 1.7 The hygiene standards for the crop and the paddock are identified from the harvest strategy and/or the rubber tree latex storage plan.
2. Prepare the harvesting equipment	2.1 Harvesting machinery and other equipment are ***cleaned*** of pests and other contaminants to maintain rubber tree latex and paddock hygiene standards, as required by the harvest strategy. 2.2 All machinery and equipment are serviced, assessed for reliability, adjusted for harvesting conditions and appropriate parts are replaced to ensure reliability during the harvest.

	2.3 All containers, leftover fluids, waste and debris from the maintenance and servicing work are disposed of safely and appropriately. 2.4 All maintenance and servicing is ***documented*** according to the requirements of the organizations record keeping system.
3. Harvest rubber tree latex	3.1 The harvest strategy is followed and completed for each paddock. 3.2 OHS hazards are identified, risks assessed and suitable controls are implemented. 3.3 Suitable personal protective equipment is selected, used and maintained. 3.4 The environmental implications of harvesting are identified, likely outcomes assessed and, if necessary, responsible action is taken. 3.5 Harvesting machinery and ancillary equipment is operated in a safe manner and at speeds to suit rubber tree latex conditions. 3.6 The quality of the rubber tree latex is maximized by maintaining the hygiene of all surfaces that come into contact with the latex. 3.7 The quality of the rubber tree latex is maximized by continually checking and, where necessary, adjusting the harvester and ancillary equipment, including their height and other settings. 3.8 ***Fire prevention measures are taken*** as outlined and described in the harvest strategy.
4. Complete harvesting operations	4.1 Equipment is cleaned in accordance with manufacturers specifications, organizational procedures and regulations. 4.2 Attachments and other ancillary equipment are cleaned and stored to minimize damage and to maximize hygiene according to manufacturers specifications, organizational procedures and regulations. 4.3 Insecticides are applied as required by the organization and the harvest strategy. 4.4 All containers, leftover fluids, waste and debris from the maintenance and servicing work are disposed of safely and appropriately.

	4.5 All required ***records and documentation*** are completed accurately and promptly in accordance with organizational requirements.

Variables	**Range**
Actions taken to eliminate or minimize OHS risk may include:	• The range of actions are both systemic and at an operational level. These are listed below. • Systems should be in place to ensure the safe operation and maintenance of machinery and equipment. • Precautions should also be in place to minimize exposure to noise and organic and other dusts. Systems and procedures for harvesting and handling the rubber tree latex, as well as working with and around electricity should also be in place. • Fixtures should be in place in all silos and storage sheds, including appropriate access ladders, handrails and ladder cages. • Personal protective equipment should be selected, used and maintained. • Environmental conditions should be controlled e.g., keeping • moisture levels as low as possible will reduce the likelihood of fire. • Procedures should be in place and used for working on harvesters, working with latex mass movement and stability, working within confined working spaces, moving vehicles, and working at height. • Record keeping practices should ensure that requirements are met in relation to properly observing and using product labels and MSDS sheets, instruction manuals and written organizational procedures.
Personal protective equipment	May Include: • Boots • hat/hard hat • overalls • Gloves • protective eyewear • hearing protection • respirator or facemask • sun protection (sun hat, sun screen).
Environmental implications	May include detrimental environmental impacts may result from excessive noise and exhaust emissions, the incorrect use and disposal of maintenance debris (oils, containers, chemical residues), and hazardous substances (fuel).

	Impacts may also include run-off flows of water and cleaning agents from servicing, maintenance and cleaning activities.
Rubber tree latex	May include latex harvested from rubber tree by the organization for production of rubber sheet and applications
Classification standards used for comparison	May include these are the standards for the measurement of quality parameters in the latex and are produced and available from receiving authorities.
Cleaning in preparation for and subsequent to, the harvest	May include all surfaces of harvesters, and any equipment that comes into contact with the rubber tree latex should be cleaned, using one of the following methods: compressed air, water wash, vacuum and water, and/or brush
Documenting	May include record keeping systems used may be either paper-based or digital, and information will be recorded into logbooks or other records.
Fire prevention measures taken	May include these will be outlined in the harvest strategy. the measures planned for and taken will address fire risks and hazards and will meet legislative requirements.
Documentation actions require	These will be outlined in the harvest strategy. The measures planned for and taken will address fire risks and hazards and will meet legislative requirements.

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • complete pre- and post-operational checks on tools, harvester and equipment • perform routine safety, service and maintenance procedures on tools, harvester and equipment • Describe and demonstrate machinery operating principles • and operating methods • Identify and describe environmental impacts associated with the operation of machinery and equipment in a harvesting context • interpret and apply task instructions, communicate with work team and supervisor, • record and report faults, workplace hazards and accidents. • use communication systems in dealing with the full range of field staff and industry participants
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • appropriate legislative requirements, manufacturer's instructions and organization procedures/instructions • pre-operational and safety checks, servicing and maintenance procedures for tools and equipment • potential hazards associated with the operation of basic

