

AGRICULTURE

OIL PALM PLANTATION































Published by

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

Wisma HRD Corp, Jalan Beringin, Bukit Damansara, 50490 Kuala Lumpur.

Tel: 1800 88 4800

Fax: +603 2096 4999

Email: support@hrdcorp.gov.my Website: www.hrdcorp.gov.my

All Rights Reserved © 2021. PEMBANGUNAN SUMBER MANUSIA BERHAD

No part of this book may be reproduced, stored in a retrieval system or transmitted in any form or any means, whether by way of electronics, mechanics, copy of photo recording or otherwise, without the prior consent of PSMB.

TABLE OF CONTENT

Preface	01
Acknowledgement	02 - 05
 Chief Executive of HRD Corp Malaysian Palm Oil Board (MPOB) Malaysian Palm Oil Association (MPOA) The Incorporated Society of Planters (ISP) FGV Plantation (M) Sdn Bhd Malaysia Productivity Corporation (MPC) Malaysia Unmanned Drones Activist Society (MUDAS) Malaysian Research Accelerator for Technology and Innovation (MRANTI) Malaysia Aerospace Industry Association (MAIA) 	06-13 06 07 08 09 10 11 12 13
Guidelines	15
About HRD Corp Industrial Skills Framework (HRD Corp - IndSF)	16
Sectoral Information • Business Outlook	17 - 22
 Skills & Description of Competencies Malaysian Occupational Skills Qualification Framework (MOSQF) Level Descriptor Required Competency Level (RCL) 	23-24



TABLE OF CONTENT

Focus Areas	25
 Focus Area 1: NURSERY 	26-39
- Career Pathway	26
 Job Description (Covers *certification & non-certification training programmes) 	27-39
• Focus Area 2: FIELD UPKEEP AND MAINTENANCE	40-54
- Career Pathway	41
 Job Description (Covers *certification & non-certification training programmes) 	42-54
• Focus Area 3: REPLANTING	55-68
- Career Pathway	56
 Job Description (Covers *certification & non-certification training programmes) 	57-68
(Covers *certification & non-certification training programmes)	
 Focus Area 4: HARVESTING AND COLLECTION 	69-85
- Career Pathway	70
 Job Description (Covers *certification & non-certification training programmes) 	71-85
Focus Area 5: DRONE TECHNOLOGY (DATA)	86-107
- Career Pathway	87 88-107
 Job Description (Covers *certification & non-certification training programmes) 	00-107
• Focus Area 5: DRONE TECHNOLOGY (MRO)	108-141
- Career Pathway	108
 Job Description (Covers *certification & non-certification training programmes) 	109-141
(covers certification a non-certification training programmes)	
 Focus Area 5: DRONE TECHNOLOGY (PILOT) 	142-173
- Career Pathway	143
 Job Description (Covers *certification & non-certification training programmes) 	144-173
Abbreviations	174
List of Sources	175
2100 01 000	170

PREFACE

The oil palm plantation sector in the agriculture industry in Malaysia is fast-growing and significantly contributes to the national economy. Thus, we at HRD Corp recognised the importance of developing the IndSF document for this industry in 2022 to identify job descriptions, skills, and recommended training programs.

HRD Corp through its collaborators, Malaysian Palm Oil Board (MPOB), Malaysian Palm Oil Association (MPOA), Ministry of Plantation and Commodities, The Incorporated Society of Planters (ISP), FGV Holdings Berhad, Malaysia Unmanned Drones Activist Society (MUDAS), Malaysian Research Accelerator for Technology and Innovation (MRANTI), Malaysia Aerospace Industry Association (MAIA), Malaysia Productivity Corporation (MPC) and Malaysian Digital Economy Corporation (MDEC) have identified critical focus areas and subject matter experts (SMEs) that will be involved in the initiative.

Workshop sessions were conducted both physically and online. The IndSF Agriculture - Oil Palm Plantation document covers the focus areas as listed below:

NURSERY

HARVESTING

REPLANTING

UPKEEP AND FIELD MAINTENANCE

DRONE TECHNOLOGY

- 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 - Oil Palm Plantation.

NAME	ORGANISATION
MR. SUDARMAN SUDIRMAN	FGV PLANTATIONS (M) SDN BHD
MR. MOHD FAIRUZ EZANI HAMZAH	FGV PLANTATIONS (M) SDN BHD
MR. RADZI AB. RASHID	FGV PLANTATIONS (M) SDN BHD
MR. FARID MD RAZALI	FGV PLANTATIONS (M) SDN BHD
MR. MOHD RAFI REMLI	FGV PLANTATIONS (M) SDN BHD
MR. MOHD SHAZREEN A. MALEK	FGV AGRI SERVICE SDN BHD
MR. MOHD NAJIB ABDUL RASID	FGV AGRI SERVICE SDN BHD

- 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 - Oil Palm Plantation.

	Δ	м	

ORGANISATION

TN. HJ. ABDUL AZIZ ISHAK

THE INCORPORATED SOCIETY OF PLANTERS (ISP)

MR. ZULNIZAM BIN KASMUNGI

SIME DARBY PLANTATION SEEDS & AGRICULTURAL SERVICES SDN BHD

PN. SITI ZUWAIRIAH BINTI ABDULLAH

SIME DARBY PLANTATION BERHAD

MR. MOHD RAZILA RAMLI

KULIM MALAYSIA BERHAD

HJ. RAMLI ABD MAJID

TECHNOPALM SDN BHD

MR. ROFIZAL BIN MAT REJAB

RZTECH RESOURCES SDN BHD

HJ RAHMAT BIN KAMISAN

SEMAI INNOTECH SOLUTION SDN. BHD



- 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 - Oil Palm Plantation.

INAME	ONCANICATION

DR. ZULKIFLI YAAKUB

MR. MOHD. JURAIMI BIN JUSOH MALAYSIAN PALM OIL BOARD (MPOB)

MR. MOHD. RAMDHAN BIN MOHD. KHALID

MALAYSIAN PALM OIL BOARD (MPOB)

MR. DARYL JAY THADDEUS

MALAYSIAN PALM OIL BOARD (MPOB)

MALAYSIAN PALM OIL BOARD (MPOB)

MALAYSIAN PALM OIL BOARD (MPOB)

MR. AHMAD SYAZWAN RAMLI

MALAYSIAN PALM OIL BOARD (MPOB)

MR. MOHD. RIZAL BIN AHMAD

MALAYSIAN PALM OIL BOARD (MPOB)

MR. MOHD. IKMAL HAFIZI BIN AZAMAN

- 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 - Oil Palm Plantation.

NAME

MR. KAVIARASAN TOMMY A/L PENANAYAGAM

MR. IZHAM BIN ZAKARIA

MR. WAN MOHD FARHAN BIN WAN MOHD FUAAD

MR. SURIA HANI AFFANDI CHEW

MR. MUHAMMAD NASIRUDDIN MUSTAFA

MR. SARAVANAN CHETTIAR LETCHUMENAN

MR. MOHAMAD NOOR BIN AB RAHIM

ORGANISATION

TRADEWINDS PLANTATION MANAGEMENT SDN.BHD.

MALAYSIAN AEROSPACE INDUSTRY
ASSOCIATION (MAIA)

MALAYSIAN RESEARCH ACCELERATOR FOR TECHNOLOGY & INNOVATION (MRANTI)

MALAYSIAN DIGITAL ECONOMY CORPORATION (MDEC)

MADOS'S HOLDINGS BERHAD

MALAYSIA UNMANNED DRONES ACTIVIST SOCIETY (MUDAS)

MALAYSIA UNMANNED DRONES ACTIVIST SOCIETY (MUDAS)

Chief Executive HRD Corp



YBhg. Datuk Shahul Dawood

Human Resource Development Corporation (HRD Corp) has been working continuously to improve efficiency at the workplace. We do this by equipping the Malaysian workforce with proper skills, competencies, and training. Therefore, we firmly believe that a well-planned investment in human capital development will boost the growth of various industries and, ultimately, the economy in the long term. This requires us to work with industry players to understand the skill gaps in many sectors and identify the most suitable training programmes for their talents. To that end, we have focused on higher-level technical competencies and certification programmes.

The world is in a constant state of change. As we enter the endemic stage, we have seen various shifts in the workplace, with businesses looking at accelerating their recovery and growth. This has led to calls for flexible working arrangements and new roles to maintain business momentum and productivity.

To that end, HRD Corp also realises the need to revamp our approaches. To deliver on our vision of enabling industry players to upskill and reskill their employees effectively, we must provide them with the right information and opportunities.

Director General Malaysian Palm Oil Board (MPOB)



YBhg. Datuk Dr. Ahmad Parveez Hj Ghulam Kadir

Firstly, on behalf of the Malaysian Palm Oil Board (MPOB), I would like to thank the committee for inviting MPOB to take part in creating this industrial framework for the oil palm sector. MPOB is honoured to contribute to this year's inaugural Industrial Skills Framework (IndSF) for the Agriculture - Oil Palm Sector.

The working committee is crucial in bringing together the experience and expertise of the industry towards completing this framework. Labour issue, including a rapid increase of foreign workers in the Malaysia oil palm plantation, was debated over a decade ago. However, due to the nature of the oil palm industry, which is labour-intensive, the employment of foreign workers is unavoidable. This issue was further impacted when the COVID-19 pandemic affected the world and reduced worker participation in the plantations.

I believe this framework and effort could further streamline the oil palm sector in terms of human resources to move past what is a trying time and grow stronger. The content of this publication will be updated continuously with new skills and competencies and new job roles for every sector of the oil palm industry.

MPOB, together with other prominent players in the oil palm industry, will strive to expand its knowledge and experience in this framework. Also, a special thanks and appreciation to the working committee of this publication who, despite working under challenging circumstances, was able to overcome obstacles, maximise their efforts and work together as a team to put together this important document. And finally, my sincere gratitude to HRD Corp Management as the key sponsor and organiser who made it possible to create this invaluable material for the industry. Thank you, and congratulations.

Chief Executive Officer Malaysian Palm Oil Association (MPOA)



Mr. Joseph Tek Choon Yee

It gives me great pleasure to congratulate HRD Corp as they embark on an inclusive engagement with the relevant stakeholders on an ambitious and stimulating voyage of skill development of the Industrial Skills Framework (IndSF) Agriculture-Oil Palm Plantation.

I would also like to take this opportunity to thank HRD Corp for including the Malaysian Palm Oil Association (MPOA) as one of its 10 collaborators. Today, MPOA represents about 70% of the oil palm planted area under private ownership, which makes up about 40% of the total planted oil palm area in Malaysia and includes all major key players along the integrated palm oil supply chain in Malaysia, with global export footprints in many countries. MPOA is tasked with the important function of balancing the needs and interests of the various sectors for synergy and development of the plantation industry as a whole.

Even as the nation is still grappling with the vestiges of the COVID-19 pandemic – leading to an acute shortage of human resources – the IndSF for oil palm plantation comes at a critical time. Reskilling and upskilling for the sector is becoming more imperative as the industry continues to work on sustaining its present workforce and enticing more local Malaysians to join the plantation sector amid the 4D social stigma linked to the sector ie dirty, dangerous, difficult and also demeaning.

I want to believe that the oil palm plantation skills framework will meet the comprehensive skills requirements of the oil palm sector in Malaysia. The engagement and subsequent reviews with the relevant multi-stakeholders must be pursued diligently to ensure that the developed programmes are recognised and embraced by the oil palm industry.

HRD Corp and their stakeholders must strive and upscale their efforts to ensure that the training programmes are intricately woven into the tapestry of modernised skill development for the plantation sector leading to higher productivity and employability retention. The outputs must be relevant and applicable and must be seen as the springboard for employability among its participants. As technological developments transform, it is imperative that the IndSF framework for oil palm plantations is also adaptive to these changes. In line with this, HRD Corp must be open to engaging with the stakeholders involved in the ground operations with the 'know-how' of the industry. Skills and training systems must effectively and with agility, respond to any profound and rapid changes in the labour market and emerging employment landscape.

Bridging the focus areas of innovations (which include digital skills), good practices across the operation chain in plantation, skill learning and lifelong reskilling and upskilling are therefore critical and timely as we seek to address the nascent challenges in the plantation sector. This will, in turn, ensure the resilience, competitiveness and sustainability of the plantation sector in Malaysia. Once again, on behalf of MPOA, I want to express my heartiest appreciation to HRD Corp and all our joint collaborators.

Chief Executive The Incorporated Society of Planters (ISP)



Mr. Rajindran Irusan

On behalf of The Incorporated Society of Planters (ISP), I would like to express my sincere appreciation and gratitude to all our subject matter experts, not only from ISP but also from other organisations, for their contributions to making IndSF Agriculture - Oil Palm Plantation a reality. My special thank you goes to HRD Corp for championing the initiative.

Reskilling and upskilling the workforce in highly-skilled industries such as the agriculture industry is a way forward. As the industry adopts more technology-assisted equipment like drones and precision agriculture workforce, the industry needs to upgrade and even stay abreast of the latest skills and knowledge in the field.

Hence, I personally encourage the people involved in this industry to not only read these documents but also use the inputs from the IndSF document by attending the right training programme to enhance their skills and competency. This will greatly contribute to the industry's productivity and growth. ISP welcomes any efforts by HRD Corp with an open heart and will provide our utmost support for the good of the industry.

Chief Executive FGV PLANTATIONS (M) SDN BHD



Mr. Rahim Hissan Wahid

First of all, I would like to thank HRD Corp for inviting FGV as an industry panel for the development of the Industrial Skills Framework (IndSF) for the Plantation Sector. FGV is very pleased to share our experience and expertise, as well as contribute knowledge and determination to further strengthen the development of the oil palm plantation industry in Malaysia.

FGV sees this IndSF initiative as an important form to enable HRD Corp to become one of the reference institutions in the plantation industry via the establishment of an applicable plantation's human capital development guideline that becomes a generic reference for this industry. Through this IndSF platform as well, FGV feels that continuous discussions and improvements ingenuities can be generated, as well as the latest information and innovations of the industry can be updated and displayed timely. Hence, IndSF can be a catalyst for the sustainability of the nation's oil palm plantation industry. IndSF is very necessary to ensure the sector is always growing and has proven to have highly skilled human capital besides a dynamic and innovative workforce.

With this kind of cooperation between palm oil producing companies, government and non-government institutions related to the oil palm industry, and HRD Corp, it is hoped that the goal of burgeoning the capabilities and achievements of this industry can be materialised very soon, InsyaAllah.

FGV is confident that the IndSF for the plantation sector will constantly be managed proactively, with continuous updates from time to time, and will remain as a platform for brainstorming among oil palm experts in the near future.

Thank you.

Director General Malaysia Productivity Corporation (MPC)



YBhg. Dato' Abdul Latif Bin Haji Abu Seman

Congratulations to HRD Corp on developing and publishing the Industrial Skills Framework (IndSF) for the oil palm plantation industry. Malaysia Productivity Corporation (MPC) is delighted to be part of this initiative. Thank you, HRD Corp, for entrusting MPC as one of the strategic collaborative partners in materialising this publication. MPC's involvement aligns with our pursuit of robust productivity, growth through talent development, technology and innovation, and quality regulations.

Malaysia's labour productivity increased by 1.8 per cent in 2021, indicating a promising outlook for the coming years. With the rebound in productivity, the agriculture sector is projected to expand from 0.8 per cent in 2021 to 3.9 per cent growth in 2022. In line with this projection, efforts such as this publication are crucial to improve workforce skills through reskilling and upskilling initiatives.

As the nature of work changes with automation and digitisation, agricultural workers must acquire the appropriate skills and adapt to the current working environment. Hence, the reskilling and upskilling of workers are vital towards contributing to high productivity. The IndSF for the Oil Palm Plantation Industry will benefit the plantation workforce by matching supply with the current demand for skills, assisting agricultural workers in adjusting to change and anticipating future skills needs.

MPC urges the palm oil plantation industry players to leverage this framework to enhance workers' skills and competencies. A productive and skilled workforce boosts productivity.

Heartiest appreciation to the subject matter experts and working committees who contributed to this publication. MPC believes that the information and knowledge shared are valuable resources for the oil palm plantation industry and the general public.

President

Malaysia Unmanned Drones Activist Society

(MUDAS)



YBhg. Dato Hj Mohd Nazri B. Hj Dashah

It has been my pleasure to the author and our MUDAS team involved with MUDAS activities. I have seen their tireless effort in promoting drone technology in the country. Their commitment towards drone development is highly appreciated. I recognise the team as one of the best Drone Subject Matter Experts, and their outstanding skills and knowledge are admirable.

MUDAS team has co-developed the Industrial Skills Framework (IndSF) by providing a comprehensive guideline for individuals, employers and training providers.

