



MINISTRY OF HUMAN RESOURCES



FIRST EDITION
2023

INDUSTRIAL SKILLS FRAMEWORK (IndSF)

AGRICULTURE: NON-PERENNIAL CROPS (PINEAPPLE)

IN COLLABORATION WITH:



Published by

PEMBANGUNAN SUMBER MANUSIA BERHAD (PSMB) (545143-D)

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PREFACE

The establishment of the Malaysian Pineapple Company Ordinance led to the creation of the Malaysian Pineapple Industry Board (MPIB) in 1957. This board was formed with 158 members distributed across four divisions.

Its primary roles encompass supervising and coordinating the production, processing, and marketing of the country's pineapple industry. Additionally, MPIB engages in research, development, and quality control administration.

Within the realm of agriculture, the farming of non-perennial crops assumes a crucial role in offering a wide array of food options and economic possibilities. Among these crops, the pineapple (*Ananas comosus*) shines as a tropical treasure with a long-standing tradition of growth and use. Its delightful blend of sweetness and tanginess, along with its adaptability for both culinary and business purposes, has rendered it a favoured selection among cultivators worldwide.

PINEAPPLE



ACKNOWLEDGEMENT

SUBJECT MATTER EXPERTS

WE WOULD LIKE TO THANK ALL OUR SUBJECT MATTER EXPERTS WHO HAVE CONTRIBUTED TO THE DEVELOPMENT OF THE INDUSTRIAL SKILLS FRAMEWORK DOCUMENT FOR AGRICULTURE - NON-PERENNIAL CROPS (PINEAPPLE).

NAME

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MUHAMMAD RASHIDI
BIN MD YUSOF

FGV HOLDINGS BERHAD

MOHAMMAD AMIRUL ANUAR
BIN MUSTAFA

RANGKAIAN DELIMA SDN BHD

MUSLIMAN BIN TASIM

MALAYSIAN PINEAPPLE
INDUSTRY BOARD

MUHAMAD YUSNI
BIN RAMELAN

MALAYSIAN PINEAPPLE
INDUSTRY BOARD

MOHD. YUNOS
BIN AHMAD

MALAYSIAN PINEAPPLE
INDUSTRY BOARD

ARY PUTRA
BIN TAJUDDIN

MALAYSIAN PINEAPPLE
INDUSTRY BOARD

NORMAN
BIN SHAHRON

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MOHD HISWANDI
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UITM, FACULTY OF PLANTATION
& AGROTECHNOLOGY

FOREWORD



YBhg. Datuk Wira Shahul Dawood

Chief Executive
Human Resource Development Corporation
(HRD Corp)

As the custodian of Malaysia's human capital development efforts, HRD Corp has always been committed to ensuring that every Malaysian talent and member of the workforce is given the chance to develop their skills and knowledge. Our levy programme and strategic initiatives have been geared towards providing skills training, placement and income-generation opportunities to all Malaysians. This is because we believe these are the fundamentals that can help them grow personally and professionally.

Beyond that, we work closely with our registered employers, businesses and industry players to ensure they have the right training and development pathways to support their employees' career journeys, all while creating avenues to make it easier for them to invest in their workforce. At the same time, we collaborate with Malaysian trainers and training providers to strengthen the country's training and development ecosystem, ensuring that the training community can offer high-quality, industry-relevant current and future work skills.

Given our far-reaching impact and engagement, HRD Corp regularly receives requests for feedback from individuals, businesses, industries and the Government on the status and potential of Malaysia's skills development landscape. We are also often tapped to provide counsel and recommendations on what industry players can do to address skills gaps within their respective industries and provide relevant and high-quality training programmes for their talents.

For these reasons, I am immensely proud to introduce to you the Industrial Skills Framework, a visionary initiative that not only answers the above-mentioned requests, but is also a comprehensive document designed to empower the workforce of today and tomorrow. This remarkable framework is a testament to HRD Corps' unwavering commitment to drive excellence in the industry.

The Industrial Skills Framework serves as a comprehensive guide that not only identifies the critical skills demanded by industries but also outlines the pathways to acquire and enhance these skills. It is a roadmap for individuals seeking to thrive in the modern industrial landscape, and for organisations aiming to remain competitive by nurturing a skilled workforce.

On behalf of HRD Corp, I thank our industry partners and collaborators for their effort and commitment in making the IndSF a reality. I also hope that the IndSF will continue to be the main source of reference for all talents, professionals and leaders as they seek new opportunities and work together to elevate their respective industries.

FOREWORD



Abdul Razak Bin Aya

Head of Integrated Farming Collaborator
FGV Holdings Berhad

I am delighted and deeply honoured to extend my heartfelt appreciation to all the stakeholders who have come together to make this Industrial Skills Framework (IndSF) publication for the Agriculture Industry a reality. As the Head of FGV Integrated Farming, I take immense pride in being a collaborator in this vital initiative.

At FGV Integrated Farming, we are not only dedicated to advancing the agricultural sector but also take on the crucial role of being the driver of Malaysia's National Food Security agenda. This responsibility underscores the critical importance of our work and the impact it has on the well-being of our nation.

The journey to develop this framework has been a collective effort marked by dedication, resilience, and a shared vision of advancing the agricultural sector while ensuring the food security of our nation. Our commitment to fostering skills development and standardisation in agriculture is evident in this comprehensive publication.

In the midst of various challenges, including the ongoing global pandemic, the Agriculture Sectoral Training Committee (STC) has demonstrated exceptional dedication and expertise in producing this initial set of skills frameworks. The foundation we lay today is meant to serve as a cornerstone for continuous growth and evolution within the industry.

The Agricultural Skills Framework introduced within this publication represents just the beginning of an exciting journey. Agriculture is a dynamic field, and our framework will evolve in tandem with industry demands, incorporating new skills, competencies, and roles as they emerge. In this spirit, we encourage active participation, feedback, and contributions from all stakeholders, from farm workers to industry leaders.

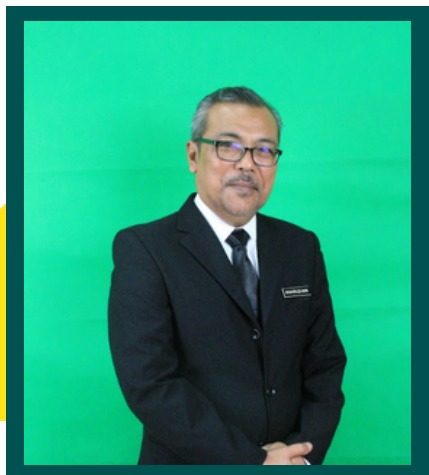
I wish to extend my sincere gratitude to the STC and the working committee for their tireless efforts in crafting this essential document. They have showcased unwavering commitment to enhancing the skills and competencies of the agricultural workforce.

I also express my deep appreciation to HRD Corp Management, our indispensable partner and sponsor, for their instrumental role in facilitating the development of this framework. Together, we have embarked on a journey that will empower the agriculture industry for years to come.

As we launch this publication, let us embrace the opportunity to transform and elevate our industry. May this framework serve as a guiding light, fostering innovation, excellence, and sustainability in the field of agriculture.

Thank you.

FOREWORD



Mohd Khairuzamri Bin M. Salleh

Head of Director
Malaysian Pineapple Industry Board
(MPIB)

First and foremost, on behalf of the Malaysian Pineapple Industry Board (MPIB) and national pineapple stakeholder, I would like to congratulate the Human Resource Development Corporation (HRD Corp) on the success of publishing the document of the Industrial Skills Framework (IndSF) Agriculture Non-Perennial Crops (Pineapple).