	tools and equipment • general machine maintenance procedures • machinery operating principles and operating methods • environmental impacts associated with the operation of machinery and equipment in a harvesting context • organization recording and reporting procedures • pests and signs of pest infestation in the rubber tree • Organization moisture and hygiene requirements for the rubber tree and equipment that comes into contact with the latex. • Operational procedures and standards for harvesting and ancillary equipment.
Underpinning Skills	include the ability to: • handle and maneuver harvesting equipment • complete pre- and post-operational checks on tools, harvester and equipment • perform routine safety, service and maintenance procedures on tools, harvester and equipment • read and interpret manufacturers specifications, work and maintenance plans, and Material Safety Data Sheets • interpret and apply task instructions, communicate with work team and supervisor, and record and report faults, workplace hazards and accidents. • use communication systems in dealing with the full range of field staff and industry participants. • Collect, analyze and organize information in collecting and interpreting information to do with equipment performance and maintenance. • Plan and organize activities in preparing for, undertaking, and completing rubber tree latex harvesting operations. • Use mathematical ideas and techniques in calculating loads, yields and latex quality. • Solve problems by accessing information from supervisors and in the operation of equipment.
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Perform Latex Processing Activities**
Unit Code	**IND RLP3 14 0616**
Unit Descriptor	This competence standard for processing of fresh latex into Ripped Smoked Sheet (RSS) and have knowledge in all aspects of sheet processing and should determine Dry Rubber Content (DRC), Non-Smoked Sheet (NSS), volume of latex available for processing and calculate the volume of water needed for dilution and that of the acid for coagulation, keep the amount of latex collected and be responsible for necessary housekeeping work.

Element	Performance Criteria
1. Prepare materials and utilities	1.1 ***Measuring field latex*** and recording the amount on ledger perform sieving, weighing, sampling, bulking, dilution and coagulation. 1.2 Properly handle ***chemicals*** like formic acid and sodium bisulphate. 1.3 Ensure appropriate use and minimum wastage of materials.
2. Follow processing operation	2.1 Set the parameters of machinery as per the Standard Organizational Procedures (SOP) . 2.2 Carry out the different ***processing operations***. . 2.3 Undertake operation of ***sheeting*** rolling. 2.4 Ensure proper washing, dripping and smokehouse loading. 2.5 ***Monitor*** the functioning of machines. 2.6 Carry out ***maintenance of machines***. 2.7 Take action for trouble shooting and rectification during production process. 2.8 Provide technical support in sorting, grading and bailing. 2.9 Handle Effluent management and hygiene. 2.10 Ensure cleanliness in the workplace. 2.11 ***Arraigning smoking*** house wood based on standard. 2.12 Sorting dry smoked dry rubber sheet based on dryness. 2.13 ***Powdering*** dry rubber sheet.

3. Smoking house maintenance /management /	3.1 Arraigning /preparing /smoking house wood based on standard. 3.2 Provide technical support for smoke house operations including firewood loading, temperature control fire prevention smoking rotating sheet based on dryness. 3.3 ***Sorting*** dry smoked rubber sheet based on dryness . 3.4 Visual ***grading*** of dry rubber sheet.
4. Follow OHS procedure	4.1 Achieve the targeted volume as per the schedule. 4.2 Undertake operations using personal safety measures (gloves, masks etc) and other safety devices. 4.3 Inform about safety rules for handling electrical equipments.

Variable	**Range**
Measuring field latex	May Include: • Measuring latex (amount of harvested latex per each tapper within the processing center every day) • Water • Acids • Weighing dry rubber sheet • Temperature
Chemicals	May Include: • Chemical (formic acid, ammonia and sodium bi-phosphate) those used for coagulating the harvested latex and those used per coagulation .
Processing operations	May Include: • filtering measuring mixing ,latex chemical and water , washing , dripping, rolling ,smokehouse loading, monitor the functioning of machines, take action for trouble shooting and rectification during production process, ensure cleanliness in the workplace
Sheeting	May include the processes of making sheet from collocated latex in the processing house
Monitoring	May include monitor the functioning of machines
Maintenance of machines	May Include: • Monitor the functioning of machines, take action for trouble shooting and rectification during production process and carry out maintenance of machines.
Arraigning smoking	May Include: • Provide technical support for smoke house operations including firewood loading, temperature control and fire prevention

	• provide technical support in sorting • grading and bailing • handle Effluent management and hygiene • assist Biogas plant operation • ensure cleanliness in the workplace
Powdering	May Include: • Apply diatomite powder on dry rubber sheet as the given specification or organizational standard
Sorting	May Include: • Sorting based on First In First Out (FIFO) • product quality (drying uniformity free from fungi)
Grading	May Include: • Grading based on organizational standard (color uniformity, smoking level, foreign materials, fungi development, moisture content)

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • The basic processing operations for producing good quality dry rubber sheet • The quality of raw materials used for dry rubber sheet production and methods of identifying and segregating poor quality raw materials • The types of machinery required for dry rubber sheet production • How to undertake maintenance and essential repair of the machinery . • Process variables that are likely to influence the quality of the product • Principles and practices in smoke drying of rubber sheet • Optimum temperature range to be maintained in a smoke Practices followed in the visual grading of rubber sheet • Housekeeping procedures in a rubber sheet production unit • Latest technical developments in the rubber sheet processing
Underpinning Knowledge and Attitudes	Demonstrate Knowledge of: • Planning for achieving the targeted production by ensuring sufficient raw materials and utilities. • Plan the maintenance schedule for machinery and equipments • Requirement for purchase of new machinery or updating of technology in processing operation.

Underpinning Skills	Demonstrate Skills to: • Read and understand work instructions, memos etc. • Read and understand machinery/equipment manuals • Read and understand the contents published in scientific journals, newspapers and other publications • Decide on malfunctioning of machines from own observations • Take corrective steps to resolve any technical problem arising • in sheet rubber processing • Planning for achieving the targeted production by ensuring sufficient raw materials and utilities. • Plan the maintenance schedule for machinery and equipments • updating of technology in processing operation
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Respond to Emergencies**
Unit Code	**IND RLP3 15 0616**
Unit Descriptor	This competency standard covers the process of recognizing and responding to emergencies and implementing a range of life support measures across a broad spectrum of situations /incidents. It requires the ability to accurately evaluate the emergency, avoid/control escalation of the emergency, efficiently implement a plan of action, and render first aid care. Responding to emergencies requires knowledge of Occupational Health and Safety legislation and regulations, the emergency network, and first aid casualty management principles.