This guideline is related to the agriculture industry, specifically palm oil plantations. I really hope this guideline will facilitate skilled drone operators to perform effectively and efficiently.

Employment of drones in oil palm plantations can increase higher productivity yields and precisely monitor fields, while simultaneously decreasing time, labour and resources. There are many benefits to using drones in oil palm plantations by using professional and quality approaches and components that can increase performance and efficiency.

Hopefully, our MUDAS team will contribute towards our national aspiration, which is that by 2030, we can achieve to create 100,000 job opportunities and generate RM507 billion in our national GDP.

My sincere appreciation to both Mr Mohamad Noor and Mr Saravanan for their noble efforts to co-develop the framework with other subject matter experts in oil palm plantations.

Chief Executive Officer Malaysian Research Accelerator for Technology and Innovation (MRANTI)



Pn. Dzuleira Abu Bakar

As an agency under the Ministry of Science, Technology and Innovation (MOSTI), MRANTI is delighted to be part of HRD Corp's Industrial Skills Framework initiative to reskill, upskill and develop the new talent of the future.

Malaysia's drone industry is expected to generate over RM 50.71 billion in GDP contribution and create 100,000 job opportunities by 2030.

We strive to ensure that there will be sufficient and capable drone tech talents to fulfil the market demand in various sectors, including manufacturing, construction, highways, smart cities as well as the agriculture sector, which could see the use of more than 50,000 drones to cover over 5 million hectares of palm oil plantation land.

Under the Majlis Ekonomi Digital 4IR Negara (MED4IRN), MRANTI is tasked to lead the Malaysia Drone Technology Action Plan 2022 - 2030 (MDTAP30). One of the MDTAP30 missions is to further strategise talent development initiatives to meet the growing demand of the industry. This involves collaborations with respective agencies, and HRD Corp will play a significant role in ensuring the success of the objective.

MRANTI is currently developing AREA57, a 5-acre DroneTech Centre of Excellence at MRANTI Park, and is the Lead Secretariat of MOSTI's National Technology & Innovation Sandbox that runs several drone-related initiatives.

Meanwhile, MRANTI Park will add to its focus, beyond "attracting investments" to "attracting intellectuals", and will introduce a number of measures to drive this agenda which will be announced in time as we aim to create 8,000 jobs through the implementation of the Master Plan.

The recently launched MRANTI Park will be developed in 3 Phases, on 3 Precincts, with 3 Principles — innovation, sustainability and progressive culture across 5 clusters - Greentech, biotech, smart manufacturing, agritech and 4IR technologies.

We look forward to developing a sustainable and brighter future for youths, especially in rural areas across the country.

President Malaysia Aerospace Industry Association (MAIA)



Mr. Naguib Bin Mohd Noor

Firstly, I would like to express my sincerest gratitude to the committee members for the opportunity to support the development of the Industrial Skills Framework (IndSF) for Agriculture - Oil Palm Plantation from the point of view of the aerospace industry, as it relates to drone technology. It is indeed a pragmatic approach to develop skills within the agricultural sector, especially the oil palm industry, through leveraging innovations within other industries for mutual growth. Therefore, I am very pleased to present the inaugural Industrial Skills Framework (IndSF) for the Agriculture Industry - Oil Palm Plantation.

The recent pandemic and economic downturn have proven to be a difficult crucible for small to large corporations alike, and it has forced companies to close or pivot. I extend the same respect to the working committee and support from active members as well as Subject Matter Experts, as they were able to produce the framework despite the extended pandemic looming alongside the project.

With the growing concern for sustainability and critical dependence on foreign labour, the oil palm industry faces inefficiencies and low productivity, which were further exacerbated by the recent pandemic. The need to leverage innovation to bridge these issues becomes more and more imperative. One example of such innovation is the use of Unmanned Aerial Vehicles (UAVs) or drones to facilitate the operation of the industry. The use of drones ranges from data collection for yield analysis, the surveying of land and trees for precise terracing, and disease removal, to replacing labour in pest control and fertilising. The skills needed to utilise these tools are therefore, crucial for the adoption of the technology and become the basis of the Skills Framework.

With that, the content of this publication is expected to be continually updated with new skills and competencies, not to mention new job roles for every sector of the industry. Therefore, it is essential that the oil palm industry players and interested parties who use this material not only give constructive feedback on the material but also become future contributors of content and hopefully volunteer and participate in any industry skills framework workshops organised by HRD Corp.

Also, a special appreciation to the working committee of this publication who, despite working under difficult circumstances, was able to overcome obstacles and managed to maximise their efforts to put together this important document.

And finally, my sincere gratitude to the HRD Corp Management as the key sponsor and organiser who made it possible to create this invaluable material for the industry. Syabas.

Thank you.

GUIDELINES

- This document serves as a **GUIDE** for individuals, employers and training providers on knowledge, experiences and skills mastery in the Agriculture Industry Oil Palm Plantation
- The job matrix serves as a **REFERENCE** for career progression within the industry
- The Industrial Skills Framework for the Agriculture Industry Oil Palm Plantation will **FOCUS ON** Level 4 of the Malaysian Skill Certification (or its equivalent) and above
- This document focuses on JOB DESCRIPTIONS, SKILLS AND TRAINING NEEDED in the Agriculture Industry Oil Palm Plantation
- It is a **COMPLEMENTARY DOCUMENT** to existing references developed by the National Occupational Skills Standard (NOSS) and Malaysian Qualifications Framework (MQF)
- 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 HRD CORP - IndSF

INDUSTRIAL SKILLS FRAMEWORK

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

HUMAN RESOURCE DEVELOPMENT CORPORATION (HRD CORP)

- It acts as an **ADVISORY TO EMPLOYERS** in identifying suitable training programmes that meet the emerging needs of their business while bringing a positive impact to the industry.
- It drives measurable effects to the business and ensures the highest value and returns on training investment for the employers and employees based on the changing needs of the future work environment.

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)



LEVEL 4

MALAYSIAN

SKILL

CERTIFICATION

or its equivalent and above



Developed together with the industry and benchmarked against successful

FRAMEWORK MODEL(S)

HRD CORP - IndSF ASPIRATION

MORE
INDUSTRYRELEVANT
training
content

BETTER TRAINING OUTCOMES

through a collaborative approach

GREATER
UTILISATION
of levy

FOR INDUSTRY:

To identify the emerging requirements in the industry in order to equip the existing workforce with the right knowledge and skills and find suitable interventions to bridge the needs by leveraging on existing resources.



1917

The first commercial planting of oil palm took place in Tennamaran Estate in Selangor 1875

The British introduced the oil palm to Malaya as an ornamental palm

Early 1960s

The cultivation of oil palm increased at fast pace under the government's agricultural diversification programme



The oil palm (Elaeisguineensis) originates from West Africa; where it is found growing in the wild in the tropical rainforest of the region.

In Malaysia, the oil palm species commonly planted is tenera, a hybrid between dura and pisifera species. Tenera is chosen because it gives a good ratio of palm oil and palm kernel oil yields.

"Malaysia is the second largest producer and exporter of palm oil in the world, accounting for 25.8% and 34.3% of the world's production and export, respectively"



Source: www.mpoc.org.my

DRONE TECHNOLOGY in
OIL PALM PLANTATION

In Malaysia

Malaysia will be able to take full advantage of the use of drone technology in the palm oil sector within the next three years, said the Minister of Plantation Industries and Commodities.

The Mechanisation and Automation Research Consortium of Oil Palm (MARCOP) was also established recently to enhance research and development activities on oil palm plantation automation with an emphasis on applications such as drones, robots and sensors for integrated and systematic operations.

A total of RM60 million has been allocated for research and development activities.

Source: www.asia-palmoil.com

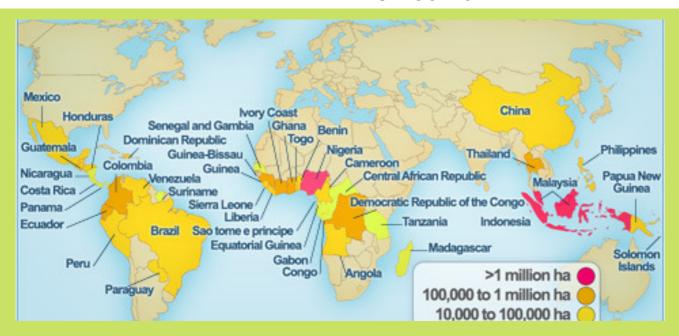
Drone Usage for Oil Palm Plantation

- · Detect infected trees
- Treat specific trees by spraying at targeted trees only
- Precise terracing to calculate accurately the volume and estimate tree height
- Spray pesticides in shorter periods
- Monitor yields
- Weed detection
- Soil analysis
- Irrigation Thermal sensors could identify parts of a field that received too much or too little water

Source: www.droneacademy-asia.com

Oil Palm is Cultivated in 43 Countries Worldwide

Since 2012



Palm fruit oil is consumed worldwide in more than 100 countries. In some parts of the world, palm fruit oil is often still consumed in its unrefined state, as well as an ingredient of traditional dishes, where it contributes its characteristic golden red colour and unique flavour.



Food and
Consumer Goods
Applications

90%



Non-Food Applications 10%

source: www.mpoc.org.my

TRAINING SCENARIO IN THE AGRICULTURE INDUSTRY



AS ONE OF THE SUB-SECTORS UNDER THE PSMB ACT,
THE AGRICULTURE INDUSTRY COMPRISES



NO. OF EMPLOYEES





1,836
AS OF DEC 2021

NO. OF REGISTERED



LEVY COLLECTED AND LEVY CLAIMED FROM JAN – DEC 2021



Levy Collected

RM218,170

Levy Claimed

RM81,412



LEVY UTILISATION RATE & TRAINEES TRAINED FROM JAN – DEC 2021

37%



% OF PROFESSIONAL TRAININGS ATTENDED IN 2021 6.4%

Source: HRD Corp Internal Data, Year 2021



- - Monitoring and Evaluation
 - Audit or Tax
 - Safety and Health

Tech-Savvy

Creativity

> 2021

- Education or Training
- Management or Strategic Management
- Safety and Health
- Administrative or Clerical
- Audit or Tax

(Source: HRD Corp Internal Data, Year 2021)

MOVING FORWARD

Take the **next step forward** to be a part of the Agriculture - Oil Palm Industry by leveraging the following Skills Framework.

EMPLOYERS

- Refer to the Skills
 Framework to find out
 about employees'
 skills standards.
- Identify relevant or required training courses and succession plans for the employees based on occupation.
- Plan employees' training sessions for their career advancement.

CURRENT EMPLOYEES

- Refer to the Skills
 Framework to find out
 how to chart their
 career.
- Identify skill gaps in the current job role to upskill or reskill.
- Plan their career progression.

FUTURE TALENTS

- Refer to the Skills
 Framework to find out
 about careers in the
 sector.
- Identify job
 opportunities in the
 sector along with career
 pathway attributes
 based on the
 occupation.
- Understand the skills required to perform the job and identify relevant training for professional self-development.

Identify Relevant Training Courses

Training Courses

EMBARKING ON A CAREER

 Courses that equip future talents with relevant knowledge.

LIFELONG LEARNING TO FULFILL EXISTING AND EMERGING DEMANDS OF THE INDUSTRY

 Courses that will upskill or reskill current employees.



LEVEL DESCRIPTORS

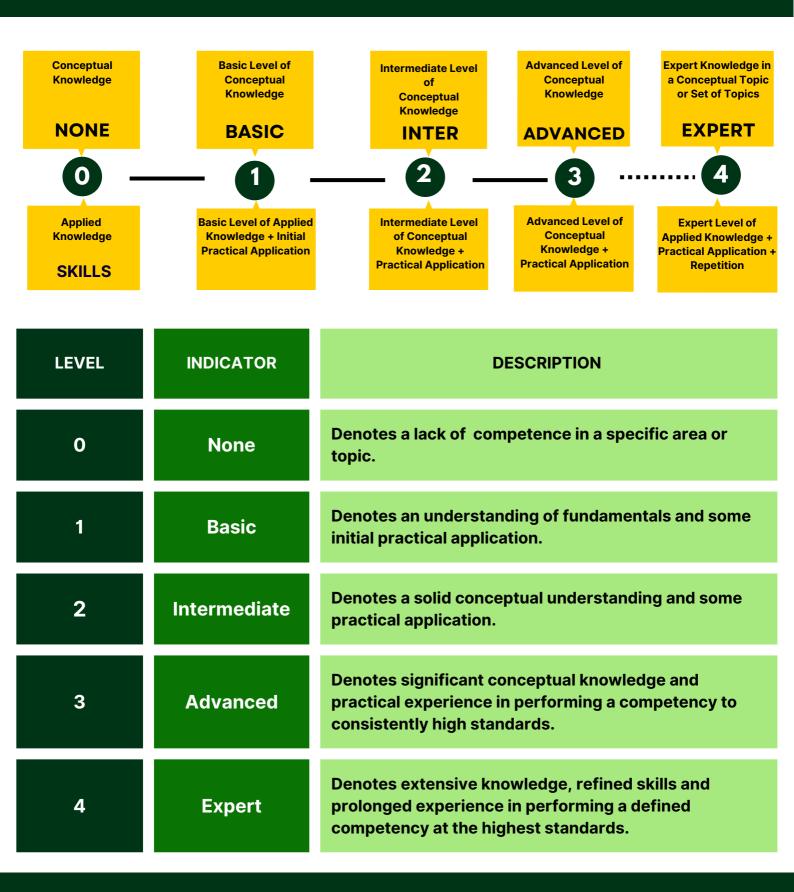
MALAYSIAN OCCUPATIONAL SKILLS QUALIFICATION FRAMEWORK (MOSQF)

NO. DESCRIPTION

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

Source: Occupational Framework (OF), 2017

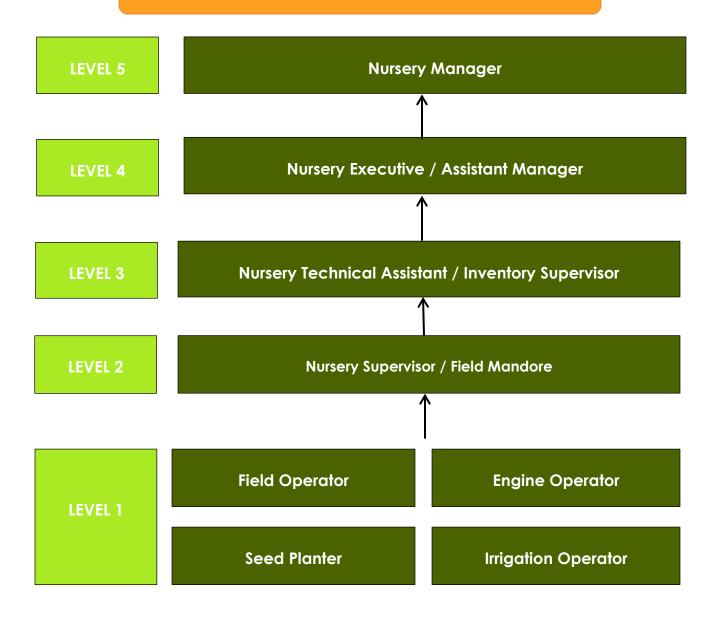
REQUIRED COMPETENCY LEVEL (RCL)





OIL PALM PLANTATION: NURSERY

CAREER PATHWAY: NURSERY



Focus Area : Nursery

Job Title : Field Operator Level: 1

Job Description

Responsibilities may include:

- 1. To perform general tasks such as:
- Nursery field upkeep including pest and disease control
- General weeding and herbicidal spraying
- Bag filling, arrangement, lining, topping up, weeding
- Mulching
- Application of fertilisers
- Loading and unloading seedlings

	Soft Skills	Competency Level	Recommended Training
1.	Communication and teamwork	1	Effective communicationTeam building
2.	Adaptability	1	Agility and adaptability
3.	Interpersonal skills	1	Interpersonal skill
4.	Good attitude	1	 Power of positive training and attitude
5.	Customer service focus	1	Customer service and support
	Technical Skills	Competency Level	Recommended Training
1.	Nursery technical guideline	2	 Standard operation procedure of nurseries
2.	Handling of nursery equipment (e.g. spraying conventional and battery-operated pump, conveyer, ATV)	2	Equipment usage and maintenance
3.	Nursery set-up	2	 Introductory course on nursery operation
4.	Safety and health	2	Personal protection equipment

Focus Area : Nu	rsery	rsery
-----------------	-------	-------

Job Title : Engine Operator Level: 1

Job Description

Responsibilities may include:

- 1. To operate the followings:
- Water pump
- Diesel engine

quality

- Electrical motor
- Related equipment for the nursery's pumping needs
- 2. To perform basic maintenance of the water pump and/or electrical motor.