We would like to thank HRD Corp. for inviting the MPIB to be part of the expert panel group to provide input in developing HRD Corp's Industrial Skills Framework (IndSF). Agriculture: Non-Perennial Crops (Pineapple)

In Malaysia, pineapple is one of the industrial crops and has been growing for nearly a century. Pineapple is one of the plants that were raised as the country's new wealth source. The increase in planting area and the growing number of entrepreneurs have shown that this industry is starting to get attention from entrepreneurs in the agricultural industry. Pineapple, which used to be only known as a fruit eaten fresh, has changed with the times until it has successfully produced a variety of food and non-food products such as fabric, paper, and craft goods, as well as animal feed. Efforts to enhance pineapple production have been translated by Malaysian agricultural policies, which aim to boost productivity and increase producers' incomes, in particular for smallholder farmers and also for large-scale plantation companies. Over the years, the Malaysian government has shown apparent efforts toward the development of the pineapple industry. The aims of policies enforced by the government are to give significant strikes toward the self-sufficiency target, increase farmers' income, and achieve marketing efficiency. The expansion of the pineapple plantation area that is increasing nowadays has affected the need for skilled labour, especially in the plantation sector. The demand for skilled manpower nowadays requires more attention from MPIB, which is the responsible agency in this industry.

Agriculture products must meet consumer requirements based on standards and specifications before entering the market. To fulfil this requirement, workforce skills must meet the quality standards set by the industries concerned through a certification programme integrating various codes and standards. Through IndSF, plantation activity has been identified as a major skilled block in agriculture and industrial products, and the workforce must be certified.

Skilled workforces are acquired through modulated training programmes and assessed for competency achieved by a structured examination of theory and practical subject matters. This certificated programme is encapsulated in this document, which provides guidance on human capital in the plantation sector and gives a clear career pathway at various job levels, from the general worker to the management level. I would like to thank those individuals from a few organisations and companies who have contributed time and effort in preparing and developing this document for national human capital in the Industrial Skills Framework (IndSF) Agriculture Non-Perennial Crops (Pineapple).

FOREWORD



Zahid Ismail

Director General
Malaysia Productivity Corporation
(MPC)

I would like to extend my heartiest congratulations to HRD Corp for their continuous efforts and dedication in developing and publishing the Industrial Skills Framework (IndSF) for the agriculture sector focusing on non-perennial crops. Malaysia Productivity Corporation (MPC) is delighted to be part of this collaborative partnership in developing the IndSF, which recognises the importance of talent.

The document is aligned with MPC's productivity improvement agenda through the development of talent, harnessing technology, and innovation, and fostering a regulatory environment that promotes high-quality standards. The role of talent in driving innovation, efficiency, and competitiveness cannot be overstated in today's business landscape. Based on the IMD World Competitiveness Ranking Report 2023 the percentage of employment in the agriculture sector is only 10.3% in the year 2021 as compared to other sectors such as Industry Sector and Services Sector which is at 25.9% and 63.8% respectively.

The collective skills, knowledge, and dedication of our workforce are the driving force behind our nation's productivity and competitiveness. As we look to the future, it is imperative that we continue to invest in nurturing and empowering our talent. Together, we will not only improve individual careers but also elevate our nation's productivity to new heights.

As we look ahead to the future of the agriculture sector, sustainability, innovation, and resilience will be key drivers of success for this sector. In recent years, the farming of pineapple and banana has taken a leading role as a fast-growing industry that contributes to Malaysia's economy.

The IndSF is not just a document, it is a framework for success that provides clear guidance and a comprehensive structure for understanding and nurturing the skills required to succeed in growing and managing non-perennial crops such as pineapple and banana. With the increasing global demand for these crops, keeping the workforce updated with the latest skills, knowledge, and practices is crucial. This document empowers individuals to embark on fulfilling careers in agriculture, enables the industry to meet the challenges, and ensures that non-perennial crop farming remains a sustainable and profitable venture for generations to come.

Finally, my warmest appreciation towards the subject matter experts and dedicated working committees who contributed to this IndSF publication. MPC believes that the knowledge and materials shared represent valuable resources for farmers, researchers, and policymakers. Together, we can foster a workforce that sustains the agriculture sector and drives it towards greater heights of productivity for the nation.

FOREWORD



YBhg. Datuk Fadzli Abdul Wahit

Head of Digital Industry Development
Malaysia Digital Economy Corporation
(MDEC)

It is with great excitement and a deep sense of purpose that I introduce a transformational collaboration between the Malaysia Digital Economy Corporation (MDEC) and the Human Resources Development Corporation (HRD Corp) focused on the Industrial Skills Framework for Agriculture Non-Perennial Crops, with a specific emphasis on pineapple cultivation. This partnership marks a significant milestone in our collective effort to further empower the agriculture sector in Malaysia with Digital Transformation, in alignment with the official appointment of MDEC as the National Strategic Technology Validator by Ministry of Agriculture and Food Security (KPKM).

Agriculture has long been the lifeblood of our nation, deeply woven into our culture and heritage. The cultivation of non-perennial crops, like pineapples, not only serves as a source of sustenance but also contributes substantially to our national economy. In a world characterised by rapid technological advancements and evolving global challenges, the fusion of digital technology with industrial skills is the key to ushering in a new era of agricultural excellence.

At MDEC, we recognise the vital role that non-perennial crops, such as pineapples, play in our agricultural landscape. They represent a cornerstone of our food security and a significant source of export revenue. Our collaboration with HRD Corp is specifically designed to empower this sector through the development of a tailored Industrial Skills Framework.

This collaboration between MDEC and HRD Corp is more than just a partnership; it is a shared commitment to the future of pineapple cultivation and non-perennial crops. It is a testament to our unwavering determination to empower our agricultural workforce, enhance sustainability, and drive innovation in a sector that is of utmost importance to our nation.

As we embark on this transformational journey, we extend an open invitation to all stakeholders, from our dedicated pineapple farmers and skilled professionals to entrepreneurs, researchers, policymakers, and consumers, to join us in shaping a more sustainable, technology-driven, and prosperous future for Malaysia's Agriculture Non-Perennial Crops, with a focus on the unique world of pineapple cultivation.

Together, we can plant the seeds of progress, nurture innovation, and reap the abundant harvest of a dynamic and resilient agriculture sector that contributes significantly to the well-being of our nation, towards driving Digital Transformation across the agriculture sector, addressing Food Security, and boosting the growth of national Digital Economy.

GUIDELINES

1

This document serves as a **GUIDE** for individuals, employers and training providers on knowledge, experiences and skills mastery in the Agriculture Industry - Non-Perennial Crops.

2

The job matrix serves as a **REFERENCE** for career progression within the industry.

3

The Industrial Skills Framework for the Agriculture Industry - Non-Perennial Crops will **FOCUS ON** Level 4 of the Malaysian Skill Certification (or its equivalent) and above.

4

This document focuses on **JOB DESCRIPTIONS, SKILLS AND TRAINING NEEDED** in the Agriculture Industry - Non-Perennial Crops.

5

It is a **COMPLEMENTARY DOCUMENT** to existing references developed by the National Occupational Skills Standard (NOSS) and Malaysian Qualifications Framework (MQF).

6

The Industrial Skills Framework document is **NOT EXHAUSTIVE** and may be **REVIEWED FROM TIME TO TIME** for continuous improvements in parallel with the latest changes within the industry.