Elements	Performance Criteria
1. Prepare for emergency situations	1.1 Appropriate actions are taken to maximize safety and Minimize health ***hazards*** in the workplace. 1.2 Options for action in cases of ***emergency*** are identified and evaluated. 1.3 Organizational emergency procedures and policies are correctly implemented as part of the ***workplace procedures***. 1.4 Emergency procedures are carried out as required by established workplace procedures. 1.5 ***Safety equipment*** and aids required for emergencies are selected, used, maintained and stored in good order. 1.6 Near misses and potential hazards are reported to supervisor and/or documented according to enterprise guidelines..
2. Implement fire prevention and control on site and in the workshop.	2.1 Fire hazards are minimized as specified in workplace and/or fuelling procedures. 2.2 Appropriate fire extinguishers and firefighting equipment are used in fire situations, and appropriate authority notified according to established procedures. 2.3 Evacuation procedures are followed according to enterprise policy and plan including nominated assembly points. 2.4 Where required, specific safety procedures for the handling and use of ***industrial gases*** are carried out in line with standard industry practice and regulations.

3. Evaluate the emergency	3.1 Emergency and potential emergency situation reports advice is sought from ***relevant people*** in evaluating the emergency. 3.2 The possible development of the emergency situation is assessed and further potential hazards to staff and/or clients are evaluated. 3.3 Needs, including those for assistance, are prioritized promptly and accurately.
4. Act in an emergency	4.1 The plan of action is implemented using techniques appropriate to the situation and available resources and abilities. 4.2 Equipment is operated safely and, where necessary, equipment and techniques are improvised. 4.3 Strategies for group control are identified and implemented, and clients and other individuals are removed from danger. 4.4 The condition of all staff and ***others*** assisting is constantly monitored. 4.5 The information required to assist emergency services, where relevant, is acquired and documented. 4.6 Emergency services are notified as necessary. 4.7 The plan of action is changed to accommodate changes in the ***situation variables***. 4.8 Casualty evacuation methods are demonstrated where relevant to the context. 4.9 Organizational procedures and policies and legal requirements are correctly implemented in the event of a major injury or death.
5. Apply essential first aid techniques	5.1 Immediate risk to self and casualty's health and safety are minimized by isolating the hazard. 5.2 The casualty's ***injuries*** and vital signs are assessed. 5.3 Casualty is reassured in a caring and calm manner and made comfortable using available resources. 5.4 First aid care is provided in accordance with established first aid procedures. 5.5 First aid assistance is sought from others as appropriate

Variables	Range
Hazards	May Include: • Biological • Chemical • Mechanical • Electrical • Thermal • Explosive • Structural • Climatic • psychological (e.g., critical incident stress) • nuclear • proximity of other people • vehicles and machinery • Fire • Gas • Fumes • electrical situations • security related • wildlife related situations.
Emergencies	May Include: • Fire • hazardous releases • fuel spillage • Gases • chemical • Spills • bomb threats • civil disorder • medical (e.g., bites, stings, epileptic fit, heart attack) • road accidents • injury from machinery and equipment • Fall • climbing accident • swimming or diving accident • snake bite or poisoning • respiratory or cardiac arrest • and electrocution • Injuries • panic and other emotional responses • equipment failure • lost team or team member • result of environmental conditions (e.g., heat, cold, wet, snow, wind, lightning, bushfires, floods, high seas)

	• activity-specific
Workplace procedures refer to:	• Search procedures (search of likely routes followed systematic search voice or whistle contacts) • evacuations, use of isolating equipment • prevention of escalation of risk • Containment • clean up • control of fire • administering of first aid • assistance to injured team member • retrieval of team member and activity-specific rescue techniques
Safety equipment	May Include: • Firefighter protective clothing • helmets and hardhats • Boots • Gloves • breathing apparatus • protective clothing • protective hose lines or sprays • safety eye washes and safety showers
Industrial gases	May Include: • Compressed and liquefied fuel gases • Oxygen • Acetylene • Nitrogen • anhydrous ammonia and carbon dioxide
Relevant people	May Include: • Managers • OHS officers • workplace first aiders • fire • Wardens • emergency service people • other external experts and consultants
Others	May Include: • Participants in an activity or program • Colleagues • general • public • small group or larger group • experienced or • inexperienced personnel

Situation variables	May Include: • Capabilities of the group/clients • weather conditions • Topography • time factors • human resources • available food and water • size of search area • distance from emergency response providers • delays in accessing emergency help • time of day • communications facilities and difficulties, and emotional • physical condition of casualties
Injuries	May Include: • Shock • external bleeding • Burns • Limb • abdominal and pelvic injuries • head and neck injuries • poisoning, bites and stings • facial injuries and management of a casualty with chest pains • who is fitting • who is known to have diabetes and collapses • who is choking • who is drowning • who has a swollen neck, who has asthma • who is not breathing • who is suffering from overexposure • who is suffering from a chest injury • who has been hit by a motor vehicle or injured by machinery and equipment.
Development of the situation	May Include: • Spread of fire • threat to adjoining areas • danger of explosion • loss of communications • involvement of additional persons
Emergency reports and signals	May Include: • Observation • Verbal • emergency warning system • emergency alarm system

	• hand signals • verbal reports • telephone communications • radio communications and whistles.
Emergency services	May Include: • Police Search and Rescue, Emergency Service • Fire Brigade • Ambulance Service • Land Management Authorities (e.g., National Parks, Rubber tree)
Management authorities	May Include: • city councils • local government authorities • Departments • agricultural producers • defense forces • water authorities and utility agencies a • commissions

Evidence Guide	
Critical Aspects of Competence	A candidate must be able to demonstrate the ability to: • apply OHS legislative requirements and Codes of Practice. • demonstrate practical first aid skills using prepared and improvised materials. • implement hazard identification, assessment and control. • deal with contingencies. • communicate with others
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • The use of safe working practices. • The emergency network. • Enterprise plan and evacuation procedures. • OHS legislative requirements and Codes of Practice. • Legal responsibilities and Duty of Care. • Use of communications equipment. • Organizational and legal policies and procedures in the event of an accident/incident. • Local call out procedures to access emergency services personnel. • Practical first aid skills using prepared and improvised materials. • Hazard identification, assessment and control.
Underpinning Skills	Demonstrates skills to: • Accurately evaluate the emergency.