	Soft Skills	Competency Level	Recommended Training	
1.	Problem-solving	1	Team building	
2.	Time management	2	Time management	
3.	Organising and planning	1	Self-management	
4.	Critical thinking	1	Creative and critical thinking	
5.	Accuracy and attention to detail	1	Improve attention to detail	
6.	Communication and	1	Team building	
	teamwork		Effective communication	
	Technical Skills	Competency Level	Recommended Training	
1.	Engine and water pump operation (e.g., diesel engine, water pump, electric motor)	3	 Operating diesel engine and electrical motor Operating diesel fuel system rectification work Operating vehicle electrical and electronic system 	
2.	Monitor water catchment and water	2	 Water quality and catchment management 	

3. Carry out minor	3	Basic maintenance of pumps
maintenance work of		and related filtration system
pumps and filtration		
equipment		

Focus Area : Nursery

Job Title : Seed / Seedling Planter Level: 1

Job Description

Responsibilities may include:

- 1. To plant germinated seeds/ramets as and when required.
- 2. To perform separation of doubletons as required.
- 3. To pack 3-month-old seedlings for commercial sales or planting.
- 4. To carry out transplanting works as required.
- 5. To perform culling and selection of seedlings.

Soft Skills	Competency Level	Recommended Training
1. Problem-solving	1	Team building
2. Time management	1	Time management
3. Organising and planning	1	Self-management
Accuracy and attention to detail	1	Improve attention to detail
5. Accountability	1	Self-management
Technical Skills	Competency Level	Recommended Training
Identify the plumule and radicle of the germinated seed	3	 Operation and maintenance of palm oil nursery
Monitor planting progress	2	 Operation and maintenance of palm oil nursery
3. Identify seed quality before sowing	3	 Operation and maintenance of palm oil nursery
4. Select and cull seedlings	2	In-house culling training

Focus Area : Nursery

Job Title : Irrigation Operator Level: 1

Job Description

- 1. To operate irrigation equipment.
- 2. To adjust and repair the irrigation system.
- 3. To execute scheduled maintenance of irrigation equipment.
- 4. To identify basic problems and carry out repairs.

	, , , , ,			
	Soft Skills	Competency Level	Recommended Training	
1.	Problem-solving	1	Team building	
2.	Time management	1	Time management	
3.	Organising and planning	1	Self-management	
4.	Accuracy and attention to detail	1	Improve attention to detail	
5.	Accountability	1	Self-management	
	Technical Skills	Competency Level	Recommended Training	
1.	Use and maintain effective irrigation system equipment	3	 Maintenance of oil palm nursery equipment 	

Focus Area : Nursery

Job Title : Nursery Supervisor / Field Mandor Level: 2

Job Description

- 1. To coordinate with technical assistants on work plans and programme schedules.
- 2. To assign teams based on job specifics and designation.
- 3. To refer to the technical assistants on problems, requisitions, equipment, materials, and approved work schedules.
- 4. To supervise daily planting works, manuring applications and spraying works.
- 5. To communicate and prepare progress reports, work records and documentation on time.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	2	Team building
2.	Time management	3	Time management
3.	Organising and planning	2	Self-management
4.	Leadership and labour management	2	 Oil palm nursery supervision training
5.	Accountability	2	Self-management

	Technical Skills	Competency Level	Recommended Training
1.	Knowledge of engines	1	Basic engine operation
2.	Knowledge of irrigations	2	 Maintenance of oil palm nursery equipment
3.	Knowledge of agriculture science	2	In-house agriculture
4.	Nursery management	3	 *Kursus Pengurusan dan Penyelenggaraan Nurseri Sawit (Institut Perladangan dan Komoditi Malaysia)

^{*}Certification programme

Focus Area	: Nursery	
Job Title : Nursery Technical Assistant / Inventory Supervisor		Level: 3

- 1. To record nursery inventory.
- 2. To record certified incoming and outgoing seedlings.
- 3. To carry out culling and selection of seedlings.
- 4. To regulate sales and purchase of seedlings.
- 5. To coordinate with the executives on matters about the nursery.
- 6. To comply with the company's Standard Operating Procedures (SOP) and regulatory bodies.
- 7. To regulate and monitor the team.
- 8. To ensure the security, safety and health of employees during nursery operations.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	2	Problem-solving
2.	Time management	3	Effective time management
3.	Organising and planning	2	 Successful planning, organising and delegating training
4.	Accuracy and attention to detail	2	Improve attention to detail
5.	Communication and teamwork	2	Effective communication and team building
6.	Adaptability	3	Agility and adaptability
7.	Critical thinking	2	Creative and critical thinking
8.	Effective reporting	2	Report writing

	Technical Skills	Competency Level	Recommended Training
1.	Manage, troubleshoot and maintain oil palm nursery	2	 *Management and Maintenance of Palm Oil Nursery Diploma in Agriculture / Plantation / Planting Industry and Management
2.	Microsoft Office	2	 Basic Microsoft Office (Word, Excel, PowerPoint)
3.	Select and cull seedlings	3	 *Kursus Pengurusan dan Penyelenggaraan Nurseri Sawit (Institut Perladangan dan Komoditi Malaysia)

^{*}Certification programme

Focus Area : Nursery

Job Title : Nursery Executive / Assistant Manager Level: 4

Job Description

- 1. To plan, monitor and manage the nursery.
- 2. To ensure accountability and viability of planted seedlings.
- 3. To monitor and effectively control the nursery budget.
- 4. To perform daily supervision and management of the nursery.
- 5. To produce reports and necessary accounting needs of the nursery.
- 6. To manage asset and operational security.
- 7. To liaise with customers and present available planting materials.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	3	Problem-solving
2.	Time management	3	Effective time management
3.	Organising and planning	4	 Successful planning, organising and delegating training
4.	Accuracy and attention to detail	3	Improve attention to detail
5.	Communication and teamwork	3	Effective communication and team building
6.	Adaptability	4	Agility and adaptability
7.	Critical thinking	3	Creative and critical thinking
8.	Effective reporting	4	Report writing
	Technical Skills	Competency Level	Recommended Training
1.	Competent in nursery management	3	 *Degree in Agriculture / Horticulture / Plantation / Forestry *Code of Good Nursery Practice for Oil Palm Nurseries (CoPN) by Institute of Plantations and

			 Commodities Malaysia (IMPAC) *Intensive Diploma in Oil Palm Management and Technology (IDOPMT) by MPOB
2.	Presentation skills	3	Presentation course
3.	Microsoft Office	3	 Intermediate Microsoft Office (Word, Excel, PowerPoint)
4.	Able to select and cull seedlings	3	 *Kursus Pengurusan dan Penyelenggaraan Nurseri Sawit (Institut Perladangan dan Komoditi Malaysia)

^{*}Certification programme

Focus Area :	Nursery	y
--------------	---------	---

Job Title : Nursery Manager Level: 5

Job Description

- 1. To plan, schedule, monitor and manage nurseries.
- 2. To hold the accountability of assets and viability of planted seedlings.
- 3. To control, supervise and manage the nursery budget effectively.
- 4. To analyse and validate all reports and accounts of the nurseries.
- 5. To handle the procurement of inputs for the nurseries.
- 6. To ensure compliance with occupational safety and health practices at the workplace.
- 7. To manage asset and operational security.
- 8. To liaise with customers and present available planting materials.

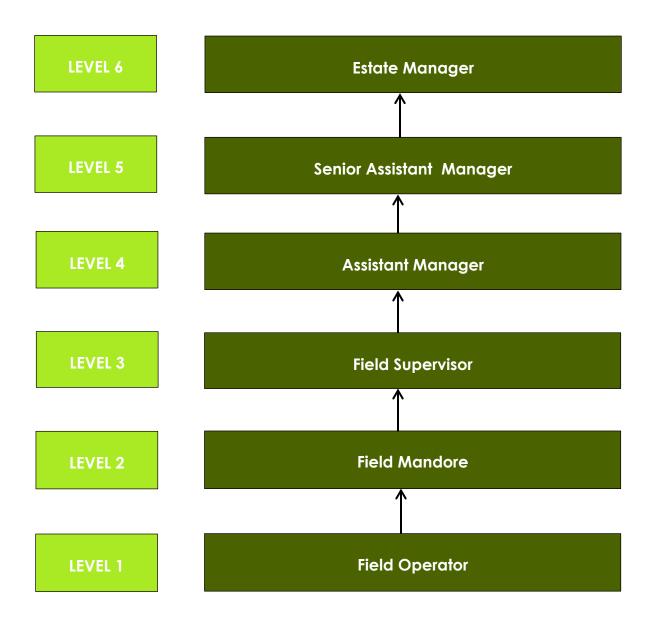
Soft Skills	Competency Level	Recommended Training
1. Problem-solving	4	Problem-solving
2. Time management	4	Effective time management
Organising and planning	4	 Successful planning, organising and delegating
4. Accuracy and attention to detail	4	Build your attention to detail
5. Communication and teamwork	4	Effective communication and team building
6. Adaptability	4	Agility and adaptability
7. Critical thinking	4	Creative and critical thinking
8. Effective reporting	4	Report writing
9. Teamwork and leadership	4	Leadership skills for a manager

Technical Skills	Competency Level	Recommended Training
Competent in nursery management and practices	4	 *Degree in Agriculture / Horticulture / Plantation / Forestry with a minimum of 5 years' experience in oil palm nursery management *Code of Good Nursery Practice for Oil Palm Nursery (CoPN) by IMPAC *Intensive Diploma in Oil Palm Management and Technology (IDOPMT) certificate by MPOB *Diploma in Occupational Safety and Health (OSH)
2. Microsoft Office	3	 Microsoft Office (Word, Excel, PowerPoint)
3. Able to identify good seedlings	4	 *Kursus Pengurusan dan Penyelenggaraan Nurseri Sawit (Institut Perladangan dan Komoditi Malaysia)

^{*}Certification programme

OIL PALM PLANTATION – FIELD UPKEEP AND MAINTENANCE

CAREER PATHWAY: FIELD UPKEEP & MAINTENANCE



Focus Area : Field Upkeep and Maintenance

Job Title : Field Operator Level: 1

Job Description

- 1. To perform, carry out and execute programmes related to weeding, manuring, pest and disease control, sanitation and pruning of oil palms.
- 2. To perform, carry out and execute estate infrastructure.
- 3. To perform and carry out oil palm census / supply
- 4. To carry out maintenance of the water management system.
- 5. To carry out boundary/riparian maintenance.
- 6. To carry out soil conservation practices.
- 7. To carry out maintenance for nursery paths.

Soft Skills	Competency	Recommended Training
	Level	
1. Time management	1	Effective time management
Communication and teamwork	1	Effective team communication
Good attitude and discipline	1	Attitude and work ethic
 Understanding sustainable palm oil requirement 	1	 Basic palm oil sustainability requirement
5. Understanding Health Safety and Environment (HSE)	1	 Health, Safety and Environment (HSE) awareness training
Technical Skills	Competency	Recommended Training
	Level	
Working operation and handling (manual and mechanical equipment)	1	 Operational training of manual and mechanical equipment i. Weeding ii. Manuring iii. Pest and disease iv. Sanitation v. Pruning and raking vi. Census vii. Water management

2.	Machine operating skills	3	 Machine operation competency training License for driving a car and/or heavy machinery or any competency training (depends on types of heavy machinery) Heavy machinery e.g.: Grader, excavator, bulldozer
3.	Agricultural machinery and equipment operating skills (lower)	2	Basic machine utilisation training i. Type of machines: Rotor slasher, back pusher, fertiliser spreader, weeding machine, CDA, boom spray, mist blower, power pump ii. Type of tools: Sickle, census devices, automated bagworm counter

Focus Area	: Field U	pkeep and	Maintenance

Job Title : Field Mandore Level: 2

Job Description

- 1. To prepare, check and record weeding, manuring, pest and disease control, sanitation and pruning on oil palm.
- 2. To prepare, check and record infrastructure maintenance including road, bridge, electrical, housing and mechanical equipment management.
- 3. To prepare, check and record oil palm census and supply.
- 4. To check and record the inspection of the water management system in practice.
- 5. To check and record the inspection of boundary/Riparian maintenance
- 6. To check and record the soil conservation system in practice.
- 7. To check and record path maintenance.
- 8. To check and record safety and health compliance practices.

Soft Skills	Competency Level	Recommended Training
1. Time management	2	Effective time management
Writing, communication and teamwork	2	 Effective team communication Effective written communication Team building Report writing
3. Good attitude and discipline	2	Attitude and work ethics
4. Leadership	2	 Leadership and management training
Understanding the palm oil sustainability requirement	2	 Basic palm oil sustainability awareness training
6. Understanding Health Safety and Environment (HSE)	2	 Health Safety and Environment (HSE) awareness training
Technical Skills	Competency Level	Recommended Training
Working operation and basic agricultural	2	Operation refreshment and enrichment training (manual)

	equipment operation management		and basic machine handling) i. Weeding ii. Manuring iii. Pest and disease iv. Sanitation v. Pruning vi. Census
2.	Heavy machinery supervisory skills	1	 Basic knowledge of tools and heavy machinery operation Heavy machinery training (e.g.: grader, excavator, bulldozer)
3.	Agricultural operating skills (lower)	2	Basic knowledge of tools and agricultural implements operating training i. Type of agricultural equipment: Rotor slasher, back pusher, fertiliser spreader, machine for weeding, CDA, boom spray, mist blower, power pump ii. Type of tools: Sickle, census devices, automated bagworm counter

Focus Area	: Field U	pkeep and	d Maintenance

Job Title : Field Supervisor Level: 3

Job Description

Responsibilities may include:

- 1. To monitor, train, plan, control, verify, and ensure weeding, manuring, pest and disease control, sanitation, and pruning activity on oil palm plantation are as scheduled.
- 2. To monitor, train, plan, control, verify, and ensure infrastructure (e.g., road, bridge, electrical, housing, mechanical equipment) maintenance is as required or scheduled.
- 3. To monitor, train, plan, control, verify and ensure the oil palm census activity and supply is as scheduled.
- 4. To monitor the machines used to perform field maintenance activities.
- 5. To monitor, train, plan and verify the inspection of the water management system where applicable.
- 6. To monitor, train, plan and verify the inspection of Boundary/Riparian maintenance as scheduled.
- 7. To monitor, train, plan and verify soil conservation practices.
- 8. To monitor, train, plan and verify path maintenance as scheduled.
- 9. To monitor, train, plan and verify safety and health compliance practices.

Prerequisite: Certificate from Institut Pertanian Malaysia or qualifications equivalent to Kolej Komuniti.

Soft Skills	Competency Level	Recommended Training
1. Time management	3	Effective time management
Writing, communication and teamwork	3	Effective team communicationEffective written communicationTeam building
3. Good attitude and discipline	2	Attitude and work ethics
4. Leadership	2	 Leadership and supervision
5. Adaptability	3	training
6. Managerial skills	2	
7. Project management	2	
8. Good reporting skills	2	

9. Good coordination	3	
10. Understanding palm oil sustainability	2	 Palm oil sustainability awareness training
Technical Skills	Competency Level	Recommended Training
Working operation and basic machine operation management	3	 Operation refreshment and enrichment training (manual and basic machine handling) i. Weeding ii. Manuring iii. Pest and disease iv. Sanitation v. Pruning vi. Census
Heavy machinery supervisory skills (including grader, excavator, bulldozer)	2	 Knowledge of tool and machine operating training for heavy machinery (e.g., grader, excavator, bulldozer)
2. Agriculture implements and tools supervisory skills (lower)	2	 Knowledge of basic agriculture implements and tools operating training i. Type of machine: Rotor slasher, back pusher, fertiliser spreader, machine for weeding, CDA, boom spray, mist blower, power pump ii. Type of tools: Sickle, census devices, automated bagworm counter

Focus Area : Field Upkeep and Maintenance

Job Title : Assistant Manager Level: 4

Job Description

- To prepare annual work programmes and ensure the estate operations run smoothly based on the policies, SOPs and desired targets of the respective company.
- 2. To assist the estate manager in managing oil palm plantation operations, replanting and estate administration.
- 3. To assist in the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 4. To manage and be responsible towards the welfare and wellbeing of staff and field workers.
- 5. To analyse and monitor the progress record prepared by the supervisor and prepare daily operational reports to estate managers.
- 6. To plan and provide training needs related to field operations.
- 7. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 8. To ensure compliance of internal and external regulations and procedures.