ABOUT INDSF



About Industrial Skills Framework (IndSF)

HRD Corp Industrial Skills Framework (HRD Corp - IndSF) is developed by the Human Resource Development Corporation (HRD Corp) with the aim of supporting each industry in acquiring a skilled workforce by specifying the types and levels of competencies needed by the industry.

Human Resource Development Corporation (HRD Corp)

- HRD Corp serves as an **ADVISORY TO EMPLOYERS**, helping them identify suitable training programmes that address their evolving business needs and contribute positively to the industry.
- It **DRIVES MEASURABLE IMPROVEMENTS** for businesses, ensuring a high return on investment (ROI) in training for both employers and employees, preparing them for the demands of the future workplace.

Principles

- Meet the **Competency Requirement** of sectors currently covered under PSMB Act 2001.
- Accommodate the **needs** of in-service workers.
- Built upon the **National Occupational Skills Standard (NOSS)**.
- Focus mainly on **Level 4 Malaysian Skills Certification** or its equivalent and above.
- Developed together with the industry and benchmarked against successful **Framework Model(s)**.

HRD Corp: IndSF Aspiration

- **More Industry - Relevant** training content.
- **Better Training Outcomes** through a collaborative approach.
- **Greater Utilisation** of levy.
- **For The Industry** to identify the emerging requirements and equip the existing workforce with the right knowledge and skills and find suitable interventions to bridge the needs by leveraging on existing resources.



SECTORIAL INFORMATION

BUSINESS OUTLOOK

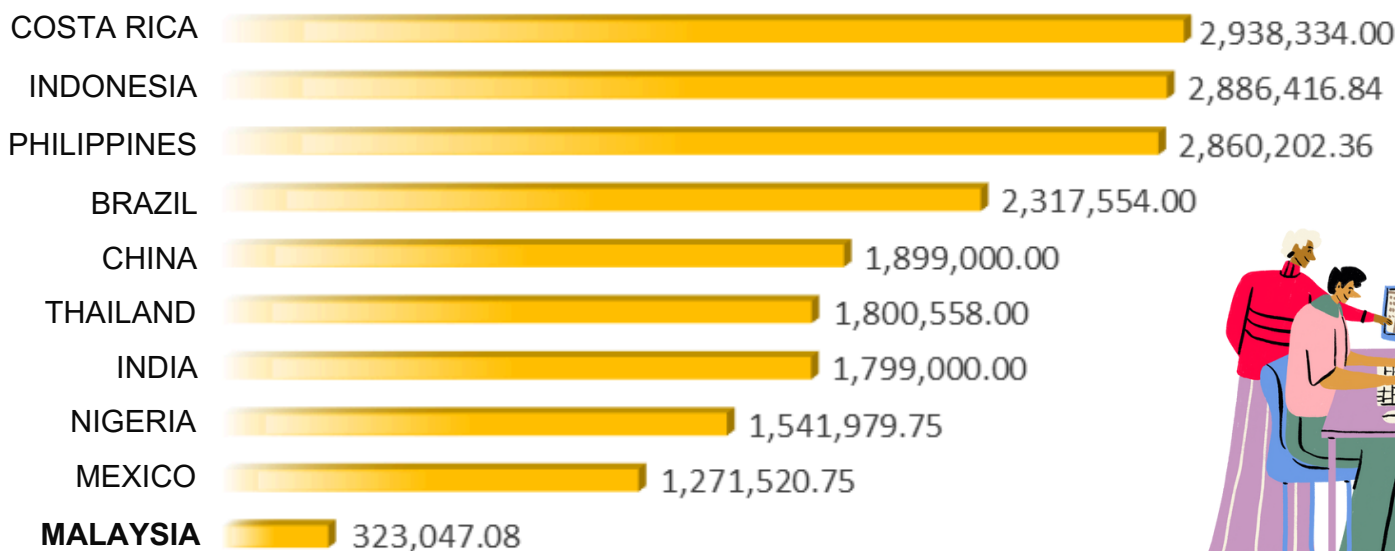
WORLD'S LARGEST PINEAPPLE PRODUCER 2021



Malaysia is the 22nd largest pineapple producer globally, contributing 1.13% of the world's total production, which is 323,047 metric tons out of 28.6 million metric tons.

Source: Food and Agriculture Organization of United Nations 2021

■ PINEAPPLE PRODUCER 2021



Source: Food and Agriculture Organization of United Nations 2021



SECTORIAL INFORMATION

BUSINESS OUTLOOK

TRAINING SCENARIO IN THE AGRICULTURE INDUSTRY

NUMBER OF REGISTERED EMPLOYERS

110

AS OF JULY 2023

NUMBER OF EMPLOYEES

2,297

AS OF JULY 2023

LEVY COLLECTED FROM JAN – JULY 2023

RM 1,447,778

LEVY CLAIMED FROM JAN – JULY 2023

RM 137,819

LEVY UTILISATION RATE & TRAINEES TRAINED FROM JAN – JULY 2023

9.5 %

% OF PROFESSIONAL TRAININGS ATTENDED IN 2023

8.1 %

SECTORIAL INFORMATION

BUSINESS OUTLOOK

TOP 5 SKILLS AREA IN THE AGRICULTURE INDUSTRY



- Management and Leadership
- Digitalisation
- Productivity
- Safety
- Sales, Marketing, Customer Service and Retail



- Management and Leadership
- Digitalisation
- Linguistics
- Safety
- Sales, Marketing, Customer Service and Retail



- Management and Leadership
- Quality
- Digitalisation
- Safety
- Sales and Marketing



SKILLS

GROWTH

AND



**DESCRIPTION OF
COMPETENCIES**

LEVEL DESCRIPTORS

MALAYSIAN OCCUPATIONAL SKILLS QUALIFICATION FRAMEWORK (MOSQF)

1

- Competent in performing a range of varied work activities, most of which are routine and predictable.

2

- Competent in performing a significant range of varied work activities, performed in a variety of contexts. Some of the activities are non-routine and require individual responsibility and autonomy.

3

- Competent in performing a broad range of varied work activities, performed in a variety of contexts, most of which are complex and non-routine. Considerable responsibility, autonomy, and control or guidance of others are often required.

4

- Competent in performing a broad range of complex technical or professional work activities carried out in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present. A higher level of technical skills should also be demonstrated.

5

- Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and significant responsibility for the work of others are required. Must also be able to allocate substantial resources accordingly and demonstrate solid personal accountability for analysis, diagnosis, design, planning, execution and evaluation. Specialisation in a particular technical skill area should be demonstrated.

6

- Achievement at this level reflects the ability to refine and use relevant understanding, methods and skills to address complex problems that have limited definitions. It includes taking responsibility for planning and developing courses of action that may result in substantial change or development, as well as exercising broad autonomy and judgment. It also reflects an understanding of different perspectives, approaches of schools of thought, and theories that underpin them.