	• Avoid/control escalation of the emergency. • Develop a plan of action decisively. • Efficiently implement a plan of action. • Render first aid care. • Deal with contingencies. • Communicate with others.
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Monitor Implementation of Work Plan/Activities**
Unit Code	**IND RLP3 16 0616**
Unit Descriptor	This unit covers competence required to oversee and monitor the quality of work operations within an enterprise. This unit may be carried out by team leaders or supervisors.

Elements	Performance Criteria
1. Monitor and improve workplace operations	1.1 Efficiency and service levels are monitored on an ongoing basis. 1.2 Operations in the workplace have been supported overall enterprise goals and quality assurance initiatives. 1.3 Quality ***problems*** and issues are promptly identified and adjustments made accordingly. 1.4 Procedures and systems are changed in consultation with colleagues to improve efficiency and effectiveness. 1.5 Colleagues are consulted about ways to improve efficiency and service levels.
2. Plan and organise workflow	2.1 Current workload of colleagues is accurately assessed. 2.2 Work is scheduled in a manner which enhances efficiency and customer service quality. 2.3 Work is delegated to appropriate people in accordance with principles of delegation. 2.4 Workflow is assessed against agreed objectives and timelines and colleagues are assisted in prioritisation of workload. 2.5 Input regarding staffing needs is provided to appropriate management.
3. Maintain workplace records	3.1 ***Workplace records*** are accurately completed and submitted within required timeframes. 3.2 Where appropriate, completion of records is delegated and monitored prior to submission.
4. Solve problems and make decisions	4.1 Workplace problems are promptly identified and considered from an operational and customer service perspective. 4.2 Short term action is initiated to resolve the immediate problem where appropriate.

	4.3 Problems are analysed for any long term impact and potential solutions assessed and actioned in consultation with relevant colleagues. 4.4 Where problem is raised by a team member, they are encouraged to participate in solving the problem. 4.5 Follow up action is taken to monitor the effectiveness of solutions in the workplace.

Variables	**Range**
Problems	May include but not limited to: • difficult customer service situations • equipment breakdown/technical failure • delays and time difficulties • competence
Workplace records	May include but is not limited to: • staff records and regular performance reports

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge in: • ability to effectively monitor and respond to a range of common operational and service issues in the workplace • understanding of the role of staff involved in workplace monitoring • knowledge of quality assurance, principles of workflow planning, delegation and problem solving
Underpinning Knowledge and Attitudes	Demonstrate knowledge of: • roles and responsibilities in monitoring work operations • overview of leadership and management responsibilities • principles of work planning and principles of delegation • typical work organization methods appropriate to the sector • quality assurance principles and time management • problem solving and decision making processes • industrial and/or legislative issues which affect short term work organization as appropriate to industry sector
Underpinning Skills	Demonstrate skills to: • monitor and improve workplace operations • plan and organize workflow • maintain workplace records
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Apply Quality Control**
Unit Code	**IND RLP3 17 0616**
Unit Descriptor	This unit covers the knowledge, attitudes and skills required in applying quality control in the workplace.

Elements	Performance Criteria
1. Implement quality standards	1.1 Agreed quality standard and procedures are acquired and confirmed. 1.2 Standard procedures are introduced to organizational staff/personnel. 1.3 Quality standard and procedures documents are provided to employees in accordance with the organization policy. 1.4 Standard procedures are revised / updated when necessary.
2. Assess quality of service delivered	2.1 Services delivered are ***quality checked*** against organization ***quality standards*** and specifications. 2.2 Service delivered are evaluated using the appropriate evaluation ***quality parameters*** and in accordance with organization standards. 2.3 Causes of any identified faults are identified and corrective actions taken in accordance with organization policies and procedures.
3. Record information	3.1 Basic information on the quality performance is recorded in accordance with organization procedures. 3.2 Records of work quality are maintained according to the requirements of the organization.
4. Study causes of quality deviations	4.1 Causes of deviations from final outputs or services are investigated and reported in accordance with organization procedures. 4.2 Suitable preventive action is recommended based on organization quality standards and identified causes of deviation from specified quality standards of final service or output.
5. Complete documentation	5.1 Information on quality and other indicators of service performance is recorded. 5.2 All service processes and outcomes are recorded.

Variable	Range
Quality check	May include but not limited to: • Check against design / specifications • Visual inspection and Physical inspection
Quality standards	May include but not limited to: • Materials • Components • Process • Procedures
Quality parameters	May include but not limited to: • Standard Design / Specifications • Material Specification

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge to: • Check completed work continuously against organization standard • Identify and isolate faulty or poor service • Check service delivered against organization standards • Identify and apply corrective actions on the causes of identified faults or error • Record basic information regarding quality performance • Investigate causes of deviations of services against standard • Recommend suitable preventive actions
Underpinning Knowledge	Demonstrates knowledge of: • Relevant quality standards, policies and procedures • Characteristics of services • Safety environment aspects of service processes • Evaluation techniques and quality checking procedures • Workplace procedures and reporting procedures
Underpinning Skills	Demonstrates skills to: • interpret work instructions, specifications and standards appropriate to the required work or service • carry out relevant performance evaluation • maintain accurate work records • meet work specifications and requirements • communicate effectively within defined workplace procedures
Resource Implications	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.

Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Lead Workplace Communication**
Unit Code	**IND RLP3 18 0616**
Unit Descriptor	This unit covers the knowledge, attitudes and skills needed to lead in the dissemination and discussion of information and issues in the workplace.

Elements	Performance Criteria
1. Communicate information about workplace processes	1.1 Appropriate ***communication method*** is selected. 1.2 Multiple operations involving several topics areas are communicated accordingly. 1.3 Questions are used to gain extra information. 1.4 Correct sources of information are identified. 1.5 Information is selected and organized correctly. 1.6 Verbal and written reporting is undertaken when required. 1.7 Communication skills are maintained in all situations.
2. Lead workplace discussion	2.1 Response to workplace issues is sought. 2.2 Response to workplace issues are provided immediately. 2.3 Constructive contributions are made to workplace discussions on such issues as production, quality and safety. 2.4 Goals/objectives and action plan undertaken in the workplace are communicated.
3. Identify and communicate issues arising in the workplace	3.1 Issues and problems are identified as they arise. 3.2 Information regarding problems and issues are organized coherently to ensure clear and effective communication. 3.3 Dialogue is initiated with appropriate staff/personnel. 3.4 Communication problems and issues are raised as they arise.

Variable	Range
Methods of communication	May include but not limited to: • Non-verbal gestures • Verbal • Face to face • Two-way radio • Speaking to groups

	• Using telephone • Written • Using Internet • Cell phone

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge to: • Deal with a range of communication/information at one time • Make constructive contributions in workplace issues • Seek workplace issues effectively • Respond to workplace issues promptly • Present information clearly and effectively written form • Use appropriate sources of information • Ask appropriate questions • Provide accurate information
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Organization requirements for written and electronic communication methods • Effective verbal communication methods
Underpinning Skills	Demonstrates skills to: • Organize information • Understand and convey intended meaning • Participate in variety of workplace discussions • Comply with organization requirements for the use of written and electronic communication methods
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Lead Small Teams**
Unit Code	**IND RLP3 19 0616**
Unit Descriptor	This unit covers the skills, knowledge and attitudes required to determine individual and team development needs and facilitate the development of the work group.

Elements	Performance Criteria
1. Provide team leadership	1.1 ***Learning and development needs*** are systematically identified and implemented in line with ***organizational requirements***. 1.2 Learning plan is collaboratively developed and implemented to meet individual and group training and developmental needs. 1.3 Individuals are encouraged to self-evaluate performance and areas identified for improvement. 1.4 ***Feedback on performance*** of team members is collected from relevant sources and compared with established team learning process.
2. Foster individual and organizational growth	2.1 Learning and development program goals and objectives are identified to match the specific knowledge and skills requirements of competence standards. 2.2 ***Learning delivery methods*** are made appropriate to the learning goals, the learning style of participants and availability of equipment and resources. 2.3 Workplace learning opportunities and coaching/ mentoring assistance are provided to facilitate individual and team achievement of competencies. 2.4 Resources and timelines required for learning activities are identified and approved in accordance with organizational requirements.
3. Monitor and evaluate workplace learning	3.1 Feedback from individuals or teams is used to identify and implement improvements in future learning arrangements. 3.2 Outcomes and performance of individuals/teams are assessed and recorded to determine the effectiveness of development programs and the extent of additional support. 3.3 Modifications to learning plans are negotiated to improve the efficiency and effectiveness of learning.

	3.4 Records and reports of competence are maintained within organizational requirement.
4. Develop team commitment and cooperation	4.1 Open communication processes are used by team to obtain and share information. 4.2 Decisions are reached by the team in accordance with its agreed roles and responsibilities. 4.3 Mutual concern and camaraderie are developed in the team.
5. Facilitate accomplishment of organizational goals	5.1 Team members are made actively participatory in team activities and communication processes. 5.2 Individual and joint responsibility has been developed teams members for their actions. 5.3 Collaborative efforts are sustained to attain organizational goals.

Variable	**Range**
Learning and development needs	May include but not limited to: • Coaching, mentoring and/or supervision • Formal/informal learning program • Internal/external training provision • Work experience/exchange/opportunities • Personal study • Career planning/development • Performance appraisals • Workplace skills assessment & Recognition of prior learning
Organizational requirements	May include but not limited to: • Quality assurance and/or procedures manuals • Goals, objectives, plans, systems and processes • Legal and organizational policy/guidelines and requirements • Safety policies, procedures and programs • Confidentiality and security requirements • Business and performance plans • Ethical standards • Quality and continuous improvement processes and standards
Feedback on performance	May include but not limited to: • Formal/informal performance appraisals • Obtaining feedback from supervisors and colleagues • Obtaining feedback from clients • Personal and reflective behavior strategies

	• Routine and organizational methods for monitoring service delivery
Learning delivery methods	May include but not limited to: • On the job coaching or mentoring • Problem solving • Presentation/demonstration • Formal course participation • Work experience and Involvement in professional networks • Conference/seminar attendance and induction

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge to: • identify and implement learning opportunities for others • give and receive feedback constructively • facilitate participation of individuals in the work of the team • negotiate learning plans to improve the effectiveness of learning • prepare learning plans to match skill needs • access and designate learning opportunities
Underpinning Knowledge and Attitude	Demonstrates knowledge of: • coaching and mentoring principles • how to work effectively with team members who have diverse work styles, aspirations, cultures and perspective • how to facilitate team development and improvement • methods and techniques for eliciting and interpreting feedback • methods for identifying and prioritizing personal development opportunities and options • career paths and competence standards in the industry
Underpinning Skills	Demonstrates skills to: • read and understand a variety of texts, prepare general information and documents according to target audience; spell with accuracy; use grammar and punctuation effective relationships and conflict management • receive feedback and report, maintain effective relationships and conflict management • organize required resources and equipment to meet learning needs • provide support to colleagues • organize information; assess information for relevance and accuracy; identify and elaborate on learning outcomes • facilitation skills to conduct small group training sessions • relate to people from a range of social, cultural, physical and mental backgrounds

Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Improve Business Practice**
Unit Code	**IND RLP3 20 0616**
Unit Descriptor	This unit covers the knowledge, skills and attitudes required in promoting, improving and growing business operations.