Soft Skills	Competency Level	Recommended Training
1. Problem-solving	3	Problem-solving course
2. Communication skills	3	 Communications
3. Engagement skills	3	 Stakeholder engagement course
4. Leadership	3	 Leadership
5. Teamwork	3	Team building
6. Accuracy and attention to detail	3	Improve attention to detail
7. Good customer relationship	3	Customer engagement course

8. Understanding Safety, Health and Environment (SHE)	3	 Safety, Health and Environment (SHE) Knowledge course
9. Stress management	3	Stress management course
10. Business acumen	3	 Business acumen course Accounting and budgeting Cost analysis Personal development
Technical Skills	Competency Level	Recommended Training
Good estate management skills	3	Plantation management course
2. Good reporting skills	3	Report writing
3. Microsoft Office	3	 Microsoft Office (Word, Excel and PowerPoint)
4. Basic Global Navigation Satellite System (GNSS) software application	2	 Geographical Information System (GIS) course
5. Knowledge of agriculture	3	*Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture with a minimum of 5 years' experience in a related discipline) or Licentiate Incorporation Society of Planters (LISP) certification or equivalent
6. Business acumen- Accounting and budgeting- Cost analysis	3	Business acumen courseAccounting and budgetingCost analysis
7. Resources management	3	Resources management course

^{*}Certification programme

Focus Area	: Field U	pkeep and	d Maintenance

Job Title : Senior Assistant Manager Level: 5

Job Description

- To prepare annual work programmes and ensure the estate operations run smoothly based on the policies, SOPs and desired target of the respective company.
- 2. To assist the Estate Manager in managing oil palm plantation operations, replanting and estate administration.
- 3. To assist in the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 4. To manage and be responsible towards the welfare and wellbeing of the staffs and field workers.
- 5. To analyse and monitor the progress records prepared by the supervisor and prepare daily operational reports to estate managers.
- 6. To plan and provide training needs related to field operations.
- 7. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 8. To ensure compliance with internal and external regulations and procedures.

Soft Skills	Competency Level	Recommended Training
1. Problem-solving	4	Problem-solving course
2. Communication skills	4	Communications course
3. Engagement skills	4	 Stakeholder engagement course
4. Leadership	4	 Leadership
5. Teamwork	4	Teambuilding
6. Accuracy and attention to detail	4	Improve attention to detail
7. Good customer relationship	4	Customer engagement course

8. Understanding Safety, Health and Environment (SHE)	3	 Safety, Health and Environment (SHE) course
9. Stress management	4	Stress management course
10. Risk management	3	Business continuity management
11. Business acumen	4	Business acumen coursePersonal development training
Technical Skills	Competency Level	Recommended Training
Good in estate management	4	 Plantation management courses and seminars
2. Good reporting skills	4	Report writing
3. Microsoft Office	3	 Advanced Microsoft (Word, Excel and PowerPoint)
4. Basic GNSS software application	2	 Geographical Information System (GIS) course
5. Knowledge of agriculture	4	*Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture with a minimum of 5 years' experience in a related discipline) or Licentiate Incorporation Society of Planters (LISP) certification or equivalent Accounting and budgeting
Accounting, budgeting and cost analysis	4	Accounting and budgetingCost analysisPersonal development training
7. Resource management	4	Resources management course

^{*}Certification programme

Focus Area : Field Upkeep and Maintenance

Job Title : Estate Manager Level: 6

Job Description

- 1. To be responsible for the performance of the estate.
- 2. To ensure the preparation and endorsement of annual work programmes.
- 3. To ensure the smoothness of estate operations based on the policies, SOPs and desired targets of the respective company.
- 4. To manage oil palm plantation operations, replanting and estate administration.
- 5. To ensure the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 6. To manage and be responsible for the welfare and wellbeing of the staff members and workers of the estate.
- 7. To analyse, review and monitor all records and reports prepared by staff and assistants for decision making.
- 8. To plan and coordinate training related to field operation needs.
- 9. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 10. To ensure compliance with governmental regulations and regulatory procedures.
- 11. To train the subordinates.

Soft Skills	Competency Level	Recommended Training
1. Problem-solving	4	Problem-solving course
2. Communication skills	4	Communications course
3. Engagement skills	4	Stakeholder engagement course
4. Leadership	4	 Leadership
5. Teamwork	4	Teambuilding
Accuracy and attention to detail	4	Improve attention to detail
7. Good customer relationship	4	Customer engagement course

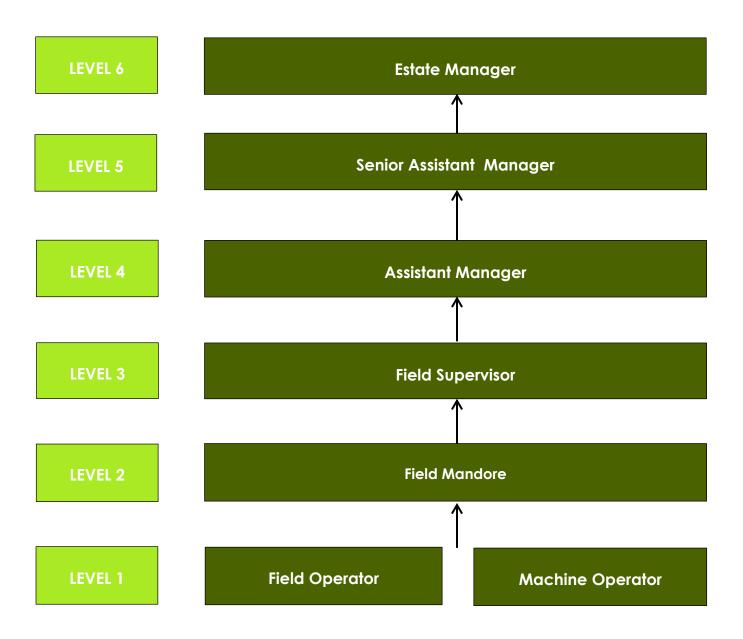
8. Understanding Safety, Health and Environment (SHE)	4	 Safety, Health and Environment (SHE) courses
9. Stress management	4	Stress management course
10. Business acumen	4	Business acumen coursePersonal development training
11. Risk management	4	Business continuity management
12. Laws and regulations	4	 Labour laws and practices Sustainability training Good ethics Anti-bribery course Integrity
13. Critical thinking	4	Critical thinking course
14. Creativity	4	Creative thinking training
15. Good decision making	4	 Calculative decision-making training
Technical Skills	Competency Level	Recommended Training
1. Good in estate management		 Recommended Training Plantation management courses and seminars
1. Good in estate	Level	Plantation management courses
Good in estate management	Level 4	Plantation management courses and seminars
Good in estate management Good reporting skills	Level 4	 Plantation management courses and seminars Report writing and reading Microsoft Office (Word, Excel and

Accounting, budgeting and cost analysis	4	Accounting and budgetingCost analysis
7. Resource management	4	Resources management course

^{*}Certification programme

OIL PALM PLANTATION – REPLANTING

CAREER PATHWAY: REPLANTING



Focus Area : Replanting

Job Title : Field operator Level: 1

Job Description

- 1. To perform non-machinery works (e.g., pre-lining, lining, palm planting, legume planting, pest and disease activities, etc.)
- 2. To comply with quality, specification and timeframe of operations.

	Soft Skills	Competency Level	Recommended Training
1.	Communications and teamwork	1	Basic communications course (language)
2.	Time management	1	Effective time management course
3.	Understanding Safety, Health and Environment (SHE)	1	 Awareness of Safety, Health and Environment (SHE)
4.	Good attitude	1	Behavioural course
	Technical Skills	Competency	Recommended Training
	Technical Skills	Competency Level	Recommended Training
1.	Technical Skills Field technical skills		Recommended Training • Field technical training
1. 2.		Level	
	Field technical skills	Level 2	Field technical training
2.	Field technical skills Replanting lining skills Seedling handling and	Level 2 2	 Field technical training Replanting and lining course
2. 3.	Field technical skills Replanting lining skills Seedling handling and planting skills	Level 2 2 2	 Field technical training Replanting and lining course Oil palm planting course

_		_	
Focus A	\rea	· Par	olanting
I OCUS A	マロ	. 1/5	<u>Jiai iiii ig</u>

Job Title	: Machine operator	Level: 1
-----------	--------------------	----------

Responsibilities may include:

- 1. To operate machines that are required in the replanting process (e.g., felling, chipping / road, terrace constructions, etc).
- 2. To comply with the quality, specification and timeframe of the jobs stated above.

Pre-requisite: License for heavy machine (Class G, H and I) operation and handling from Road Transport Department Malaysia (JPJ).

Soft Skills	Competency Level	Recommended Training
Communications and teamwork	1	Effective communication and interpersonal skills
2. Good attitude	1	Behavioural course
 Understanding Safety, Health and Environment (SHE) 	1	 Safety, Health and Environment (SHE) knowledge
Technical Skills	Competency Level	Recommended Training
Handling heavy machines and operations (Class G, H and I)	n/a	 License for heavy machine (Class G, H and I) operation and handling (JPJ)
2. Machine operations competency	3	*Machine operating competency certification
3. Felling and chipping skills	3	Felling and chip course
4. Road construction skills	3	Road construction course
5. Terrace construction skills	3	Terrace construction course
6. Drain construction skills	3	Drain construction course

^{*}Certification programme

Focus Area : Replanting

Job Title : Field Mandore Level: 2

Job Description

Responsibilities may include:

- 1. Monitor all tasks performed by field and machine operators to achieve the right specification, plan and productivity.
- 2. Collect and record data on replanting progress.
- 3. Plan daily work activities.

Pre-requisite: Sijil Pelajaran Malaysia (SPM)

	Soft Skills	Competency Level	Recommended Training
1.	Communications and teamwork	2	Effective communication
2.	Self-esteem	2	Team building
3.	Leadership	2	Leadership skill
4.	Integrity	2	Team building
5.	Understanding Safety, Health and Environment (SHE)	2	 Awareness of Safety, Health and Environment (SHE)
	Technical Skills	Competency Level	Recommended Training
1.	Field technical operation skills	3	 Field technical operation training
2.	Basic skills in Global Positioning System (GPS)	1	GPS training

Focus Area : Replanting

Job Title : Field Supervisor Level: 3

Job Description

- 1. To supervise the progress of replanting activities.
- 2. To check the mandore's daily preparation and progress.
- 3. To train the mandore with technical knowledge.
- 4. To plan weekly and monthly tasks based on productivity, tools, area and manpower.
- 5. To prepare a daily work record.
- 6. To seek and act constructively upon feedback about work performances.

	Soft Skills	Competency Level	Recommended Training
1.	Communications	2	Effective communication
2.	Self-esteem	3	Team building
3.	Leadership	2	 Leadership skill
4.	Integrity	3	Team building
5.	Teamwork	3	Team building
6.	Understanding Safety, Health and Environment (SHE)	2	 Safety, Health and Environment (SHE) knowledge
	Technical Skills	Competency Level	Recommended Training
1.	Basic Microsoft Office	2	 Microsoft Office course (Word and Excel)
2.	Basic knowledge of Global Positioning System (GPS)	2	GPS training
3.	Field technical knowledge	2	 Field technical operation training
4.	Basic plantation management	2	 *Certificate in basic plantation management

5. Knowledge of agriculture	3	 *Diploma in Agriculture / Plantation Management or 5 years' experience in a related field
6. Identify good planting material	3	 *Kursus Tapak Semaian (MPOB) (in-house or internal course)

^{*}Certification programme

Focus Area : Re

Job Title : Assistant Manager	Level: 4
-------------------------------	----------

- To prepare annual work programmes and ensure the estate operations run smoothly based on the policies, SOPs and desired targets of the respective company.
- 2. To assist estate managers in managing oil palm plantation operations, replanting and estate administration.
- 3. To assist in the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 4. To manage and be responsible towards the welfare and wellbeing of the staffs and field workers.
- 5. To analyse and monitor the progress records prepared by the supervisor and prepare daily operational reports to estate managers.
- 6. To plan and provide training needs related to field operations.
- 7. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 8. To ensure compliance with governmental regulations and procedures.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	4	Problem-solving course
2.	Communication skills	4	Communications course
3.	Engagement skills	4	 Stakeholder engagement course
4.	Leadership	4	 Leadership
5.	Teamwork	4	Team building
6.	Accuracy and attention to detail	4	Improve attention to detail
7.	Good customer relationship	4	Customer engagement course

8. Understanding Safety, Health and Environment (SHE)	4	 Safety, Health and Environment (SHE) knowledge awareness training
9. Stress management	4	Stress management course
 10. Business acumen - Accounting and budgeting - Cost analysis - Personal development 	4	 Business acumen courses Accounting and budgeting Cost analysis Personal development
Technical Skills	Competency Level	Recommended Training
Good in estate management	3	Plantation management course
2. Good reporting skills	3	Report writing
3. Presentation skills	3	 Presentation skills
4. Microsoft Office	3	 Microsoft Office (Word, Excel and PowerPoint)
5. Basic GNSS software application	2	 Geographical Information System (GIS) course
6. Knowledge of agriculture	3	*Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture with a minimum of 5 years' experience in a related discipline) or Licentiate Incorporation Society of Planters (LISP) certification or equivalent
7. Business acumen- Accounting and budgeting- Cost analysis	3	Business acumen courseAccounting and budgetingCost analysis

^{*}Certification programme

Focus Area	: Replanting
10003 Alcu	. Kepiaiiiiig

Job Title	: Senior Assistant Manager	Level: 5
-----------	----------------------------	----------

- To prepare an annual work programme and ensure the estate operations run smoothly based on the policies, SOPs, and desired targets of the respective company.
- 2. To assist the estate manager in managing oil palm plantation operations, replanting and estate administration.
- 3. To assist in the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 4. To manage and be responsible towards the welfare and wellbeing of the staffs and field workers.
- 5. To analyse and monitor the progress records prepared by the supervisor and prepare daily operational reports to the estate managers.
- 6. To plan and provide training needs related to field operations.
- 7. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 8. To ensure compliance with governmental regulations and procedures.

Soft Skills	Competency Level	Recommended Training
1. Problem-solving	4	Problem-solving course
2. Communication skills	4	Communications course
3. Engagement skills	4	 Stakeholder engagement course
4. Leadership	4	 Leadership
5. Teamwork	4	Teambuilding
6. Accuracy and attention to detail	4	Improve attention to detail
7. Good customer relationship	4	Customer engagement course

8. Understanding Safety, Health and Environment (SHE)	4	 Safety, Health and Environment (SHE) Awareness training
9. Stress management	4	Stress management course
10. Risk management	3	Business continuity management
Technical Skills	Competency Level	Recommended Training
Good in estate management	4	Plantation management course
2. Good reporting skills	4	Report writing
3. Presentation skills	4	 Presentation skills
4. Microsoft Office	3	 Advanced Microsoft (Word, Excel and PowerPoint)
5. Basic GNSS software application	2	 Geographical Information System (GIS) course
6. Knowledge of agriculture	4	*Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture with a minimum of 5 years' experience in a related discipline) or Licentiate Incorporation Society of Planters (LISP) certification or equivalent
7. Business acumen- Accounting and budgeting- Cost analysis	4	 Business acumen course Accounting and budgeting Cost analysis Personal development training

^{*}Certification programme

Focus Area : Re

Job Title	: Estate Manager	Level: 6
-----------	------------------	----------

- 1. To be responsible for the performance of the estate.
- 2. To ensure the preparation and endorsement of the annual work programme.
- 3. To ensure the smoothness of estate operations based on the policies, SOPs and desired targets of the respective company.
- 4. To manage oil palm plantation operations, replanting and estate administration.
- 5. To ensure the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 6. To manage and be responsible for the welfare and wellbeing of the staff and workers of the estate.
- 7. To analyse, review and monitor all records and reports prepared by staff and assistants for decision making.
- 8. To plan and coordinate training related to field operation needs.
- 9. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 10. To ensure compliance with governmental regulations and regulatory procedures.
- 11. To train the subordinates.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	4	Problem-solving course
2.	Communication skills	4	Communications course
3.	Engagement skills	4	Stakeholder engagement course
4.	Leadership	4	 Leadership
5.	Teamwork	4	Team building
6.	Accuracy and attention to detail	4	Improve attention to detail
7.	Good customer relationship	4	Customer engagement course

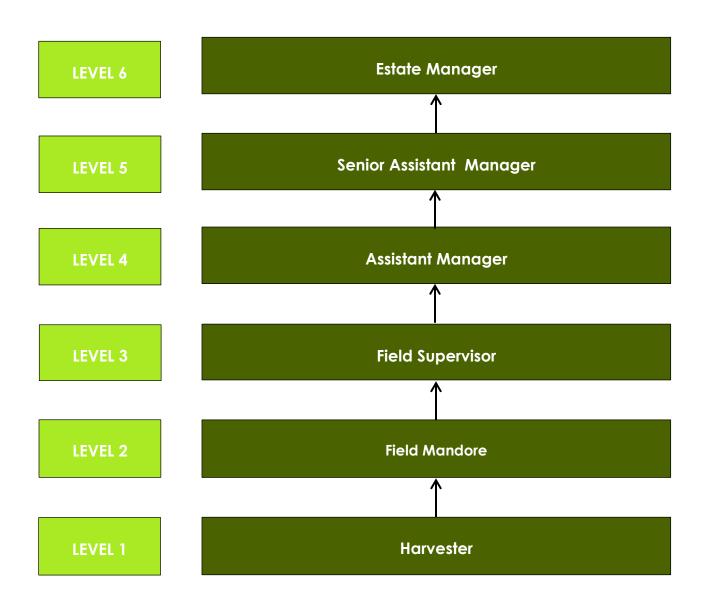
 Understanding Safety, Health and Environment (SHE) 	4	 Safety, Health and Environment (SHE) Awareness training
9. Stress management	4	Stress management course
10. Business acumen	4	Business acumen coursesPersonal development training
11. Risk management	4	Business continuity management
12. Laws and regulations	4	 Labour laws and practices Sustainability training Good ethics Anti-bribery course Integrity
13. Critical thinking	4	Critical thinking course
14. Creativity	4	Creative thinking training
15. Good decision making	4	 Calculative decision-making training
Technical Skills	Competency Level	Recommended Training
1. Good in estate management		Recommended TrainingPlantation management course
Good in estate	Level	
Good in estate management	Level 4	Plantation management course
 Good in estate management Good reporting skills 	Level 4 4	 Plantation management course Report writing and reading
 Good in estate management Good reporting skills Presentation skills 	Level 4 4 4	 Plantation management course Report writing and reading Presentation skills Microsoft Office (Word, Excel and

		certification or equivalent
7. Business acumen- Accounting and budgeting- Cost analysis	4	Business acumen courseAccounting and budgetingCost analysis

^{*}Certification programme

OIL PALM PLANTATION – HARVESTING AND COLLECTION

CAREER PATHWAY: HARVESTING & COLLECTION



Focus Area : Harvesting and Collection

Job Title	: Harvester	Level: 1
-----------	-------------	----------

Job Description

This role may also be known as Cutter and Carrier. To carry out the harvesting of fresh fruit bunches (FFB).