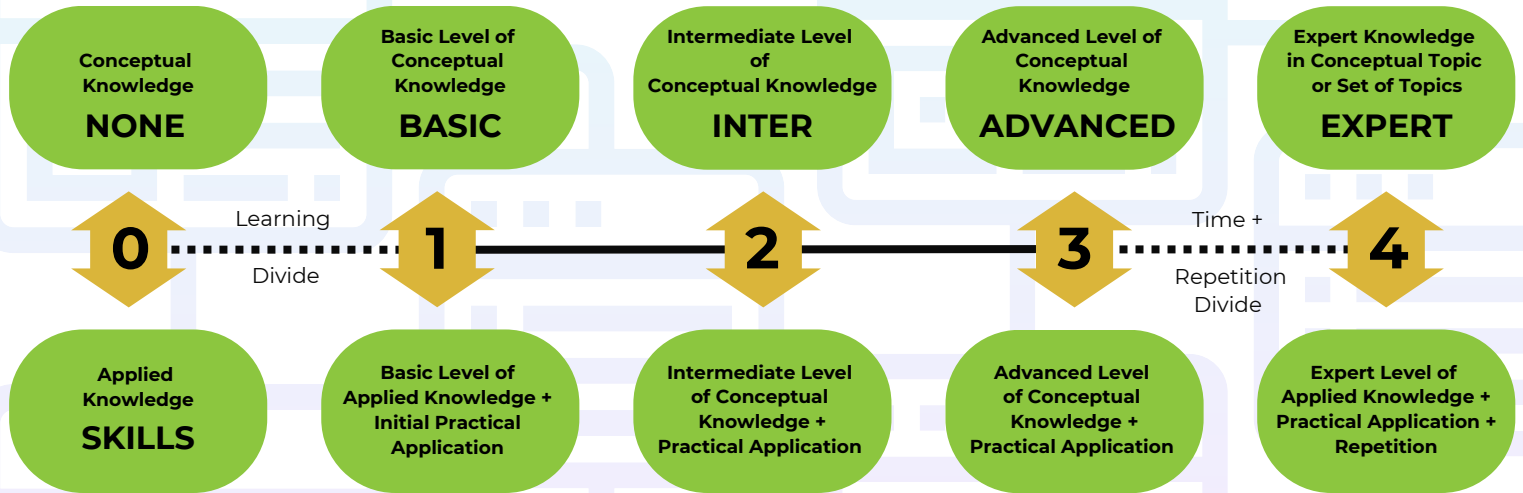
7

- Achievement at this level reflects the ability to reformulate and use relevant understanding, methodologies and approaches to address problematic situations that involve many interacting factors. It includes taking responsibility for planning and developing courses of action that initiate or underpin substantial change or development, as well as exercising broad autonomy and judgment. It also reflects an understanding of theoretical and relevant methodological perspectives and how they affect their sub-area of study or work.

8

- Achievement at this level reflects the ability to develop original understanding and extend a sub-area of knowledge or professional practice. It reflects the ability to address problematic situations that involve many complex and interacting factors through initiating, designing and undertaking research, development or strategic activities. It involves the exercise of broad autonomy, judgment and leadership in sharing responsibility for the development of a field of work or knowledge or for creating substantial professional or organisational change. It also reflects a critical understanding of relevant theoretical and methodological perspectives and how they affect the field of knowledge or work.

REQUIRED COMPETENCY LEVEL (RCL)



LEVEL	INDICATOR	DESCRIPTION
0	NONE	Denotes a lack of competence in a specific area or topic.
1	BASIC	Denotes an understanding of fundamentals and some initial practical application.
2	INTERMEDIATE	Denotes a solid conceptual understanding and some practical application.
3	ADVANCED	Denotes significant conceptual knowledge and practical experience in performing a competency to consistently high standards.
4	EXPERT	Denotes extensive knowledge, refined skills and prolonged experience in performing a defined competency at the highest standards.

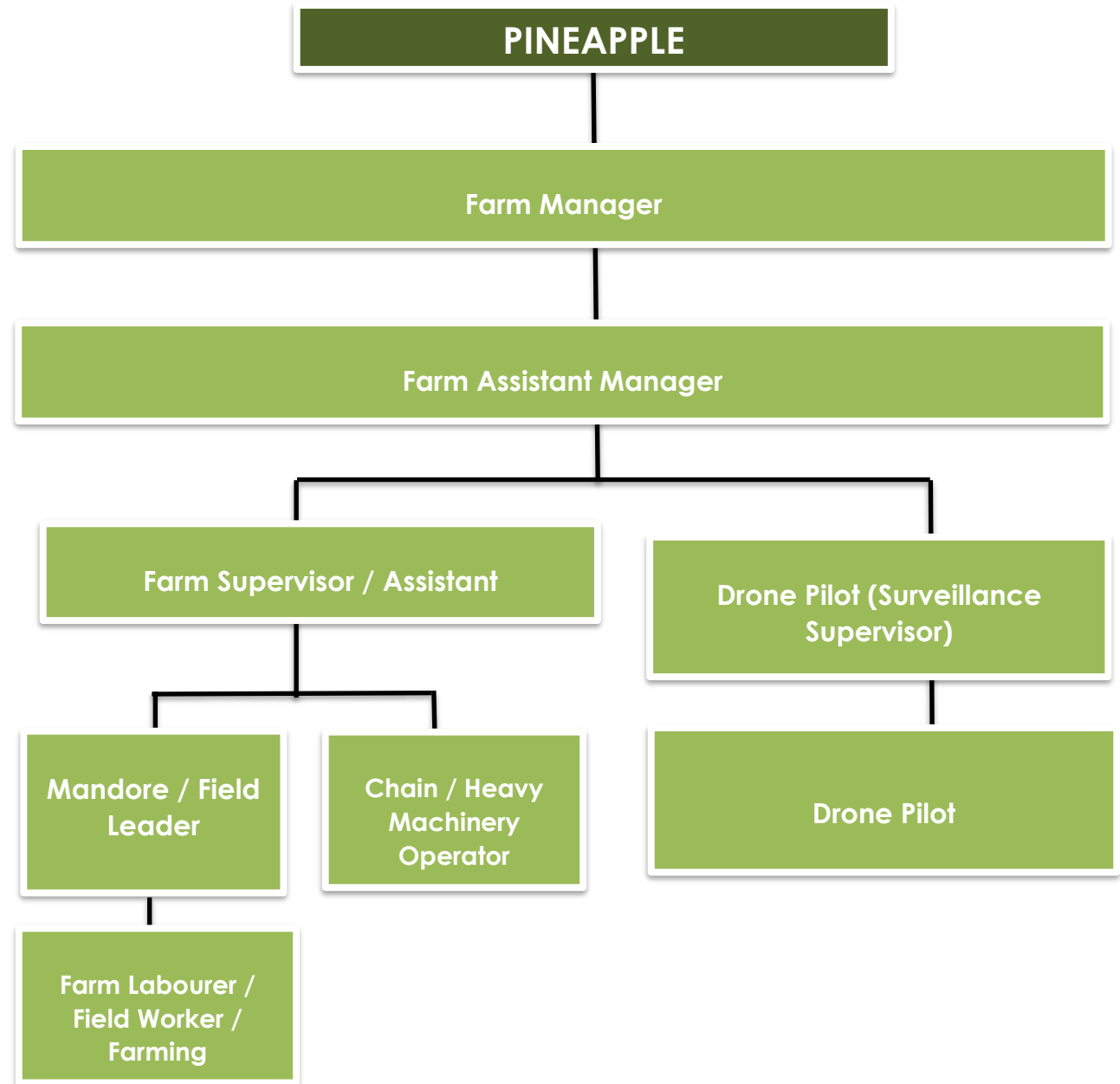
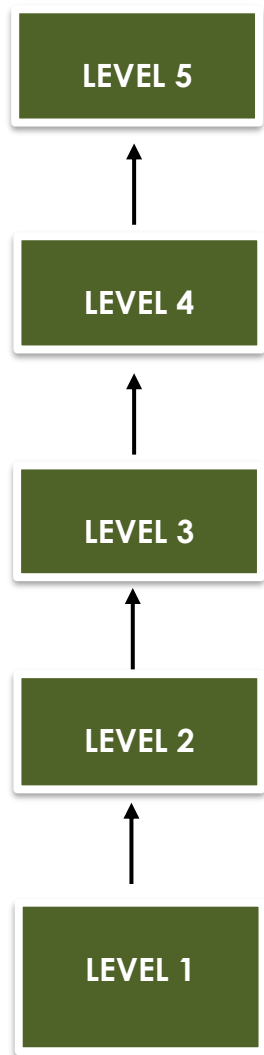


FOCUS AREA



PINEAPPLE





Focus Area: Pineapple

Job Title: Farm Labourer / Field Worker / Farming Equipment Worker **Level:** 1

Job Description

- To perform various tasks related to cultivating, maintaining, and harvesting crops on a farm.