Elements	Performance Criteria
1. Diagnose the business	1.1 ***Sources data*** is identified; ***data required*** for diagnosis is determined and acquired based on the business diagnosis toolkit. 1.2 Value chain analysis is conducted. 1.3 ***SWOT analysis*** of the data is undertaken. 1.4 ***Competitive advantage*** of the business is determined from the data.
2. Benchmark the business	2.1 Product or service to be benchmarked is identified and selected. 2.2 Sources of relevant benchmarking data are identified. 2.3 ***Key indicators*** are selected for benchmarking in consultation with key stakeholders. 2.4 Key indicators of own practice are compared with benchmark indicators. 2.5 Areas of improvements are identified.
3. Develop plans to improve business performance	3.1 A consolidated list of required improvements is developed. 3.2 Cost-benefit analysis is determined for required improvements. 3.3 Work flow changes resulting from proposed improvements are determined. 3.4 Proposed improvements are ranked according to agreed criteria. 3.5 An action plan is developed and agreed to implement the top ranked improvements. 3.6 ***Organizational structures*** are checked to ensure they are suitable.
4. Develop marketing plans	4.1 The practice vision statement is reviewed. 4.2 Practice ***objectives*** are developed/ reviewed. 4.3 Market research is conducted and result is obtained.

	4.4 Target markets are identified/ refined. 4.5 ***Market position*** is developed/ reviewed. 4.6 ***Practice brand*** is developed. 4.7 ***Benefits*** of products or services are identified. 4.8 ***Promotion tools*** are selected and developed.
5. Develop business growth plans	5.1 Plans are developed to increase profitability 5.2 Proposed plans are ***ranked*** according to agreed criteria. 5.3 An action plan is developed and agreed to implement the top ranked plans. 5.4 Business work practices are reviewed to ensure they support growth plans.
6. Implement and monitor plans	6.1 Implementation plan is developed in consultation with all ***relevant stakeholders***. 6.2 Success indicators of the plan are agreed. 6.3 Implementation is monitored against agreed indicators. 6.4 Implementation is adjusted as required.

Variable	**Range**
Data sources	May include but not limited to: • Primary data and secondary sources
Data required	May include but not limited to: • Organization capability • Appropriate business structure • Level of client service which can be provided • Internal policies, procedures and practices • Staff levels, capabilities and structure • Market and market definition • Market changes/market segmentation • Market consolidation/fragmentation • Revenue • Level of commercial activity • Expected revenue levels, short and long term • Revenue growth rate • Break even data • Pricing policy • Revenue assumptions • Business environment • Economic conditions • Social factors

	• Demographic factors • Technological impacts • Political/legislative/regulative impacts • Competitors, competitor pricing and response to pricing • Competitor marketing/branding • Competitor products
SWOT analysis	May include but not limited to: • Internal strengths such as staff capability, recognized quality • Internal weaknesses such as poor morale, under-capitalization, poor technology • External opportunities such as changing market and economic conditions • External threats such as industry fee structures, strategic alliances, competitor marketing
Competitive advantage	May include but not limited to: • Quality • Pricing • Cost • Location • Technology • Delivery • Timeframe • Promotion • Niche marketing • Support from government
Key indicators	May include but not limited to: • Staffing • Cost and expenses • Personnel productivity (particularly of principals) • Goodwill • Profitability • Price structure • Customers base • Productivity • Quality • System
Organizational structures	May include but not limited to: • Lines of authority and reporting relationship
Objectives	May include but not limited to: • Market share growth • Revenue growth • Profitability • Productivity and Innovation

Market position	May include but not limited to: • The goods or service provided • Product mix • The core product - what is bought • The tangible product - what is perceived • The augmented product - total package of consumer • Features/benefits • Product differentiation from competitive products • New/changed products • Price and pricing strategies (cost plus, supply/demand, ability to pay, etc.) • Pricing objectives (profit, market penetration, etc.) • Cost components • Market position • Distribution strategies • Marketing channels • Promotion • Target audience and Communication
Practice brand	May include but not limited to: • Practice image • Practice logo/letterhead/signage • Phone answering protocol • Facility decor • Slogans • Templates for communication/invoicing • Style guide • Writing style • AIDA (Attention, Interest, Desire and Action)
Benefits	May include but not limited to: • Features as perceived by the client • Benefits as perceived by the client
Promotion tools	May include but not limited to: • Networking and referrals • Seminars • Sales promotion • Advertising • Personal selling • Press releases • Publicity and sponsorship • Brochures • Newsletters (print and/or electronic) • Websites • Direct mail • Telemarketing/cold calling

Ranking	May include but not limited to: • Importance • Urgency • Technology and Resource availability
Relevant stockholders	May include but not limited to: • Micro and Small Enterprises development • Non-Government Organizations (NGOs) • Finance institutions • Capital goods leasing enterprise