- 1. To conduct harvesting activities as required by the SOPs of the company including:
- To identify and harvest the ripe bunches
- To prune fronds
- To stack fronds
- To collect FFB and loose fruits
- To cut long stalks
- 2. To evacuate all ripe FFB from the palm to the platform or collection point.

Soft Skills	Competency Level	Recommended Training
 1. Communication Usage of appropriate language Able to receive instruction 	2	 Basic language (Malay/English) Listening skills training
Proper time management	1	Time management course
3. Flexibility	1	Agility and adaptability
4. Teamwork	1	Teambuilding
5. Responsibility	1	 Awareness of good work ethics and discipline
Technical Skills	Competency Level	Recommended Training
1. Identify ripe bunches	3	FFB ripeness standard

		multilingual pictorial courseKursus Operator MekanisasiLadang
 2. Use and manage tools Manual tools: Chisel Sickle Machete Loading spike Bunch marker Wheelbarrow Sharpening stone Basket or pongkes Raker Mechanical tools: Mechanical sickle and chisel Motorised wheelbarrow Three-wheeler collecting machine Mini tractor with grabber or scissor lift trailer 	3	 Usage and handling of harvesting tools Kursus Operator Mekanisasi Ladang
 3. Cutting Fruits: Manual and motorised tools Chisel Sickle Frond: Manual and motorised tools 	3	 Scout harvesting Harvesting young palm (using a chisel) Harvesting matured palm (using sickle) Harvesting using a motorised cutter Kursus Operator Mekanisasi Ladang
4. Frond stacking	3	 Frond stacking technique and system

5. FFB evacuationManual (wheelbarrow)Mechanisation	3	 FFB collecting process and quality Handling of collecting machine (e.g., mini tractor, compact transporter, three-wheeler, motorised wheelbarrow) Handling of grabber Kursus Operator Mekanisasi Ladang
 Safety Safety operating procedures Proper usage of PPE (e.g., helmet, goggles, gloves, safety boots, sickle and chisel cover, ear plug) Tools handling 	2	 Safety and health operating procedures for harvesting Kursus Operator Mekanisasi Ladang Hazard and risk of harvesting in the working area

Focus Area : Harvesting and Collection

Job Title : Field Mandore	Level: 2
---------------------------	----------

Job Description

To perform immediate supervision of the harvesters during the harvesting tasks.

- 1. To inspect the tools.
- 2. To arrange and organise daily harvesting tasks.
- 3. To inspect the harvesting quality.
- 4. To record the number of harvested bunches.
- 5. To ensure the safety of workers.
- 6. To report the status and daily backlog to the supervisor.
- 7. To seal the FFB consignment using safety net when in practice.

Soft Skills	Competency Level	Recommended Training
 1. Supervision: Able to motivate workers Emotional intelligence 2. Communication: Use of appropriate language 	2 1 2	 Basic worker motivation Basic supervision course for mandore Basic language (Malay/English/Foreign) Listening skills training
 Able to give and receive instruction 		
2. Resource arrangement:LabourToolsMachine	2	Basic harvesting resource management
Technical Skills	Competency Level	Recommended Training
1. To identify ripe	3	FFB ripeness standard course

bunches		 Kursus Operator Mekanisasi Ladang
2. Manage tools:ManualMechanical	2	Harvesting tools managementKursus Operator Mekanisasi Ladang
 Supervise cutting: Fruits: Manual and motorised tools Chisel Sickle Frond: Manual and motorised tools 	2	 Scout harvesting technique Harvesting young palm technique using chisel Harvesting matured palm technique using sickle Harvesting using a motorised cutter Kursus Operator Mekanisasi Ladang
4. FFB evacuation:ManualMechanical:- Full- Semi	3	 FFB evacuation technique Kursus Operator Mekanisasi Ladang
 Safety: Safety operating procedures Proper usage of PPE Tools handling Hazard and risk 	3	 Safety operating procedures for harvesting Kursus Operator Mekanisasi Ladang
 6. Follow Standard Operating Procedures: Before: Inspection of transportation, ground, tools, HSE Attendance recording During: Job distribution, recording, quality checking After: Reporting 	2	 Standard operating procedures for harvesting Kursus Operator Mekanisasi Ladang
7. Record and report	2	Standard operating procedures

workers' attendance and production outp	t	for harvestingKursus Operator MekanisasiLadang
8. Basic calculation and analytical skill	1	Basic calculation and analytical course

Focus Area : Harvesting and collection

Job Title : Field Supervisor Level: 3

Job Description

To ensure effective implementation of harvesting tasks.

- 1. To provide necessary tools.
- 2. To determine daily, weekly, and monthly harvesting tasks.
- 3. To inspect the harvesting quality.
- 4. To compile and record the number of harvested bunches.
- 5. To ensure the safety of workers.
- 6. To coordinate any FFB overnight balances.

Soft Skills	Competency Level	Recommended Training
 Supervision: Communication Appropriate language usage Emotional intelligence 	2	 Basic language (Malay/English) Emotional intelligence
 2. Leadership - Receive and give instruction - Correcting mistake - Motivating 	3	 Listening skills training Communication skills training Supervision skills training Basic worker motivation

Technical Skills	Competency Level	Recommended Training
 1. Able to prepare daily, weekly, and monthly planning Previous month's programme analysis and evaluation Resource usage Labour Transportation Tools Working area Costing and budgeting Daily, weekly and monthly production 	3	 Planning and organising work Costing and budgeting Reporting training (writing or verbal)
 2. Able to organise harvesting activities Harvesting frequencies Resource allocation Job specification and distribution 	3	 Planning and organising harvesting work SOP for harvesting
 3. Control of harvesting activities Monitoring Quantity and quality of harvested FFB Work standard Recording Work progress Output Corrective action SOP understanding 	3	 SOP for harvesting Recording and reporting Code of conduct and ethics

Focus Area	: H	arvesting	a and	col	lec	lion
I O C O S / TI C G	-	ai v Coilli	guio			

Job Title : Assistant Manager Level: 4

Job Description

- To prepare an annual work programme and ensure the estate operations run smoothly based on policies, SOPs and desired targets of the respective company.
- 2. To assist the Estate Manager in managing oil palm plantation operations, replanting and estate administration.
- 3. To assist in the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 4. To manage and be responsible towards the welfare and wellbeing of staffs and field workers.
- 5. To analyse and monitor progress records prepared by the supervisor and prepare daily operational reports to estate managers.
- 6. To plan and provide training needs related to field operations.
- 7. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 8. To ensure compliance with governmental regulations and procedures.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	4	Problem-solving course
2.	Communication skills	4	Communications course
3.	Engagement skills	4	 Stakeholder engagement course
4.	Leadership	4	 Leadership
5.	Teamwork	4	Team building
6.	Accuracy and attention to detail	4	Improve attention to detail
7.	Good customer relationship	4	Customer engagement course

8. Understanding Safety, Health and Environment (SHE)	4	 Safety, Health and Environment (SHE) knowledge awareness training
9. Stress management	4	Stress management course
 10. Business acumen - Accounting and budgeting - Cost analysis - Personal development 	4	 Business acumen courses Accounting and budgeting Cost analysis Personal development
Technical Skills	Competency Level	Recommended Training
Good in estate management	3	Plantation management course
2. Good reporting skills	3	Report writing
3. Presentation skills	3	 Presentation skills
4. Microsoft Office	3	 Microsoft Office (Word, Excel and PowerPoint)
5. Basic GNSS software application	2	 Geographical Information System (GIS) course
6. Knowledge of agriculture	3	*Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture with a minimum of 5 years' experience in related discipline) or Licentiate Incorporation Society of Planters (LISP) certification or equivalent
1. Business acumen- Accounting and budgeting- Cost analysis	3	Business acumen courseAccounting and budgetingCost analysis

^{*}Certification programme

Job Title : Senior Assistant Manager Level: 5

Job Description

- To prepare an annual work programme and ensure the estate operations run smoothly based on policies, SOPs and desired targets of the respective company.
- 2. To assist the Estate Manager in managing oil palm plantation operations, replanting and estate administration.
- 3. To assist in the preparation of the estate budget and verify estate expenses and revenue according to accounting needs.
- 4. To manage and be responsible towards the welfare and wellbeing of staffs and field workers.
- 5. To analyse and monitor progress records prepared by the supervisor and prepare daily operational reports to estate managers.
- 6. To plan and provide training needs related to field operations.
- 7. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 8. To ensure compliance with governmental regulations and procedures.

Soft Skills	Competency Level	Recommended Training
1. Problem-solving	4	Problem-solving course
2. Communication skills	4	Communications course
3. Engagement skills	4	 Stakeholder engagement course
4. Leadership	4	 Leadership
5. Teamwork	4	Teambuilding
6. Accuracy and attention to detail	4	Improve attention to detail
7. Good customer relationship	4	Customer engagement course

8. Understanding Safety, Health and Environment (SHE)	4	 Safety, Health and Environment (SHE) Awareness training
9. Stress management	4	Stress management course
10. Risk management	3	Business continuity management
Technical Skills	Competency Level	Recommended Training
Good in estate management	4	Plantation management course
2. Good Reporting skills	4	Report writing
3. Presentation skills	4	 Presentation skills
4. Microsoft Office	3	 Advanced Microsoft (Word, Excel and PowerPoint)
5. Basic GNSS software application	2	 Geographical Information System (GIS) course
6. Knowledge of agriculture	4	*Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture with a minimum of 5 years' experience in a related discipline) or Licentiate Incorporation Society of Planters (LISP) certification or equivalent
7. Business acumen- Accounting and budgeting- Cost analysis	4	Business acumen courseAccounting and budgetingCost analysisPersonal development training

^{*}Certification programme

Focus Area : Harvesting and collection

Job Title : Estate Manager Level: 6

Job Description

- 1. To be responsible for the performance of the estate.
- 2. To ensure the preparation and endorsement of the annual work programme.
- 3. To ensure the smoothness of estate operations based on policies, SOPs and desired targets of the respective company.
- 4. To manage oil palm plantation operations, replanting and estate administration.
- 5. To ensure the preparation of the estate budget and verify expenses and revenue according to accounting needs.
- 6. To manage and be responsible for the welfare and wellbeing of staff and workers of the estate.
- 7. To analyse, review and monitor all records and reports prepared by staff and assistants for decision making.
- 8. To plan and coordinate training related to field operation needs.
- 9. To engage with third parties (e.g., contractors, vendors/auditors/external bodies/stakeholders).
- 10. To ensure compliance with governmental regulations and regulatory procedures.
- 11. To train the subordinates.

	Soft Skills	Competency Level	Recommended Training
1.	Problem-solving	4	Problem-solving course
2.	Communication skills	4	Communications course
3.	Engagement skills	4	 Stakeholder engagement course
4.	Leadership	4	 Leadership
5.	Teamwork	4	Teambuilding
6.	Accuracy and attention to detail	4	Improve attention to detail
7.	Good customer	4	Customer engagement course

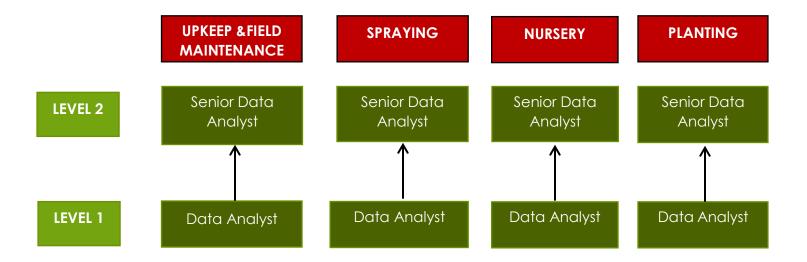
relationship		
8. Understanding Safety, Health and Environment (SHE)	4	 Safety, Health and Environment (SHE) Awareness training
9. Stress management	4	Stress management course
10. Business acumen	4	Business acumen coursesPersonal development training
11. Risk management	4	Business continuity management
12. Laws and regulations	4	Labour laws and practicesSustainability trainingGood ethicsAnti-bribery courseIntegrity
13. Critical thinking	4	Critical thinking course
14. Creativity	4	Creative thinking training
15. Good decision making	4	 Calculative decision-making training
Technical Skills	Competency Level	Recommended Training
Good in estate management	4	Plantation management course
2. Good reporting skills	4	Report writing and reading
3. Presentation skills	4	 Presentation skills
4. Microsoft Office	3	 Microsoft Office (Word, Excel and PowerPoint)
5. Basic GNSS software application	3	 Geographical Information System (GIS) course
6. Knowledge of agriculture	4	 *Degree in Plantation Management / Agriculture or *Diploma in Plantation Management / Agriculture or a related discipline with a

		in the industry) or Associate Diploma of Incorporated Society of Planters (AISP) certification or equivalent
4. Business acumen- Accounting and budgeting- Cost analysis	4	Business acumen courseAccounting and budgetingCost analysis

^{*}Certification programme

OIL PALM PLANTATION DRONE TECHNOLOGY

CAREER PATHWAY: DRONE TECHNOLOGY (DATA)



DATA: UPKEEP & FIELD MAINTENANCE

Focus Area	: Drone Technology	Sub Focus Area Maintenance	: Upkeep and Field
Job Title	: Data Analyst		Level: 1

- 1. To process mapping data upon successful on-site data capture.
- 2. Processing data that includes map reconstruction, crown marking, plotting and generating flight routes.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the client and make necessary initiatives to ensure the deliverable meets client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis and mapping projects.
- 9. Able to understand Geographical Information System (GIS).

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	2	Communication and interpersonal
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	 5S principle and implementation Project reporting
3. Meticulous and attention to detail	2	Kaizen and work improvement

 Able to read, speak, write, and understand English and Bahasa Malaysia 	2	 Basic Malay speaking and writing Basic English speaking and writing
Able to learn quickly and operate with minimal oversight	2	Critical and analytical skills
6. Scheduling activities and resources to achieve an objective	2	Project management
Manages to adapt if circumstances change	2	 Personal management and development
Technical Skills	Competency Level	Recommended Training
Able to understand GIS	2	Diploma in Geographical Information Systems or Systems, Remote Sensing, other relevant
		disciplines, or equivalent professional experience
Good foundation in database and data visualisation	2	· · · · · · · · · · · · · · · · · · ·
database and data	2	professional experienceGIS tools such as ArcGIS or QGIS
database and data visualisation 3. Understanding complex information making connections;	2	 professional experience GIS tools such as ArcGIS or QGIS or equivalent Critical thinking and problem-
database and data visualisation 3. Understanding complex information making connections; drawing conclusions 4. Able to adapt if circumstances	2	 professional experience GIS tools such as ArcGIS or QGIS or equivalent Critical thinking and problem-solving Personal management and

Focus Area	: Drone Technology		: Upkeep and Field	
		Maintenance		
Job Title	: Senior Data Analyst		Level: 2	
Table Book of the Control of the Con				

Responsibilities may include:

- 1. To process mapping data upon successful on-site data capture.
- 2. Processing data that includes map reconstruction, crown marking, plotting and generating flight routes for point-to-point spraying.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the client and make necessary initiatives to ensure the deliverable meets client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis and mapping projects.
- 9. Advanced understanding of Geographical Information Systems (GIS).