Pre-Requisite:

- Minimum requirement: 18 years old and above.

Responsibility

- To assist in preparing the soil, planting seeds or seedlings, and maintaining crops.
- To be responsible for operating machinery and equipment used in farming activities.
- To be responsible for maintaining farm infrastructure. Farm labourers will be involved in repairing fences, buildings, and equipment.
- To help maintain irrigation systems, repair, or build farm structures, and manage storage facilities.
- To learn the importance of controlling pests, weeds, and diseases for successful crop production.
- To participate in irrigation activities, ensuring plants get enough water. They may operate irrigation systems, monitor water levels, and maintain proper irrigation schedules to optimise plant growth and minimise water waste.
- To prioritise safety and cleanliness on the farm, which includes following safety protocols, using Personal Protective Equipment (PPE), and maintaining a clean and organised work environment.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none">• Basic Communication and Teamwork	1	<ul style="list-style-type: none">• Effective Communication Skills• Team Building
<ul style="list-style-type: none">• Good Adaptability	1	<ul style="list-style-type: none">• Agility and Adaptability
<ul style="list-style-type: none">• Good Interpersonal Skills	1	<ul style="list-style-type: none">• Interpersonal Skills
<ul style="list-style-type: none">• Good Attitude	1	<ul style="list-style-type: none">• The Power of Positive Training and Attitude

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Basic Knowledge of Pineapple Planting 	1	<ul style="list-style-type: none"> Fundamentals Of Pineapple Plant Management (Preparation of Plant Material, Methods of Reproduction of Plant Material) Pineapple Plant Management Mineral Soil (Preparation of Plant Material, Cultivation, Fertilisation) Pineapple Plant Management Peat Soil (Preparation of Plant Material, Cultivation, Fertilisation, Water Management) Flowering Induction (Methods and Materials for Flowering Care) Harvest and Maturity Index (Maturity Index, Fruit Defects, Fruit Damage, Quality Care Measures During Harvesting, Harvesting Equipment, Harvesting Method) Pests and Diseases Control Recommendations Weed Control Spray Team (The individual focuses on spray applications, such as Foliar Protection, within the farm but across distinct plots.)

Focus Area: Pineapple

Job Title: Drone Pilot

Level: 2

Job Description

- To be responsible for safely operating unmanned aerial vehicles (UAVs) or drones for various purposes.
- To pilot drones, conduct pre-flight checks, capture aerial footage, and assist in data collection.
- To adhere to all relevant regulations and safety guidelines while ensuring the successful execution of assigned tasks.
- To track the growth rate and development of the farm by turning images into digital format, providing the management with improved perspective.
- To ensure precise and safe application of agricultural chemicals using unmanned aerial vehicles, adhering to regulatory and environmental standards.
- To enhance precision farming and improve crop yield and sustainability, video and image editing skills for drone pilots in agriculture are crucial for interpreting aerial data and optimising pesticide application.

Pre-Requisite:

- Minimum requirement: SPM, SKM or equivalent.

Responsibility:

- Responsible for flying agricultural drone crop spraying missions using spray drone technology (T20/T30 UAVs).
- Responsible for creating and executing flight plans using drone technology.
- Responsible for submitting daily flight records.
- Responsible for inventorying, managing, and reporting the amount of chemicals and other products used on the job.
- Responsible for understanding and ensuring the appropriate methods of mixing herbicides, pesticides and insecticides according to the type.
- Responsible attitude and ability to understand the process in all work related to drone mapping and agricultural drones.
- Responsible for reporting daily tasks and work results directly to the operations officer / Operations manager.
- Malaysian Good Agricultural Practices Scheme (MYGAP) accredited.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Basic Communication and Teamwork 	1	<ul style="list-style-type: none"> Effective Communications Skills Team Building
<ul style="list-style-type: none"> Adaptability 	1	<ul style="list-style-type: none"> Agility and Adaptability
<ul style="list-style-type: none"> Problem-Solving Ability 	1	<ul style="list-style-type: none"> Problem-Solving Skills
<ul style="list-style-type: none"> Situation Awareness 	2	<ul style="list-style-type: none"> Simulation and Scenario-Based Training Critical Hazard Identification
<ul style="list-style-type: none"> Flight Safety Consciousness 	2	<ul style="list-style-type: none"> Safety Management System Training Crew Resource Management (CRM)

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Specific License (Agriculture Drone) Basic Knowledge and Basic Control 	1	<ul style="list-style-type: none"> Introduction of Drone Technology and Simulation (On-the-Job Training) Remote Pilot Certificate of Competency (RCOC-B) RCOC Module 2 Agricultural UAS Operation (AGR) Professional Drone Operator (Beginner) Aerial Mapping and Surveying (Intermediate)
<ul style="list-style-type: none"> Safety and Health 	1	<ul style="list-style-type: none"> Safety and Health Training Protocol NIOSH Training <ul style="list-style-type: none"> a) Basic Occupational First Aid by PBSM

Focus Area: Pineapple

Job Title: Chain / Heavy Machinery Operator

Level: 2

Job Description

- To operate and maintain chain machinery in an industrial or manufacturing setting. This role involves the operation, control, and adjustment of chain-driven equipment to ensure efficient and safe production processes.
- To conduct land levelling, drainage development, and bedding development for a pineapple farm, it is crucial for the machine operator to comprehend and understand AutoCAD drawing.
- To ensure optimal equipment function and task success, the role requires strong basic machinery maintenance skills, including routine inspection, troubleshooting, and minor repairs.

Pre-Requisite:

- Minimum requirement: 18 years old and above.
- Minimum requirement: SPM and above; and / or
- Over 2 years of experience.

Responsibility:

- To operate and maintain heavy machinery used in farming operations, which may include equipment such as chain harvesters, chain trenchers, chain conveyors, chain saws, tractors, excavators, and more.
- To ensure the machinery is operated safely and efficiently according to established procedures and guidelines.
- To be responsible for inspecting and maintaining the machinery they operate, which includes performing routine maintenance tasks like checking fluid levels, lubricating moving parts, and conducting minor repairs.
- To report any issues or malfunctions to supervisors or maintenance personnel (extensive repairs).
- To adhere to the safety protocols and regulations while operating the machinery. (Wearing Personal Protective Equipment (PPE), following safe operating procedures, and conducting pre-operational equipment checks to ensure everything is in proper working order).
- To perform specific tasks related to farming operations using the machinery at their disposal.
- To maintain accurate records of their work (logging information such as operating hours, maintenance activities, and any issues or incidents encountered during operation in the logbook).
- To operate machinery while considering environmental factors.
- Responsible for maintaining cleanliness and hygiene of machinery through regular washing and cleaning.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Basic Communication and Teamwork 	1	<ul style="list-style-type: none"> Effective Communications Skills Team Building
<ul style="list-style-type: none"> Problem-Solving Ability 	1	<ul style="list-style-type: none"> Problem-Solving Workshops Continuous Improvement Initiatives
<ul style="list-style-type: none"> Adaptability 	1	<ul style="list-style-type: none"> Adaptability and Agility Positive Psychology Training
<ul style="list-style-type: none"> Safety Consciousness 	2	<ul style="list-style-type: none"> Adherence to Protocols and Regulations
<ul style="list-style-type: none"> Mechanical Aptitude 	2	<ul style="list-style-type: none"> Study Mechanical Concepts
<ul style="list-style-type: none"> Stress Management 	2	<ul style="list-style-type: none"> Healthy Lifestyle Promotion