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge of: • Identifying the key indicators of business performance • Identifying the key market data for the business • A wide range of available information sources • Acquiring information not readily available within a business • Analyzing data and determine areas of improvement • Negotiating required improvements to ensure implementation • Evaluating systems against practice requirements • Forming recommendations and/or make recommendations • Assessing the accuracy and relevance of information
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Data gathering and analysis • Value chain analysis • SWOT analysis • Competitive advantage • Cost benefit analysis • Target market • Marketing principles • Organizational structure • Marketing mix • Promotion mix • Market position • Branding ProfitabilityDemonstrates knowledge of: • Data gathering and analysis • Value chain analysis • SWOT analysis • Competitive advantage • Cost benefit analysis • Target market

	• Marketing principles • Organizational structure • Marketing mix • Promotion mix • Market position • Branding and Profitability
Underpinning Skills	Demonstrates skill in: • Benchmarking skills • Communication skills • Computers kills to manipulate data and present information • Negotiation skills • Preparing action plan • Conducting market research • Identifying target market • Identifying suitable marketing mix • Preparing promotional tools • Problem solving • Planning skills • Monitoring and evaluation • Ability to acquire and interpret relevant data • Use of market intelligence • Development and implementation strategies of promotion and growth plans • Ability to acquire and interpret required data, current practice systems and structures and sources of relevant benchmarking data • Applying methods of selecting relevant key benchmarking indicators • Communication skills • Working and consulting with others when developing plans for the business • Negotiation skills • Using computers to manipulate, present and distribute information
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Occupational Standard: Rubber Tree Latex Harvesting & Processing Level III	
Unit Title	**Prevent and Eliminate MUDA**
Unit Code	**IND RLP3 21 0616**
Unit Descriptor	This unit of competence covers the knowledge, skills and attitude required by a worker to prevent and eliminate MUDA/wastes in his/her their workplace. It covers responsibility for the day-to-day operation of the work and ensures Kaizen elements are continuously improved and institutionalized.

Elements	Performance Criteria
1. Prepare for work.	1.1 Work instructions are used to determine job requirements, including method, material and equipment. 1.2 Job specifications are read and interpreted following working manual. 1.3 ***OHS requirements***, including dust and fume collection, breathing apparatus and eye and ear personal protection needs are observed throughout the work. 1.4 Appropriate material is selected for work. 1.5 ***Safety equipment and tools*** are identified and checked for safe and effective operation.
2. Identify MUDA.	2.1 Plan of MUDA identification is prepared and implemented. 2.2 Causes and effects of MUDA are discussed. 2.3 ***Tools and techniques*** are used to draw and analyze current situation of the work place. 2.4 Wastes/MUDA are identified and measured based on ***relevant procedures***. 2.5 Identified and measured wastes are reported to relevant personnel.
3. Eliminate wastes/MUDA.	3. 1. Plan of MUDA elimination is prepared and implemented. 3. 2. Necessary attitude and ***the ten basic principles for improvement*** are adopted to eliminate waste/MUDA. 3. 3. Tools and techniques are used to eliminate wastes/MUDA based on the procedures and OHS. 3. 4. Wastes/MUDA are reduced and eliminated in accordance with OHS and organizational requirements.

	3. 5. Improvements gained by elimination of waste/MUDA are reported to relevant bodies.
4. Prevent occurrence of wastes/MUDA.	4.1 Plan of MUDA prevention is prepared and implemented. 4.2 Standards required for machines, operations, defining normal and abnormal conditions, clerical procedures and procurement are discussed and prepared. 4.3 Occurrences of wastes/MUDA are prevented by using ***visual and auditory control methods***. 4.4 Waste-free workplace is created using ***5W and 1H***sheet. 4.5 The completion of required operation is done in accordance with standard procedures and practices. 4.6 The updating of standard procedures and practices is facilitated. 4.7 The capability of the work team that aligns with the requirements of the procedure is ensured.

Variable	**Range**
OHS requirements	May include but not limited to: • Are to be in accordance with legislation/ regulations/codes of practice and enterprise safety policies and procedures. This may include protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of firefighting equipment, enterprise first aid, hazard control and hazardous materials and substances. • Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices. • Safe operating procedures are to include, but are not limited to the conduct of operational risk assessment and treatments associated with workplace organization. • Emergency procedures related to this unit are to include but may not be limited to emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation.
Safety equipment and tools	May include but not limited to: • dust masks / goggles • glove • working cloth • first aid • safety shoes