Pre-requisite: 3 years and above of working experience directly with geospatial data or relevant professional experience.

Soft Skills	Competency Level	Recommended Training
 Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders 	3	Work organisation
2. Teamwork:Good team player,self-motivated with astrong ability tomultitask and able to	3	 5S principle and implementation Project reporting

handle fast-paced situations		
3. Meticulous and attention to detail	3	Kaizen and work improvement
 Able to read, speak, write, and understand English and Bahasa Malaysia 	3	 Basic Malay speaking and writing Basic English speaking and writing
5. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
 Able to adapt if circumstances change 	3	 Problem-solving
	Competency	
Technical Skills	Level	Recommended Training
Strong foundation in database and data visualisation	Level 3	Degree in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines, or equivalent professional experience
Strong foundation in database and data		 Degree in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines, or equivalent
 Strong foundation in database and data visualisation Mastering complex information; making connections; 	3	 Degree in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines, or equivalent professional experience GIS tools such as ArcGIS or QGIS

DATA: NURSERY

Focus Area	: Drone Technology	Sub Focus Area	: Nursery
Job Title	: Data Analyst		Level: 1
Job Descript	ion		

- 1. To process data upon successful on-site data capture.
- 2. Processing data that includes map reconstruction, crown marking, plotting and generating flight routes.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the client and make necessary initiatives to ensure the deliverable meets client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis and mapping projects.

Soft Skills	Competency Level	Recommended Training
 Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders 	2	Work organisation
 Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	5S and project reporting
Meticulous and attention to detail	2	Kaizen and work improvement
4. Able to read, speak,	2	Basic Malay speaking and

write, and understand English and Bahasa Malaysia		writingBasic English speaking and writing
5. Able to learn quickly and operate with minimal oversight	2	Critical and analytical skills
Prioritise and plan work activities	2	Project management
Technical Skills	Competency Level	Recommended Training
Good foundation in database and data visualisation	2	 GIS tools such as ArcGIS or QGIS or equivalent
 Understanding complex information; making connections; drawing conclusions 	2	 Critical thinking and problem- solving
 Able to adapt if circumstances change 	2	 Personal management and development
4. Scheduling activities and resources in order to achieve an objective	2	Project management
5. Microsoft Office applications	2	 Advanced Office 365 application

Focus Area : Drone Technology	Sub Focus Area : Nursery
Job Title: Senior Data Analyst	Level: 2

Responsibilities may include:

- 1. To process mapping data upon successful on-site data capture.
- 2. Processing data that includes map reconstruction, crown marking, plotting and generating flight routes for blanket-type spraying.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the client and make necessary initiatives to ensure the deliverables meet client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis and mapping projects.
- 9. Able to understand Geographical Information System (GIS).

Pre-requisite: 3 years and above of working experience directly with geospatial data or relevant professional experience.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	3	Communication and interpersonal communication courses
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	3	 5S principle and implementation Project reporting

Meticulous and attention to detail	3	Kaizen and work improvement
4. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
5. Scheduling activities and resources in order to achieve an objective	3	 Project management
6. Able to adapt if circumstances change	3	 Personal management and development
Technical Skills	Competency Level	Recommended Training
 Able to understand GIS 	3	 *Degree in Geographical Information Systems, Remote Sensing, other relevant disciplines, or equivalent professional experience
 Mastering complex information; making connections; drawing conclusions 	3	 GIS tools such as ArcGIS or QGIS or equivalent
 Understanding complex information; making connections; drawing conclusions 	3	 Critical thinking and problem- solving
4. Microsoft Office applications	3	 Advanced Office 365 application
5. Scheduling activities and resources to achieve an objective	3	Project management

^{*}Certification programme

DATA: PLANTING

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Data Analyst	Level	:1

- 1. To process mapping data upon successful on-site data capture.
- 2. Processing data that includes stitching images, map reconstruction, generating topographical maps, orthophotos, DEM, DSM, Point Cloud, etc.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the client and make necessary initiatives to ensure the deliverable meets client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis and mapping projects.

Soft Skills	Competency	Recommended Training	
	Level		
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	2	Work organisation	
 Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	5S and project reporting	
3. Meticulous and attention to detail	2	Kaizen and work improvement	
4. Able to read, speak, write, and understand English and Bahasa	2	Basic Malay speaking and writingBasic English speaking and	

Malaysia		writing		
5. Ability to learn quickly and operate with minimal oversight	2	Critical and analytical skills		
Technical Skills	Competency Level	Recommended Training		
Able to understand Geographical Information System (GIS)	2	 *Diploma in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines, or equivalent professional experience 		
Good foundation in database and data visualisation	2	 GIS tools such as ArcGIS or QGIS or equivalent 		
3. Understanding complex information; making connections; drawing conclusions	2	 Critical thinking and problem solving 		
4. Able to adapt if circumstances change	2	 Personal management and development 		
5. Scheduling activities and resources in order to achieve an objective	2	Project management		
6. Microsoft Office applications	2	Office 365 application		

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Senior Data Analyst	Level	: 2

Responsibilities may include:

- 1. To carry out aerial data capture planning.
- 2. To process mapping data upon successful on-site data capture.
- 3. Processing data that includes stitching images, map reconstruction, generating topographical maps, orthophotos, DEM, DSM, Point Cloud etc.
- 4. To carry out quality checks on the processed data.
- 5. To create, maintain and make continuous improvements to existing work process.
- 6. To produce the final processed data to the client and make necessary initiatives to ensure the deliverable meets client requirements.
- 7. To produce the final report to the client and the operations report for the operations team.
- 8. To perform other related duties as assigned from time to time.
- 9. To maintain a proper digital inventory of all data collection, analysis and mapping projects.

Pre-requisite:

3 years and above of working experience directly with geospatial data or relevant professional experience.

Soft Skills	Competency Level	Recommended Training
 Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders 	3	Work organisation
 Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced 	3	5S and project reporting

	situations		
3.	Meticulous and attention to detail	3	Kaizen and work improvement
4.	Ability to learn quickly and operate with minimal oversight	3	Critical and analytical skills
	Technical Skills	Competency Level	Recommended Training
1.	Strong foundation in database and data visualisation	3	 *Degree in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines, or equivalent professional experience
2.	Mastering complex information; making connections; drawing conclusions	3	 GIS tools such as ArcGIS or QGIS or equivalent
3.	Able to adapt if circumstances change	3	 Critical thinking and problem solving
4.	Scheduling activities and resources in order to achieve an objective	3	Project management
5.	Microsoft Office applications	3	 Advanced Office 365 application

^{*}Certification programme

DATA: SPRAYING

Focus Area	: Drone Technology	Sub Focus Area: Spraying
Job Title	: Data Analyst	Level: 1

- 1. To process mapping data upon successful on-site data capture.
- 2. Processing data that includes map reconstruction, crown marking, plotting and generating flight routes.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the clients and make necessary initiatives to ensure the deliverables meet client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis and mapping projects.
- 9. Able to understand Geographical Information System (GIS).

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	2	Work organisation
 Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	5S and project reporting
3. Meticulous and	2	Kaizen and work improvement

attention to detail		
 Able to read, speak, write, and understand English and Bahasa Malaysia 	2	 Basic Malay speaking and writing Basic English speaking and writing
5. Able to learn quickly and operate with minimal oversight	2	Critical and analytical skills
Technical Skills	Competency Level	Recommended Training
1. Able to understand GIS	2	 Diploma in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines, or equivalent professional experience
Good foundation in database and data visualisation	2	 GIS tools such as ArcGIS or QGIS or equivalent
 Understanding complex information; making connections; drawing conclusions 	2	 Critical thinking and problem solving
4. Able to adapt if circumstances change	2	 Personal management and development
5. Scheduling activities and resources in order to achieve an objective	2	Project management
6. Microsoft Office applications	2	Basic Microsoft Office applications

Focus Area	: Drone Technology	Sub Focus Area: Spraying
Job Title	: Senior Data Analyst	Level: 2

Responsibilities may include:

- 1. To process mapping data upon successful on-site data capture.
- 2. Processing data that includes map reconstruction, crown marking, plotting and generating flight routes for point-to-point spraying.
- 3. To carry out quality checks on the processed data.
- 4. To create, maintain and make continuous improvements to existing work process.
- 5. To produce the final processed data to the client and make necessary initiatives to ensure the deliverable meets client requirements.
- 6. To produce the final report to the client and operations report for the operations team.
- 7. To perform other related duties as assigned from time to time.
- 8. To maintain a proper digital inventory of all data collection, analysis, and mapping projects.
- 9. Advanced understanding of Geographical Information Systems (GIS).

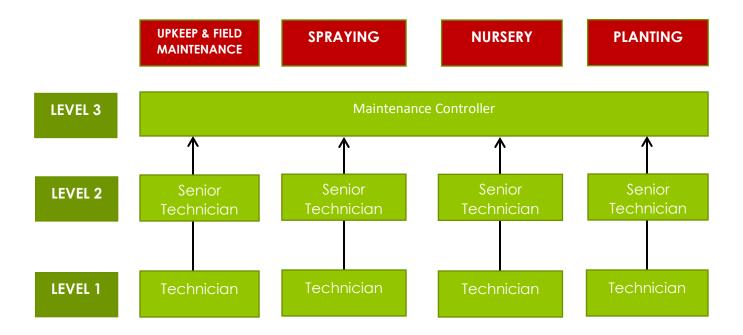
Pre-requisite: 3 years and above of working experience directly with geospatial data or relevant professional experience.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	3	Work organisation
 Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	3	5S and project reporting
3. Meticulous and attention to detail	3	Kaizen and work improvement

4. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
Technical Skills	Competency Level	Recommended Training
Strong foundation in database and data visualisation	3	 *Degree in Geographical Information Systems or Systems, Remote Sensing, other relevant disciplines or equivalent professional experience
 Mastering complex information; making connections; drawing conclusions 	3	GIS tools such as ArcGIS or QGIS or equivalent
 Able to adapt if circumstances change 	3	 Critical thinking and problem solving
4. Scheduling activities and resources in order to achieve an objective	3	Project management
5. Microsoft Office applications	3	 Advanced Office 365 Application

^{*}Certification programme

CAREER PATHWAY: DRONE TECHNOLOGY (MRO)



MAINTENANCE, REPAIR & OVERHAUL: NURSERY

Focus Area	: Drone Technology	Sub Focus Area	: Nursery
Job Title	: Technician	Level	:1
Job Description: MRO			

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To resolve and troubleshoot on-the-spot challenges promptly.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment, to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To ensure the availability of spare parts.
- 11. To manage and ensure the disposal of unused drone parts.

Soft Skills	Competency Level	Recommended Training
 Communication: Effective 	2	Work organisation
communication and		

	interpersonal skills to interact effectively with customers and various stakeholders		
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	2	5S and project reporting
3.	Meticulous: Scientific mindset to test new solutions	2	Kaizen and work improvement
4.	Able to read, speak, write, and understand English and Bahasa Malaysia	2	 Basic Malay speaking and writing Basic English speaking and writing
5.	Able to learn quickly and operate with	2	Critical and analytical skills
	minimal oversight		
	minimal oversight Technical Skills	Competency Level	Recommended Training
1.			*Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or SKM Level 2 Technology Electric
2.	Technical Skills Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	Level	*Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or SKM Level 2 Technology
	Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic Safety and health	Level 2	*Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or SKM Level 2 Technology Electric

Focus Area	: Drone Technology	Sub Focus Area	: Nursery
Job Title	: Senior Technician	Level	: 2
Job Description: MRO			

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To be able to troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and other related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To manage and ensure the disposal of unused drone parts.
- 11. Certified airworthiness of drone for operation.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	3	Communication, business work ethics
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	3	Team buildingProject management
3. Meticulous:Scientific mindset to test new solutions	3	Kaizen and work improvementAnalytical and problem solving
4. Able to read, speak, write, and understand English and Bahasa Malaysia	3	 Basic Malay speaking and writing Basic English speaking and writing
5. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
6. Prioritise and plan work activities	3	Project management
Technical Skills	Competency Level	Recommended Training
1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	3	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric or

		 Certified equipment training by manufacturer or supplier
2. Safety and health management	3	Advanced first aid training
3. Mid-level or higher understanding of Microsoft Office applications	3	 Advanced Office 365 application
4. Able to read, understand and interpret technical, mechanical, electronics and radio communication documentation	3	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
5. Able to write technical reports	3	Technical report writing

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Nursery
Job Title	: Maintenance Controller	Level: 3	

Job Description: MRO

Responsibilities may include:

- 1. To maintain an up-to-date knowledge of all assigned Unmanned Aerial Systems (drones).
- 2. To raise and keep updated all training manuals, guides and logs for the MRO Operations department, working closely with the Quality Manager.
- 3. To maintain accurate procedures and processes within the MRO Operations department to ensure continuous process improvement, automation, accuracy and efficiency.
- 4. To monitor repair activity and team performances.
- 5. Planning and managing all repair and installation activities.
- 6. Ensuring all department workers adhere to the safety policies and procedures.
- 7. Assigning repair schedules and evaluating repair cost estimates.
- 8. Documenting and preparing daily progress reports and maintenance logs.
- 9. Overseeing equipment stock and placing orders for new supplies when necessary.
- 10. Conduct trainings for subordinates on an as-needed basis.

Pre-requisite:

- 1. More than 4 years of experience.
- 2. Degree in Mechanical, Electrical and Electronics, Mechatronic and Aviation, Aerospace.

Soft Skills	Competency	Recommended Training
	Level	
Communication: Effective	4	Communication and business work ethics
communication and		WOIR CITIES
interpersonal skills to		
interact effectively		

with customers and various stakeholders		
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	4	Team building
3. Meticulous- Scientific mindset to test new solutions	4	Kaizen and work improvementAnalytical and problem solving
4. Able to read, speak, write, and understand English and Bahasa Malaysia	4	 Advanced Malay speaking and writing Advanced English speaking and writing
5. Able to learn quickly and operate with minimal oversight	4	Critical and analytical skills
Prioritise and plan work activities	4	Project management
Technical Skills	Competency Level	Recommended Training
1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	4	 *Degree in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic
Safety and health management	4	Advanced first aid training
 Mid-level or higher understanding of Microsoft Office applications 	4	Advanced Office 365 application
4. Able to read, understand and interpret technical, mechanical,	4	 *Degree in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic

electronics and radio communication documentation		
5. Able to write and verify technical reports	4	Technical report writing
6. Able to do resource planning for financial and manpower	3	Basic budgetingResource planning
7. Performance assessment	3	Performance assessment training

^{*}Certification programme

MAINTENANCE, REPAIR & OVERHAUL: PLANTING

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Technician MRO	Level	:1

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To resolve and troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and other related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To ensure the availability of spare parts.
- 11. To manage and ensure the disposal of unused drone parts.

Soft Skills	Competency	Recommended Training
	Level	
1. Communication:	2	Work organisation
- Effective		
communication and		
interpersonal skills to		
interact effectively		

with customers and various stakeholders		
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	5S and project reporting
3. Meticulous:- Scientific mindset to test new solutions	2	Kaizen and work improvementAnalytical and problem solving
4. Able to read, speak, write, and understand English and Bahasa Malaysia	2	 Basic Malay speaking and writing Basic English speaking and writing
5. Able to learn quickly and operate with	2	Critical and analytical skills
minimal oversight		
·	Competency Level	Recommended Training
minimal oversight		*Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or SKM Level 2 Technology Electric
minimal oversight Technical Skills 1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics /	Level	*Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or SKM Level 2 Technology
minimal oversight Technical Skills 1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic 2. Safety and health	Level 2	*Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or SKM Level 2 Technology Electric

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Senior Technician MRO	Level	: 2
Tab Baradallana			

Responsibilities may include:

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To be able to troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To manage and ensure the disposal of unused drone parts.
- 11. Certified airworthiness of Drone for operation.