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Basic Machine Maintenance 	2	<ul style="list-style-type: none"> Basic Manual Operating Skills
<ul style="list-style-type: none"> Safety and Health 	2	<ul style="list-style-type: none"> NIOSH Training <ul style="list-style-type: none"> a) Basic Safe Handling of Forklift Truck
<ul style="list-style-type: none"> Acquire (D, G, H and I) License 	4	<ul style="list-style-type: none"> CIDB <ul style="list-style-type: none"> a) Skills Competence Certificate - Backhoe Loader Operator Level 2 (H license - JCB Machines) b) Hydraulic Excavator Operator Level 2 (I License)

Focus Area: Pineapple

Job Title: Mandore / Field Leader

Level: 2

Job Description

- To be responsible for the supervision of general workers in a plantation.
- To ensure that the workers follow safety procedures and meet production goals.
- To acquire a strong understanding of agricultural practices and motivate and inspire workers.
- To foster a positive workplace, a strong grasp of HR policies is essential. The ideal candidate will ensure compliance and promote employee well-being.
- To guide career growth, the system urges employees, including mandores, to enhance skills at each farm level. Understanding roles is crucial for mandores to advance within the organisation.

Pre-Requisite:

- SPM or equivalent with a minimum of 2 years of experience.
- Experience / Diploma in Agriculture / Plantation or equivalent.

Responsibility:

- To ensure that the workers follow safety procedures to prevent accidents, injuries, or potential harm to themselves or others. It emphasises the importance of maintaining a safe working environment.
- To monitor work progress and identify any problems, which is essential in checking and evaluating the status of tasks, projects, or assignments to determine if they are being executed as planned and meet the desired objectives.
- To perform field monitoring and observation process which involves gathering real-time data, evaluating performance, and documenting observations to ensure compliance, efficiency, or quality in various fields of work.
- To motivate and inspire workers to meet production goals and ensure workers remain engaged, committed, and focused on their tasks, leading to increased productivity and successful goal attainment.
- To resolve conflict to ensure a positive, supportive, and productive working environment.
- To compile progress reports to the farm supervisor on the work progress that involves providing regular updates and information to the farm supervisor regarding the status, achievements, and challenges of ongoing tasks or projects.
- To conduct training for new workers providing instruction, guidance, and education to individuals who have recently joined the organisation or team which is essential to familiarise newcomers with their roles.

- To oversee the maintenance of plantation equipment involves managing and supervising the maintenance activities and upkeep of machinery, tools, vehicles, and other equipment used in a plantation setting and to ensure that the equipment remains in good working condition.
- To ensure the farm meets the operating environment and practices aligned with established environmental guidelines, regulations and sustainability principles.
- To ensure safety regulations, which are rules established by organisations to guarantee the safety and well-being of individuals in various settings, such as workplaces, public spaces, or specific industries.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> • Advanced Communication and Teamwork 	2	<ul style="list-style-type: none"> • Effective Communications Skills • Team Building
<ul style="list-style-type: none"> • Adaptability 	2	<ul style="list-style-type: none"> • Change Management Training • Equipment Familiarisation
<ul style="list-style-type: none"> • Safety Awareness 	2	<ul style="list-style-type: none"> • Behavior-Based Safety Training
<ul style="list-style-type: none"> • Able to Learn Different Initiatives 	2	<ul style="list-style-type: none"> • Leadership Training

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> • Knowledge of Pineapple Planting 	2	<ul style="list-style-type: none"> • Fundamentals of Pineapple Plant Management <ol style="list-style-type: none"> 1. Preparation of Plant Material 2. Methods of Reproduction of Plant Material • Pineapple Plant Management Mineral Soil <ol style="list-style-type: none"> 1. Preparation of plant material 2. Cultivation 3. Fertilisation • Peat Land Pineapple Plant Management <ol style="list-style-type: none"> 1. Cultivation 2. Fertilisation • Flowering Induction <ol style="list-style-type: none"> 1. Methods and materials 2. Use of flowering care • Harvest and Maturity Index <ol style="list-style-type: none"> 1. Maturity Index

		<ul style="list-style-type: none"> 2. Fruit Defects 3. Fruit Damage 4. Quality Care measures during Harvesting 5. Harvesting Equipment 6. Harvesting Method • Pests and Diseases and Control Recommendations • Weed Control
<ul style="list-style-type: none"> • Safety and Health Regulations 	2	<ul style="list-style-type: none"> • NIOSH Training <ul style="list-style-type: none"> a) Basic Occupational First Aid by PBSM

Focus Area: Pineapple

Job Title: Farm Supervisor

Level: 3

Job Description

- To oversee and manage the farm's workforce including assigning tasks, providing guidance and instructions, and ensuring that workers perform their duties effectively and efficiently.
- To promote a positive work environment.

Pre-Requisite:

- Diploma in Agriculture / Plantation or equivalent with minimum 1 year of experience
- Diploma in other fields with 2 years of experience in Agriculture; or
- SPM or equivalent with 5 years and above experience.

Responsibility:

- To be involved in planning and organising farm activities, create work schedules, determine priorities, and allocate resources such as labour, machinery, and equipment.
- Farm supervisors are responsible for managing the cultivation of crops and the spray team.
- To oversee the operation and maintenance of farm equipment and machinery (training, maintenance, service, and repairs).
- To request the inventory and supplies necessary from the administration for farm operations.
- To track expenses, monitor costs, and work towards maximising productivity.
- To provide records related to farm activities including reports on production, expenses, and other performance indicators.
- To implement good agriculture practices.
- To identify the health and safety of workers and ensure that safety protocols and regulations are followed (identify and address potential hazards, conduct regular safety training, and promote a culture of safety on the farm).
- To increase the efficiency of farm operations through continuous improvement (identify inefficiencies, troubleshoot problems, and implement solutions).
- To apply critical thinking in solving technical, human resource, and mechanical problems.
- To use software to create reports from surveillance data by drone image or random sampling in the field.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Effective Progress Updating 	2	<ul style="list-style-type: none"> Effective Communication Skills
<ul style="list-style-type: none"> Report Writing Ability 	2	<ul style="list-style-type: none"> Report Writing
<ul style="list-style-type: none"> Organising and Planning 	2	<ul style="list-style-type: none"> Successful Planning, Organising and Delegating Training
<ul style="list-style-type: none"> Accuracy and Attention to Details 	2	<ul style="list-style-type: none"> Improve Attention to Details
<ul style="list-style-type: none"> Advanced Communication and Teamwork 	3	<ul style="list-style-type: none"> Effective Communication and Team Building
<ul style="list-style-type: none"> Adaptability 	3	<ul style="list-style-type: none"> Agility and Adaptability
<ul style="list-style-type: none"> Critical Thinking 	3	<ul style="list-style-type: none"> Creative and Critical Thinking
<ul style="list-style-type: none"> Problem-Solving Ability 	3	<ul style="list-style-type: none"> Problem-Solving Skills
<ul style="list-style-type: none"> Time Management 	3	<ul style="list-style-type: none"> Effective Time Management