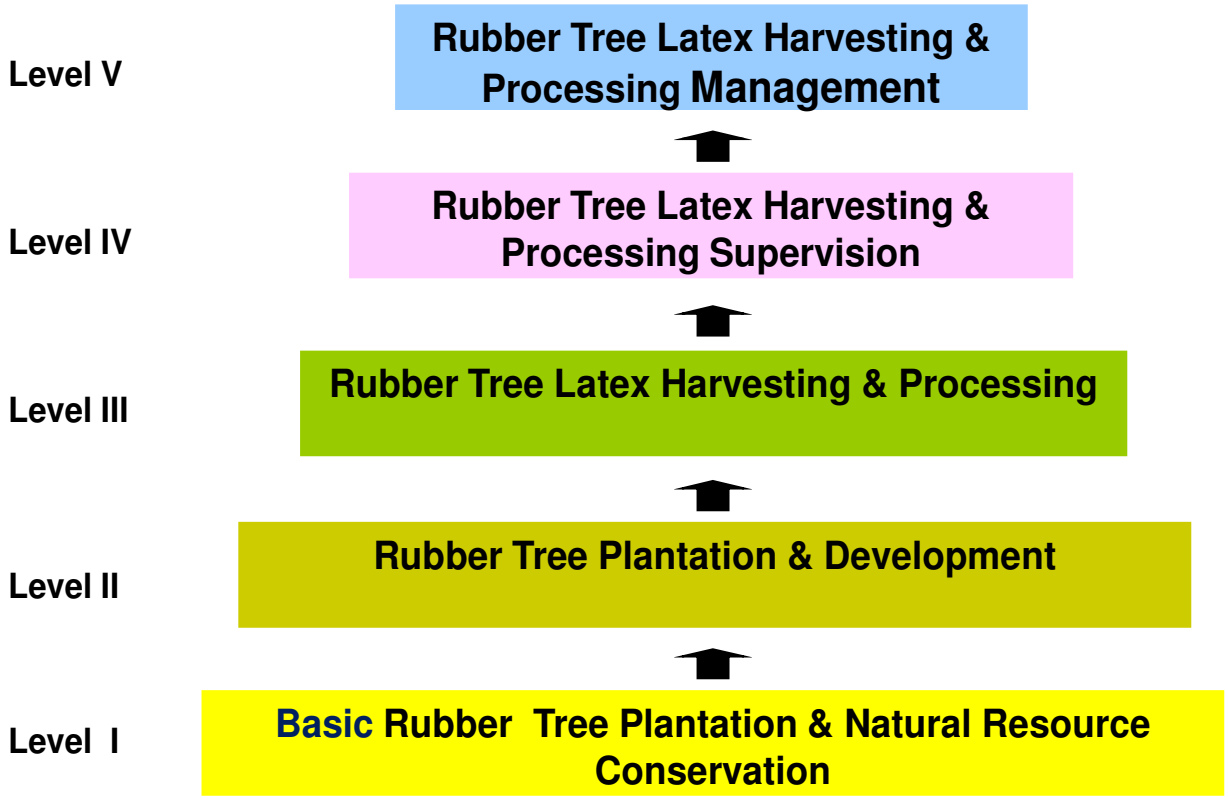
Tools and techniques	May include but not limited to: • Plant Layout • Process flow • Other Analysis tools • Do time study by work element • Measure Travel distance • Take a photo of workplace • Measure Total steps • Make list of items/products, who produces them and who uses them & those in warehouses, storages etc. • Focal points to Check and find out existing problems • 5S • Layout improvement • Brainstorming • Andon • U-line • In-lining • Unification • Multi-process handling & Multi-skilled operators • A.B. control (Two point control) • Cell production line • TPM (Total Productive Maintenance)
Relevant procedures	May include but not limited to: • Make waste visible • Be conscious of the waste • Be accountable for the waste. • Measure the waste.
The ten basic principles for improvement	May include but not limited to: • Throw out all of your fixed ideas about how to do things. • Think of how the new method will work- not how it won. • Don't accept excuses. Totally deny the status quo. • Don't seek perfection. A 5o percent implementation rate is fine as long as it's done on the spot. • Correct mistakes the moment they are found. • Don't spend a lot of money on improvements. • Problems give you a chance to use your brain. • Ask "why?" At least five times until you find the ultimate cause. • Ten people's ideas are better than one person's. • Improvement knows no limits.
Visual and auditory control methods	May include but not limited to: • Red Tagging • Sign boards • Outlining

	• Andons • Kanban, etc.
5W and 1H	May include but not limited to: • Who • What • Where • When • Why • How

Evidence Guide	
Critical Aspects of Competence	Demonstrates skills and knowledge to: • discuss why wastes occur in the workplace • discuss causes and effects of wastes/MUDA in the workplace • analyze the current situation of the workplace by using appropriate tools and techniques • identify, measure, eliminate and prevent occurrence of wastes by using appropriate tools and techniques • use 5W and 1H sheet to prevent
Underpinning Knowledge and Attitudes	Demonstrates knowledge of: • Targets of customers and manufacturer/service provider • Traditional and kaizen thinking of price setting • Kaizen thinking in relation to targets of manufacturer/service provider and customer • value • The three categories of operations • the 3“MU” • waste/MUDA • wastes occur in the workplace • The 7 types of MUDA • The Benefits of identifying and eliminating waste • Causes and effects of 7 MUDA • Procedures to identify MUDA • Necessary attitude and the ten basic principles for improvement • Procedures to eliminate MUDA • Prevention of wastes • Methods of waste prevention • Definition and purpose of standardization • Standards required for machines, operations, defining normal and abnormal conditions, clerical procedures and procurement • Methods of visual and auditory control

	• TPM concept and its pillars. • Relevant OHS and environment requirements • Plan and report • Method of communication
Underpinning Skills	Demonstrates skills to: • draw & analyze current situation of the work place • use measurement apparatus (stop watch, tape, etc.) • calculate volume and area • use and follow checklists to identify, measure and eliminate wastes/MUDA • identify and measure wastes/MUDA in accordance with OHS and procedures • use tools and techniques to eliminate wastes/MUDA in accordance with OHS procedure • apply 5W and 1H sheet • update and use standard procedures for completion of required operation • work with others • read and interpret documents • observe situations • solve problems • communicate • gather evidence by using different means • report activities and results using report formats
Resources Implication	Access is required to real or appropriately simulated situations, including work areas, materials and equipment, and to information on workplace practices and OHS practices.
Methods of Assessment	Competence may be assessed through: • Interview / Written Test • Observation / Demonstration with Oral Questioning
Context of Assessment	Competence may be assessed in the work place or in a simulated work place setting.

Sector: INDUSTRY DEVELOPMENT
Sub-Sector: RUBBER TREE DEVELOPMENT



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This Occupational Standard was developed on June 2016 at Center of Excellence for Engineering (CEE), Addis Ababa, Ethiopia.

COMMENT TEMPLATE

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