Soft Skills	Competency Level	Recommended Training
1. Communication:	3	Communication

Effective communication and interpersonal skills to interact effectively with customers and various stakeholders		Business work ethics
 Z. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	3	Team building
3. Meticulous:Scientific mindset to test new solutions	3	Analytical and problem solvingKaizen and work improvement
4. Able to read, speak, write, and understand English and Bahasa Malaysia	3	 Basic Malay speaking and writing Basic English speaking and writing
5. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
6. Prioritise and plan work activities	3	Project management
Technical Skills	Competency Level	Recommended Training
1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	3	 *Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric or Certified equipment training by manufacturer or supplier
Safety and health management	3	Advanced first aid training
3. Mid-level or higher	3	Advanced Office 365

understanding of Microsoft Office applications		application
4. Able to read, understand and interpret technical, mechanical, electronics and radio communication documentation	3	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
5. Able to write technical reports	3	Technical report writing

^{*}Certification programme

MAINTENANCE, REPAIR & OVERHAUL: SPRAYING

Focus Area	: Drone Technology	Sub Focus Area	: Spraying
Job Title	: Technician MRO	Level	:1

Job Description: MRO

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To resolve and troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and other related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To ensure the availability of spare parts.
- 11. To manage and ensure the disposal of unused drone parts.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and	2	Work organisation
interpersonal skills to interact effectively		

	with customers and various stakeholders.		
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	2	5S and project reporting
3. -	Meticulous: Scientific mindset to test new solutions	2	Kaizen and work improvementAnalytical and problem solving
4.	Able to read, speak, write, and understand English and Bahasa Malaysia	2	 Basic Malay speaking and writing Basic English speaking and writing
5.	Able to learn quickly and operate with minimal oversight	2	 Critical and analytical skills training
	Tillillitidi översigiti		
	Technical Skills	Competency Level	Recommended Training
1.			 Recommended Training Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
	Technical Skills Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics /	Level	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or
	Technical Skills Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic Safety and health	Level 2	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Spraying
Job Title	: Senior Technician MRO	Level	: 2
Job Descript	ion:		

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To be able to troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and other related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To manage and ensure the disposal of unused drone parts.
- 11. Certified airworthiness of Drone for operation.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	3	CommunicationBusiness work ethics
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	3	Team building
3. Meticulous:Scientific mindset to test new solutions	3	Analytical and problem solvingKaizen and work improvement
4. Able to read, speak, write, and understand English and Bahasa Malaysia	3	 Basic writing and speaking course (English and Bahasa Malaysia)
5. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
6. Prioritise and plan work activities	3	Project management
Technical Skills	Competency Level	Recommended Training
1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	3	 *Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric or Certified equipment training by

		manufacturer or supplier
Safety and health management	3	Advanced first aid training
 Mid-level or higher understanding of Microsoft Office applications 	3	 Advanced Office 365 application
4. Able to read, understand and interpret technical, mechanical, electronics and radio communication documentation	3	 *Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
5. Able to write technical reports	3	Technical report writing

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Spraying
Job Title	: Maintenance Controller	Level	: 3

Job Description: MRO

Responsibilities may include:

- 1. To maintain an up-to-date knowledge of all assigned Unmanned Aerial Systems (drones).
- 2. To raise and keep updated all training manuals, guides and logs for the MRO Operations department, working closely with the Quality Manager.
- 3. To maintain accurate procedures and processes within the MRO Operations department to ensure continuous process improvement, automation, accuracy and efficiency.
- 4. To monitor repair activity and team performances.
- 5. Planning and managing all repair and installation activities.
- 6. Ensuring all department workers adhere to the safety policies and procedures.
- 7. Assigning repair schedules and evaluating repair cost estimates.
- 8. Documenting and preparing daily progress reports and maintenance logs.
- 9. Overseeing equipment stock and placing orders for new supplies when necessary.
- 10. Conduct training for subordinates on an as-needed basis.

Pre-requisite:

- 1. More than 4 years of experience.
- 2. Degree in Mechanical, Electrical and Electronics, Mechatronic and Aviation, Aerospace

Soft Skills	Competency Level	Recommended Training
 Communication: Effective communication and interpersonal skills to interact effectively with 	4	CommunicationBusiness work ethics

	customers and various stakeholders		
2.	Leadership: Good in managing teams, self-motivated with a strong ability to multitask and able to handle fast-paced situations	4	Team building
3.	Meticulous: Scientific mindset to test new solutions	4	 Analytical, conceptual and evaluative
4.	Professional in reading, speaking, writing, and understanding English and Bahasa Malaysia	4	 Advanced Malay speaking and writing Advanced English speaking and writing
5.	Able to manage the team, solve problems and oversee activities	4	Critical and analytical skills
6.	Prioritise and plan work	4	 Project management
	activities	·	· managamam
		Competency Level	Recommended Training
1.	activities	Competency	
1.	Technical Skills Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics /	Competency Level	*Degree in Mechanical / Aviation, Aerospace / Electrical and Electronics
1.	Technical Skills Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic Safety and health management	Competency Level 4	*Degree in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic Advanced first aid

electronics and radio communication documentation		/ Mechatronic
5. Able to write and verify technical reports	4	Technical report writing
6. Able to do resource planning for financial and manpower	3	Basic budgetingResource planning
7. Performance assessment	3	 Performance assessment training

^{*}Certification programme

MAINTENANCE, REPAIR & OVERHAUL: FIELD MAINTENANCE

Focus Area	: Drone Technology	Sub Focus Area: Field Maintenance
Job Title	: Technician	Level: 1
Job Descript	ion:	

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To resolve and troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and other related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To ensure the availability of spare parts.
- 11. To manage and ensure the disposal of unused drone parts.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and	2	Work organisation
interpersonal skills to interact effectively		

with customers and various stakeholders		
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	5S and project reporting
3. Meticulous:Scientific mindset to test new solutions	2	Kaizen and work improvement
4. Able to read, speak, write, and understand English and Bahasa Malaysia	2	 Basic Malay speaking and writing Basic English speaking and writing
Able to learn quickly and operate with	2	Critical and analytical skills
minimal oversight		
· ·	Competency Level	Recommended Training
minimal oversight		Piploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
minimal oversight Technical Skills 1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics /	Level	Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or
minimal oversight Technical Skills 1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic 2. Safety and health	Level 2	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Field Maintenance
Job Title	: Senior Technician	Level	: 2

Responsibilities may include:

- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To be able to troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and other related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To manage and ensure the disposal of unused drone parts.
- 11. Certified airworthiness of Drone for operation.

Soft Skills	Competency Level	Recommended Training
1. Communication:	3	Communication

- Effective communication and interpersonal skills to interact effectively with customers and various stakeholders		Business work ethics
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	3	Team building
3. Meticulous:Scientific mindset to test new solutions	3	Kaizen and work improvementAnalytical and problem solving
4. Able to read, speak, write, and understand English and Bahasa Malaysia	3	 Basic Malay speaking and writing Basic English speaking and writing
5. Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
Prioritise and plan work activities	3	Project management
Technical Skills	Competency Level	Recommended Training
1. Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	3	 *Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric or Certified equipment training by manufacturer or supplier
Safety and health management	3	Advanced first aid training
3. Mid-level or higher	3	Advanced Office 365

understanding of Microsoft Office applications		application
4. Able to read, understand and interpret technical, mechanical, electronics and radio communication documentation	3	 *Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
5. Able to write technical reports	3	Technical report writing

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Field Maintenance
Job Title	: Senior Technician	Level	: 2

Responsibilities may include:

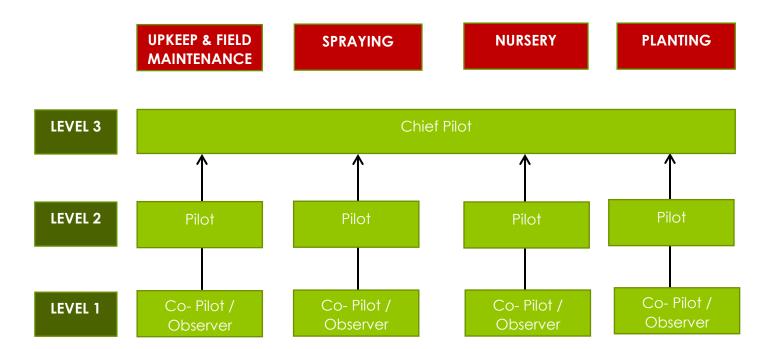
- 1. To diagnose, maintain, troubleshoot and repair Unmanned Aerial Systems (drones).
- 2. To assemble, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- 3. To be able to troubleshoot on-the-spot challenges in a timely manner.
- 4. To always keep up to date with technology advancements and have a thorough understanding of the technical specification, capabilities and limitations of Drone/UAV, payloads, software, communication and related equipment.
- 5. To be involved in periodical Drone/UAV compliance audit programmes.
- 6. To be involved in Drone/UAV Quality Assurance periodical audits.
- 7. To be involved in Drone/UAV safety matters and participate with the Flight Safety Investigations Team.
- 8. To set up and operate test equipment to evaluate the performance of developmental parts, assemblies, or systems under simulated operating conditions and record results.
- 9. To modify electrical devices, parts, assemblies, and systems to correct functional deviations.
- 10. To manage and ensure the disposal of unused drone parts.
- 11. Certified airworthiness of drone for operation.

	Soft Skills	Competency Level	Recommended Training
1.	Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	3	CommunicationBusiness work ethics
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	3	Team building
3.	Meticulous: Scientific mindset to test new solutions	3	Kaizen and work improvementAnalytical and problem solving
4.	Able to read, speak, write, and understand English and Bahasa	3	 Basic Malay speaking and writing Basic English speaking and writing
5.	Able to learn quickly and operate with minimal oversight	3	Critical and analytical skills
6.	Prioritise and plan work activities	3	Project management
	Technical Skills	Competency Level	Recommended Training
1.	Knowledge of Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic	3	 *Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric or

		 Certified equipment training by manufacturer or supplier
2. Safety and health management	3	Advanced first aid training
3. Mid-level or higher understanding of Microsoft Office applications	3	 Advanced Office 365 application
4. Able to read, understand and interpret technical, mechanical, electronics and radio communication documentation	3	 Diploma in Mechanical / Aviation, Aerospace / Electrical and Electronics / Mechatronic or *SKM Level 2 Technology Electric
5. Able to write technical reports	3	Technical report writing

^{*}Certification programme

CAREER PATHWAY: DRONE TECHNOLOGY (PILOT)



PILOT: NURSERY

Focus Area: Drone Technology	Sub Focus Area: Nursery
Job Title: Co-Pilot / Observer	Level: 1
Job Description	

Responsibilities may include:

- 1. Assist in performing the pest and disease operations using UAV/Drone for palm oil plantation, specifically for young oil palm in nursery.
- 2. Assist pilot in planning, executing and delivering daily operations of agricultural services using agriculture drone.
- 3. Assist the pilot in executing operations safely and effectively handling the drone, keeping good maintenance on the drone, assets and equipment.
- 4. Assist to ensure safe environment and surroundings prior to performing the pest and disease operations using UAV/Drone.
- 5. Assist Pilot or Team Lead in providing daily operations report.

Soft Skills	Competency Level	Recommended Training
1. Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	1	Understanding basic communication
2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	1	Collaboration and building trust
3. Problem-solving	1	 Decision-making and conflict solution
4. Time management	1	 Understanding roles and responsibilities
5. Confidence	1	 Assertiveness and self- confidence

Technical Skills	Competency Level	Recommended Training
Able to operate the drone (knowledge of Agriculture drone system)	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
Able to handle pesticides for agricultural spray	2	 Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
 Safety assurance – environment 	2	HSSE – Basic training in an agricultural environment
4. Safety and health management	1	First aid training
5. Knowledge in Agriculture/Crop – oil palm	1	Basic agronomy
 Knowledge of navigation and meteorology 	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Nursery
Job Title	: Pilot	Level	: 2

Responsibilities may include:

- 1. To plan, execute, complete and deliver daily operations of agricultural services using an agriculture drone.
- 2. To manage UAV/Drone spraying operation.
- 3. To execute the operation safely and effectively handling the drone, keeping good maintenance on the drone, assets and equipment.
- 4. To provide daily operations reporting and update.

Soft Skills	Competency Level	Recommended Training
Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	2	Understanding basic communication
 2. Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations 	2	Collaboration and building trust
3. Problem-solving	3	 Decision-making and conflict solution
4. Time management	2	Time management
Technical Skills	Competency Level	Recommended Training
Able to operate the drone (knowledge of Agriculture drone)	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone

system)		Piloting or • Private Pilot Licensing (PPL)
2. Basic maintenance	3	 *SKM 2 Certificate of Maintenance
 Able to handle pesticides for agricultural spray 	3	 Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
4. Safety and health	3	 HSSE – Intermediate/Advance training in agriculture environment
 Safety and health management (first responder) 	2	First aid training
6. Microsoft Office applications	3	Basic Microsoft Office course
7. Knowledge of the crops	3	Basic Agronomy

^{*}Certification programme

Focus Area: Drone Technology	Sub Focus Area: Nursery
Job Title: Chief Pilot	Level: 3
Job Description	

Plan and coordinate the operations of pest and disease using UAV/Drone for oil palm plantation, specifically for young oil palms in the nursery.

Responsibilities include:

- 1. To ensure all the KPI/SLA of UAV/Drone Agriculture Spraying and the daily/monthly missions are accomplished.
- 2. To plan for staff productivity within the specified timeframe and budget goals.
- 3. To ensure all operational requirements are fulfilled, sufficient and adequate.
- 4. To ensure UAV/Drone parts and equipment are well functioning before commencing operations.
- 5. To ensure vehicles for operations are well-maintained.
- 6. To provide vehicles maintenance and utilisation report.
- 7. To ensure pre, during and post-flight operation checklists and briefings are executed as scheduled, including weather updates, safety briefings and work safety reminders before commencing flying operations.
- 8. To ensure the safety and health compliance requirement is inclusive of PPE utilisation by the team.
- 9. To supervise, train and evaluate On-Job-Training (OJT) Trainees and new pilots on site to expose them to operational SOPs and provide on-going performance evaluation.
- 10. Responsible for providing alternative solutions in crisis management in the event of operational failures.
- 11. To escalate report for any defects or maintenance on UAV/Drone to HQ.
- 12. To update daily reporting of the operation assigned to the Project Management team.

Soft Skills	Competency Level	Recommended Training
 Communication: Effective communication and Interpersonal skills to interact effectively with customers and various stakeholders 	4	Business communication solutions

2.	Strategy and planning	4	Strategic thinking and strategic decision makingAnalytical thinking
3.	Time management	4	Timeframe stretch target
4.	Crisis management	4	 Emergency response and problem solving
5.	Data analysis	3	Data analysis
6.	Business acumen	3	Critical and analytical thinking
	Technical Skills	Competency Level	Recommended Training
1.	Knowledge of the crops	4	Basic Agronomy
2.	Able to operate the drone (knowledge of Agriculture drone system)	4	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
3.	Able to do mapping on agricultural land and handle pesticides for agricultural spray	3	 Aerial Mapping Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
4.	Reporting management analysis	4	 Analytical and report presentation
5.	Operations efficiency	4	 KPI / Service level agreement setting
6.	Safety and health	4	First aid training
7.	Knowledge of meteorology	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
8.	Knowledge of navigation	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)

PILOT: PLANTING

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Co-Pilot / Observer	Level	:1

Responsibilities include:

- 1. To provide situational awareness during operations.
- 2. To prepare the hardware and systems before and after operations.
- 3. To prepare and update the checklist for Air Traffic Control (ATC) and Personal Protection Equipment (PPE).
- 4. To take over the pilot's job if the pilot is unfit to perform the job.
- 5. To coordinate and communicate with estate managers.
- 6. To record logging book.
- 7. Able to recognise all stages of crop growth and understand the requirements.

	Soft Skills	Competency Level	Recommended Training
1.	Business acumen	1	Business acumen
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	1	 5S principle and implementation Project reporting
3.	Attention to detail	1	Kaizen and work improvement
4.	Data collaboration	1	Data analysis
5.	Problem-solving	1	Creative and critical thinking
6.	Communication: - Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	1	Communication and interpersonal

	Technical Skills	Competency Level	Recommended Training
1.	Able to operate the drone (knowledge of Agriculture drone system)	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
2.	Able to handle pesticides for agricultural spray	1	 Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
3.	Safety and health management	1	First aid training
4.	Basic Microsoft Office applications	1	Basic Microsoft Office course
5.	A basic understanding of Google Earth Types of document files (KMZ, KML)	1	Basic knowledge of Google Earth
6.	Knowledge of the crops	1	Basic Agronomy
7.	Knowledge of meteorology	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
8.	Knowledge of navigation	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Pilot	Level	: 2

- 1. To prepare and execute missions.
- 2. To provide situational awareness during operations.
- 3. To prepare the hardware and systems.
- 4. To prepare and update the checklist for ATC and PPE.
- 5. To coordinate and communicate with estate managers.
- 6. Able to recognise all stages of crop growth and understand the requirements.