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Daily Costing Preparation 	1	<ul style="list-style-type: none"> Basic Accounting and Finance
<ul style="list-style-type: none"> Drone Usage Monitoring 	1	<ul style="list-style-type: none"> Basic IoT Training Basic Microsoft Office
<ul style="list-style-type: none"> Weather Station Data Collection and Interpretation 	1	<ul style="list-style-type: none"> Basic IoT Training
<ul style="list-style-type: none"> Subordinate Management 	2	<ul style="list-style-type: none"> Management Training
<ul style="list-style-type: none"> Information and Progress Recording 	2	<ul style="list-style-type: none"> Basic Filing and Documentation
<ul style="list-style-type: none"> Machinery Maintenance Monitoring 	2	<ul style="list-style-type: none"> Machinery Maintenance
<ul style="list-style-type: none"> Safety and Health Regulations 	3	<ul style="list-style-type: none"> NIOSH Training / First Aid by PBSM
<ul style="list-style-type: none"> Agronomic Practice Identification 	3	<ul style="list-style-type: none"> Pineapple Planting Technology Course

Focus Area: Pineapple

Job Title: Drone Pilot (Surveillance Supervisor)

Level: 3

Job Description

- To operate unmanned aerial vehicles (UAVs), known as drones, to perform various tasks and missions.
- Responsible for safely manoeuvring the drone, capturing aerial footage or images, conducting surveys, inspecting infrastructure, and collecting data for analysis.
- The supervisor is also required to assume the pilot duties when necessary.

Pre-Requisite

- Minimum requirement: Diploma (Technology / Agriculture / Engineering / Plantation).

Responsibility:

- To conduct aerial surveys of agricultural fields to monitor crop health and assess overall vegetation conditions (Stress Disease).
- To create accurate and detailed maps of farmland using aerial imagery and photogrammetry techniques.
- Collaborate with agronomists and farmers to implement precision agriculture techniques and supply the necessary data.
- To analyse and process the data collected from aerial surveys and provide reports to farmers and agronomists.
- To work with farm management software and systems to integrate aerial data into existing workflows.
- To adhere to all relevant regulations and guidelines for UAV operations in agriculture, stay informed about local aviation regulations, privacy considerations, and any specific requirements for agricultural drones set by drone technology and the Global Methane Initiative (GMI).
- To ensure safe flight operations.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none">• Adaptability / Accountability	2	<ul style="list-style-type: none">• Agility and Accountability Skills
<ul style="list-style-type: none">• Advanced Communication	3	<ul style="list-style-type: none">• Effective Communications Skills• Team Building
<ul style="list-style-type: none">• Problem-Solving Ability	3	<ul style="list-style-type: none">• Problem-Solving Skills

<ul style="list-style-type: none"> Situational Awareness 	3	<ul style="list-style-type: none"> Simulation and Scenario-based Training Critical Hazard Identification
<ul style="list-style-type: none"> Safety Flight Consciousness 	3	<ul style="list-style-type: none"> Safety Management System Training Crew Resource Management (CRM)

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> Surveillance and Mapping Drone Operating License 	2	<ul style="list-style-type: none"> Drone Technology and Simulation-Intermediate (Drone Technology) Advance Precise Aerial Mapping
<ul style="list-style-type: none"> Geographic Information System (GIS) 	2	<ul style="list-style-type: none"> Remote Sensing GIS Training RTK Mobile Station Training (Satellite System)
<ul style="list-style-type: none"> Mapping, Census, and Software Training 	2	<ul style="list-style-type: none"> TERA Software and META Shape Training
<ul style="list-style-type: none"> Aviation and Drone Control 	3	<ul style="list-style-type: none"> Aviation and Drone Control Training and Simulation
<ul style="list-style-type: none"> Drone Maintenance 	3	<ul style="list-style-type: none"> Drone Maintenance Training

Focus Area: Pineapple

Job Title: Farm Assistant Manager

Level: 4

Job Description

- Responsible for assisting and supporting the farm manager in overseeing day-to-day operations and ensuring the efficient and successful management of the pineapple farm, requiring a solid grasp of agricultural practices.
- Able to work on the farm / taking care of the farm environment.

Pre-Requisite:

- Bachelor's degree in Agriculture / Plantation or equivalent; or
- Bachelor's degree in other fields with 2 years of experience in Agriculture; or
- Diploma or equivalent with 3 years and above experience.

Responsibility:

- To prepare relevant documents to obtain related certification for farm enhancement which is the Malaysian Good Agricultural Practices Scheme (MyGAP), Global Good Agricultural Practices (Global GAP), and Skim Pengesahan Bahan Tanaman (SPBT).
- To ensure all Health, Safety, and Environment (HSE) procedures, rules and regulations are followed.
- To develop the implementation planning for MD2 Pineapple and assist farm managers, especially in the focus areas of farming, field operation, maintenance and post-harvest operation.
- To assist in executing the planning as agreed by management.
- To ensure enough resources, equipment, and record system for field operation.
- To give regular instructions to the supervisor.
- To assist in exploring new and advanced technology in field operation.
- To assist in the budgeting and financial optimisation of plantation operations.
- To plan training and courses for workers to increase their agriculture knowledge.
- To be able to lead the team of supervisors and general workers.
- To comply with environmental standards, assistant farm managers must grasp the EU Green Deal, which includes regulations on carbon neutrality, resource management, and biodiversity conservation. This ensures the farm aligns with sustainability goals and maintains long-term viability.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> • Problem-Solving Expertise 	3	<ul style="list-style-type: none"> • Problem-Solving Skills
<ul style="list-style-type: none"> • Time Management 	3	<ul style="list-style-type: none"> • Effective Time Management
<ul style="list-style-type: none"> • Accuracy and Attention to Details 	3	<ul style="list-style-type: none"> • Improve Attention to Details
<ul style="list-style-type: none"> • Communication 	3	<ul style="list-style-type: none"> • Effective Communication Skills and Team Building
<ul style="list-style-type: none"> • Critical Thinking 	3	<ul style="list-style-type: none"> • Creative and Critical Thinking
<ul style="list-style-type: none"> • Leadership and Teamwork 	3	<ul style="list-style-type: none"> • Leadership Training • Teambuilding
<ul style="list-style-type: none"> • Effective Reporting 	4	<ul style="list-style-type: none"> • Report Writing
<ul style="list-style-type: none"> • Organising and Planning 	4	<ul style="list-style-type: none"> • Successful Planning, Organising and Delegating Training
<ul style="list-style-type: none"> • Adaptability 	4	<ul style="list-style-type: none"> • Agility and Adaptability

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> • HR and IR Knowledge Implementation 	2	<ul style="list-style-type: none"> • Basic HR and IR Training
<ul style="list-style-type: none"> • Financial and Budget Preparation 	2	<ul style="list-style-type: none"> • Basic Accounting and Finance (Malaysian Institute of Management)*
<ul style="list-style-type: none"> • Data Analysis and Report Preparation 	2	<ul style="list-style-type: none"> • Data Analysis Training • IoT Training • Report Writing • Advanced Microsoft Office Software
<ul style="list-style-type: none"> • Project Management 	2	<ul style="list-style-type: none"> • ISO 17989 - Tractors And Machinery for Agriculture-Sustainability • ISO/TC 23/SC18 - Irrigation and Drainage Equipment and Systems • ISO/TC 134 - Fertilisers and Soil Conditioners • ISO 14055 - Environmental Management • 5S Methodology
<ul style="list-style-type: none"> • Planning Preparation Based on the 	3	<ul style="list-style-type: none"> • Advanced Course (Fertiliser, Flowers, Etc.)

Identified Agronomic Practices		
<ul style="list-style-type: none"> • Management Skills 	3	<ul style="list-style-type: none"> • Lean Six Sigma-Green Belt
<ul style="list-style-type: none"> • Sustainability 	3	<ul style="list-style-type: none"> • Safety and Health • Noise Risk (MyGAP, Global GAP) • EU Green Deal
<ul style="list-style-type: none"> • Able to Verify Machinery Equipment Maintenance Process 	3	<ul style="list-style-type: none"> • Machinery Maintenance
<ul style="list-style-type: none"> • Environment, Social and Governance (ESG) 	3	<ul style="list-style-type: none"> • Energy Management, Sustainability and Circular Economy • Overall Equipment Effectiveness (OEE)

Focus Area: Pineapple

Job Title: Farm Manager

Level: 5

Job Description

- To oversee day-to-day operations including administration to ensure the efficiency and successful management of the pineapple farm. They must have a strong understanding of agricultural practices and management.

Pre-Requisite:

- Bachelor's degree in Agriculture / Plantation management with 8 years of experience; or
- Bachelor's degree in other fields with 10 years of experience in the Agriculture field; or
- Diploma or equivalent with 10 years and above of experience.

Responsibility:

- To plan and coordinate various aspects of the farm's activities (develop production plans, set targets, and implement strategies for efficient farm management).
- To prepare and provide the financial statement (budgeting, monitoring expenses, and tracking financial performance, identifying cost-saving opportunities, informed decisions regarding resource allocation, and profitability).
- To maintain a good relationship with internal and external stakeholders.
- To present, respond and provide recommendations on the farm's performance or operation to top management or board members when required.
- To plan manpower requisitions for farm operational purposes, training, and performance management review.
- To ensure quality control measures are in place by ensuring compliance with applicable regulations, certifications, and food safety standards.
- To monitor the assets of farm infrastructure, buildings, and equipment by ensuring that facilities are well-maintained, functional, and safe.
- To identify areas for optimisation, implement new techniques, and troubleshoot operational challenges for continuous improvement.
- To ensure regulatory compliance, sustainable practices, access to funding, market competitiveness, risk management, innovation adoption, positive stakeholder relations, and long-term farm viability.

Soft Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> • Problem-Solving Ability 	4	<ul style="list-style-type: none"> • Problem-Solving Skills
<ul style="list-style-type: none"> • Time Management 	4	<ul style="list-style-type: none"> • Effective Time Management
<ul style="list-style-type: none"> • Organising and Planning 	4	<ul style="list-style-type: none"> • Successful Planning, Organising and Delegating Training
<ul style="list-style-type: none"> • Accuracy and Attention to Details 	4	<ul style="list-style-type: none"> • Improve Attention to Details
<ul style="list-style-type: none"> • Communication and Teamwork 	4	<ul style="list-style-type: none"> • Effective Communication and Team Building
<ul style="list-style-type: none"> • Adaptability 	4	<ul style="list-style-type: none"> • Agility and Adaptability
<ul style="list-style-type: none"> • Critical Thinking 	4	<ul style="list-style-type: none"> • Creative and Critical Thinking
<ul style="list-style-type: none"> • Effective Reporting 	4	<ul style="list-style-type: none"> • Report Writing
<ul style="list-style-type: none"> • Leadership and Teamwork 	4	<ul style="list-style-type: none"> • Leadership Training • Teambuilding

Technical Skills	Competency Level	Recommended Training
<ul style="list-style-type: none"> • Able to Implement HR and IR Knowledge 	3	<ul style="list-style-type: none"> • Intermediate HR and IR Training
<ul style="list-style-type: none"> • Sustainability 	3	<ul style="list-style-type: none"> • Safety And Health • Risk Management (MyGAP, Global GAP) • EU Green Deal
<ul style="list-style-type: none"> • Able to Verify Machinery Equipment Maintenance Process 	3	<ul style="list-style-type: none"> • Machinery Maintenance
<ul style="list-style-type: none"> • Financial and Budget Preparation 	3	<ul style="list-style-type: none"> • Intermediate Accounting and Finance (Malaysian Institute of Management) *
<ul style="list-style-type: none"> • Business Proposal and Investment Paper Planning 	4	<ul style="list-style-type: none"> • Report Writing
<ul style="list-style-type: none"> • Project Management 	4	<ul style="list-style-type: none"> • ISO 17989 - Tractors and Machinery for Agriculture-Sustainability • ISO/TC 23/SC18 - Irrigation and Drainage Equipment and Systems

		<ul style="list-style-type: none"> • ISO/TC 134 - Fertilisers and Soil Conditioners • ISO 14055 - Environmental Management • 5S Methodology
<ul style="list-style-type: none"> • Planning Preparation Based on The Identified Agronomic and Management Practices 	4	<ul style="list-style-type: none"> • Pineapple Cultivation Technology Course (MPIB)* • Financial Management Training
<ul style="list-style-type: none"> • Management Skills 	4	<ul style="list-style-type: none"> • Lean Six Sigma - Black Belt
<ul style="list-style-type: none"> • Environment, Social and Governance (ESG) 	4	<ul style="list-style-type: none"> • Energy Management, Sustainability and Circular Economy • Overall Equipment Effectiveness (OEE)

ABBREVIATIONS

01	CIDB	Construction Industry Development Board
02	CRM	Crew Resource Management
03	ESG	Environment, Social and Governance
04	GIS	Geographic Information System
05	Global GAP	Global Good Agricultural Practice
06	GMI	Global Methane Initiative
07	HR	Human Resource
08	HRD Corp	Human Resource Development Corporation
09	HSE	Health, Safety and Environment
10	IndSF	Industrial Skills Framework

ABBREVIATIONS

11	IoT	Internet of Things
12	IR	Industrial Relation
13	ISO	International Organization for Standardization
14	KPKM	Ministry of Agriculture and Food Security
15	MDEC	Malaysia Digital Economy Corporation
16	MOSQF	Malaysian Occupational Skills Qualification Framework
17	MPC	Malaysia Productivity Corporation
18	MPIB	Malaysian Pineapple Industry Board
19	MQF	Malaysian Qualification Framework
20	MyGAP	Malaysian Good Agricultural Practices

ABBREVIATIONS

21	NIOSH	National Institute for Occupational Safety and Health
22	NOSS	National Occupational Skills Standard
23	OEE	Overall Equipment Effectiveness
24	PBSM	Persatuan Bulan Sabit Merah Malaysia
25	RTK	Real-Time Kinematic
26	SKM	Sijil Kemahiran Malaysia
27	SME	Subject Matter Experts
28	SPBT	Skim Pengesahan Bahan Tanaman
29	SPM	Sijil Pelajaran Malaysia
30	STC	Sectorial Training Committee

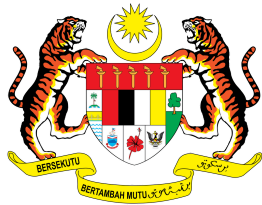
LIST OF SOURCES

1

Food and Agriculture
Organization of United Nations 2021

2

HRD Corp Internal Data 2023



MINISTRY OF HUMAN RESOURCES



HUMAN RESOURCE DEVELOPMENT CORPORATION