	Soft Skills	Competency Level	Recommended Training
1,	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	3	5S and project reporting
2.	Business acumen	3	Business acumen
3.	Meticulous and attention to detail	3	Kaizen and work improvement
4.	Leadership	3	Leadership training
5.	Scientific mindset	3	Scientific thinking
6.	Data collaboration	3	Data analysis
7.	Strong written and communication skills	3	Effective communication
	Technical Skills	Competency Level	Recommended Training
1.	Able to operate the drone (knowledge of Agriculture drone system)	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting

2.	Able to do mapping on agricultural land and handle pesticides for agricultural spray	3	 Aerial Mapping Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
3.	Safety and health management (first responder)	2	First aid training
4.	Basic Microsoft Office applications	2	Office 365 application
5.	A basic understanding of Google Earth (KMZ, KML)	3	Basic knowledge of Google Earth
6.	Knowledge of the crops	3	Basic Agronomy
7.	Knowledge of meteorology	3	 RCOC-B by CAAM *SKM 2 / Certificate of Drone Piloting
8.	Knowledge on navigation	3	 RCOC-B by CAAM *SKM 2 / Certificate of Drone Piloting

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Planting
Job Title	: Chief Pilot	Level	: 3

Plan and coordinate the operations of pest and disease using UAV/Drone for oil palm plantation, specifically for young oil palms in the nursery.

Responsibilities include:

- 1. To ensure all the KPI/SLA of UAV/Drone Agriculture Spraying and the daily/monthly missions are accomplished.
- 2. To plan for staff productivity within the specified timeframe and budget goals.
- 3. To ensure all operational requirements are fulfilled, sufficient and adequate.
- 4. To ensure UAV/Drone parts and equipment are well functioning before commencing operations.
- 5. To ensure vehicles for operations are well-maintained.
- 6. To provide vehicles maintenance and utilisation report.
- 7. To ensure pre, during and post-flight operation checklists and briefings are executed as scheduled, including weather updates, safety briefings and work safety reminders before commencing flying operations.
- 8. To ensure the safety and health compliance requirement is inclusive of PPE utilisation by the team.
- 9. To supervise, train and evaluate On-Job-Training (OJT) Trainees and new pilots on site to expose them to operational SOPs and provide ongoing performance evaluation.
- 10. Responsible for providing alternative solutions in crisis management in the event of operational failures.
- 11. To provide Escalation Report for any defects or maintenance on UAV/Drone to HO
- 12. To update daily reporting of the operation assigned to the Project Management team.

Soft Skills	Competency Level	Recommended Training
 Communication: Effective communication and interpersonal skills to interact effectively with 	4	Communication and interpersonal

	customers and various stakeholders		
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	4	Team building
3.	Meticulous and attention to detail	4	Kaizen and work improvement
4.	Problem-solving	4	 Problem-solving
5.	Leadership	4	 Leadership and managerial training
6.	Scientific mindset	4	Scientific thinking
7.	Business acumen	4	Business acumen
8.	Data collaboration	4	Data analysis
		Campatanav	
	Technical Skills	Competency Level	Recommended Training
1.	Able to operate the drone (knowledge of Agriculture drone system)		 RCOC-B by CAAM or 8SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
2.	Able to operate the drone (knowledge of Agriculture drone	Level	 RCOC-B by CAAM or 8SKM 2 / Certificate of Drone Piloting or
	Able to operate the drone (knowledge of Agriculture drone system) Able to handle pesticides for	Level 4	 RCOC-B by CAAM or 8SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL) Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk
2.	Able to operate the drone (knowledge of Agriculture drone system) Able to handle pesticides for agricultural spray Safety and health management (first	Level 4	 RCOC-B by CAAM or 8SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL) Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)

Google Earth		Piloting
6. Knowledge of the crops	4	Advanced Agronomy
7. Knowledge of meteorology	4	 RCOC-B by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
8. Knowledge of navigation	4	 RCOC-B by CAAM or SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)

^{*}Certification programme

PILOT: SPRAYING

Focus Area	: Drone Technology	Sub Focus Area	: Spraying
Job Title	: Co-Pilot / Observer	Level	:1

Responsibilities include:

- 1. Assist pilot in planning, executing and delivering daily operation of agricultural services using agriculture drone.
- 2. Assist the pilot in executing the operation safely, and effectively handle the drone, keeping good maintenance on the drone, assets and equipment.
- 3. Working in teams and maintaining effective communication among team members.
- 4. Assist Pilot or Team Lead in providing daily operations reporting to the Project Management Team.

	Soft Skills	Competency Level	Recommended Training
1,	Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	1	Work organisation
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	1	5S and project reporting
3.	Attention to detail	1	Kaizen and work improvement
4.	Strong written and communication skills	1	Basic communication
5.	Data collaboration	1	Data analysis
	Technical Skills	Competency Level	Recommended Training
1.	Able to handle pesticides for	1	 Induction course by Jabatan Pertanian (Kursus Teknikal

agricultural spray		Pengendalian Racun Makhluk Perosak)
 Able to operate the drone (knowledge of Agriculture drone system) 	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
 Knowledge of meteorology 	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
4. Knowledge of navigation	1	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
5. Microsoft Office applications	1	Office 365 application
6. Knowledge of crops	1	Basic Agronomy

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Spraying	
Job Title	: Pilot	Level	: 2	
Job Description				

Responsibilities include:

- 1. Plan, execute, complete and deliver daily operation of agricultural services using an agriculture drone.
- 2. Pre and post-flight checking.
- 3. Execute the operation safely, and effectively handle the drone, keeping good maintenance on the drone, assets and equipment.
- 4. Working in teams and maintaining effective communication among team members.
- 5. Provide daily operation reporting and update the Project Management Team.

	Soft Skills	Competency Level	Recommended Training
1.	Communication: Effective communication and interpersonal skills to interact effectively with customers and various stakeholders	3	Work organisation
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	3	5S and project reporting
3.	Attention to detail	3	Kaizen and work improvement
4.	Problem-solving	3	Problem-solving skills
5.	Leadership and management	3	Project management
6.	Data collaboration	3	 Data analysis

	Technical Skills	Competency Level	Recommended Training
1.	Safety awareness on handling chemical and hazardous items	3	 Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
2.	Able to operate the drone (knowledge of Agriculture drone system)	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
3.	Knowledge of meteorology	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
4.	Knowledge of navigation	3	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
5.	Basic Microsoft Office applications	3	Office 365 application
6.	Knowledge of crops	3	Basic Agronomy
7.	Safety and health management (first responder)	2	First aid training

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Spraying
Job Title	: Chief Pilot	Level	: 3

Plan and coordinate the operations of pest and disease using UAV/Drone for oil palm plantation, specifically for young oil palms in the nursery.

Responsibilities include:

- 1. To ensure all the KPI/SLA of UAV/Drone Agriculture Spraying and the daily/monthly missions are accomplished.
- 2. To plan for staff productivity within the specified timeframe and budget goals.
- 3. To ensure all operational requirements are fulfilled, sufficient and adequate.
- 4. To ensure UAV/Drone parts and equipment are well functioning before commencing operations.
- 5. To ensure vehicles for operations are well-maintained.
- 6. To provide vehicles maintenance and utilisation report.
- 7. To ensure pre, during and post-flight operation checklists and briefings are executed as scheduled, including weather updates, safety briefings and work safety reminders before commencing flying operations.
- 8. To ensure the safety and health compliance requirement is inclusive of PPE utilisation by the team.
- To supervise, train and evaluate On-Job-Training (OJT) Trainees and new pilots
 on site to expose them to operational SOPs and provide ongoing performance
 evaluation.
- 10. Responsible for providing alternative solutions in crisis management in the event of operational failures.
- 11. To prepare Escalation Report for any defects or maintenance on UAV/Drone to HQ.
- 12. To update daily reporting of the operations assigned to the Project Management team.

Soft Skills	Competency Level	Recommended Training
1. Attention to detail	4	Problem-solving skills
2. Problem-solving	4	Project management
3. Leadership and management	4	 Client and stakeholder management
4. Strong written and	4	Communication course

	communication skills		
5.	Data collaboration	4	Data analysis
6.	Business acumen	4	Critical thinkingAgile problem solvingBusiness acumen
	Technical Skills	Competency Level	Recommended Training
1.	Safety and health management (first responder)	4	First aid training
2.	Knowledge of Engineering, Agriculture / Bioscience / Mechanical / Aviation, Aerospace / Electrical and Electronics	4	 Minimum Diploma level Advanced flights operations Introduction to UAV components
3.	Able to operate the drone (knowledge of Agriculture drone system)	4	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting Private Pilot Licensing (PPL)
4.	Able to handle pesticides for agricultural spray	4	 Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
5.	Knowledge of meteorology	4	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting Private Pilot Licensing (PPL)
6.	Knowledge of navigation	4	 RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting Private Pilot Licensing (PPL)

7. Knowledge of crops	4	Advanced Agronomy
8. Understanding of Google Earth (KMZ, KML)	4	 Advanced knowledge of Google Earth
Microsoft Office applications	4	 Advanced Office 365 Application

^{*}Certification programme

PILOT: FIELD MAINTENANCE

Focus Area	: Drone Technology	Sub Focus Area: Field Maintenance
Job Title	: Co-Pilot / Observer	Level: 1

Responsibilities include:

- 1. To provide situational awareness during operations.
- 2. To prepare the hardware and systems before and after operations.
- 3. To prepare and update the checklist for Air Traffic Control (ATC) and Personal Protection Equipment (PPE).
- 4. To take over the pilot's job if the pilot is unfit to perform the job.
- 5. To coordinate and communicate with estate managers.
- 6. To record logging book.
- 7. To be able to recognise all stages of crop growth and understand the requirements.

	Soft Skills	Competency	Recommended Training
		Level	
1.	Business acumen	1	Critical and analytical thinking
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situations	1	Team building
3.	Meticulous: Scientific mindset to test new solutions	1	Kaizen and work improvementAnalytical and problem solving
4.	Data collaboration	1	Data analysis
5.	Problem-solving	1	Creative and critical thinking
6.	Communication: Effective communication and interpersonal skills to interact effectively with customers and	1	Work organisation

	various stakeholders		
	Technical Skills	Competency Level	Recommended Training
1.	Able to operate the drone (knowledge of Agriculture drone system)	1	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
2.	Able to handle pesticides for agricultural spray	1	 *Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
3.	Safety and health management	1	First aid training
4.	Microsoft Office applications	1	Basic Microsoft Office course
5.	A basic understanding of Google Earth - Types of document file (KMZ, KML)	1	 Basic knowledge of Google Earth
6.	Knowledge of crops	1	Basic Agronomy
7.	Knowledge of meteorology	1	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
8.	Knowledge of navigation	1	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area	: Field Maintenance
Job Title	: Pilot	Level	: 2

Responsibilities include:

- 1. To prepare and execute missions.
- 2. To provide situational awareness during operations.
- 3. To prepare the hardware and systems.
- 4. To prepare and update the checklist for ATC and PPE.
- 5. To coordinate and communicate with estate managers.
- 6. To be able to recognise all stages of crop growth and understand the requirements.

	Soft Skills	Competency Level	Recommended Training
1.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situation	3	 Team building Team and project management
2.	Business acumen	3	Critical and analytical thinking
3.	Meticulous: Scientific mindset to test new solutions	3	Kaizen and work improvementAnalytical and problem solving
4.	Leadership	3	 Self-development and leadership
5.	Scientific mindset	3	Critical and analytical thinking
6.	Data analysis	3	Data analysis
7. -	Communication: Effective communication and interpersonal skills to interact effectively with customers	1	Work organisation

Techni	cal Skills	Competency Level	١	Recommended Training
drone	o operate the (knowledge of Iture drone	3	• *S	RCOC-B, Agriculture Module by CAAM or SKM 2 / Certificate of Drone iloting or rivate Pilot Licensing (PPL)
on agr and ho pestici	o do mapping icultural land andle des for Itural spray	3	• Ir Po	herial Mapping Induction course by Jabatan Induction (Kursus Teknikal Induc
	and health gement (first nder)	2	• Fi	irst aid training
	Microsoft applications	2	• B	asic Microsoft Office course
	c standing of e Earth (KMZ,	3		asic knowledge of Google arth
6. Knowle	edge of crops	3	• B	asic Agronomy
	edge of prology	3	• *S	RCOC-B, Agriculture Module by CAAM or SKM 2 / Certificate of Drone iloting or rivate Pilot Licensing (PPL)
8. Knowle navige	edge of ation	3	• *S	RCOC-B, Agriculture Module by CAAM or SKM 2 / Certificate of Drone iloting or rivate Pilot Licensing (PPL)

^{*}Certification programme

Focus Area	: Drone Technology	Sub Focus Area: Field Maintenance
Job Title	: Chief Pilot	Level: 3

Plan and coordinate the operations of pest and disease using UAV/Drone for oil palm plantation, specifically for young oil palms in the nursery.

Responsibilities include:

- 1. To ensure all the KPI/SLA of UAV/Drone Agriculture Spraying and the daily/monthly missions are accomplished.
- 2. To plan for staff productivity within the specified timeframe and budget goals.
- 3. To ensure all operational requirements are fulfilled, sufficient and adequate.
- 4. To ensure UAV/Drone parts and equipment are well functioning before commencing operations.
- 5. To ensure vehicles for operations are well-maintained.
- 6. To provide vehicles maintenance and utilisation report.
- 7. To ensure pre, during and post-flight operation checklists and briefings are executed as scheduled, including weather updates, safety briefing and work safety reminders before commencing flying operations.
- 8. To ensure the safety and health compliance requirement is inclusive of PPE utilisation by the team.
- To supervise, train and evaluate On-Job-Training (OJT) Trainees and new pilots on site to expose them to operational SOPs and provide ongoing performance evaluation.
- 10. Responsible for providing alternative solutions in crisis management in the event of operational failures.
- 11. To escalate report for any defects or maintenance on UAV/Drone to HQ.
- 12. To update daily reporting of operations assigned to the Project Management team.

Soft Skills	Competency Level	Recommended Training
Communication: Effective	4	Work organisation
communication and interpersonal skills to interact effectively		

	with customers and various stakeholders		
2.	Teamwork: Good team player, self-motivated with a strong ability to multitask and able to handle fast-paced situation	4	5S and project reporting
3.	Meticulous Scientific mindset to test new solutions	4	Kaizen and work improvementAnalytical and problem solving
4.	Problem-solving	4	Problem-solving
5.	Leadership	4	 Self-development and leadership
6.	Scientific mindset	4	Critical and analytical thinking
7.	Business acumen	4	Critical and analytical thinking
8.	Data analysis	4	Data analysis
	Technical Skills	Competency	Recommended Training
		Level	
1.	Able to operate the drone (knowledge of Agriculture drone system)	Level 4	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
2.	Able to operate the drone (knowledge of Agriculture drone		 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or
	Able to operate the drone (knowledge of Agriculture drone system) Able to handle pesticides for	4	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL) Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk
2.	Able to operate the drone (knowledge of Agriculture drone system) Able to handle pesticides for agricultural spray Safety and health management (first	4	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL) Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak)
2.	Able to operate the drone (knowledge of Agriculture drone system) Able to handle pesticides for agricultural spray Safety and health management (first responder) Microsoft Office	4	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL) Induction course by Jabatan Pertanian (Kursus Teknikal Pengendalian Racun Makhluk Perosak) First aid training Advanced Microsoft Office

7. Knowledge of meteorology	4	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)
8. Knowledge of navigation	4	 *RCOC-B, Agriculture Module by CAAM or *SKM 2 / Certificate of Drone Piloting or Private Pilot Licensing (PPL)

^{*}Certification programme

ABBREVIATIONS

1. ATC: Air Traffic Control

2. ATV: All-Terrain Vehicle

3. CAAM: Civil Aviation Authority of Malaysia

4.E&E: Electrical & Electronics

5. FFB: Fresh Fruit Bunch

6. GIS: Geographic Information System

7. GNSS: Global Navigation Satellite System

8. GPS: Global Positioning System

9. HSE: Health Safety and Environment

10. KPI: Key Performance Indicator

11. PPE: Personal Protection Equipment

12. PPL: Private Pilot Licensing

13. SOP: Standard Operating Procedure

14. UAV: Unmanned Aerial Systems

