



OCCUPATIONAL FRAMEWORK
MSIC 2008 CODE A 016 SUPPORT ACTIVITIES TO
AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES



JABATAN PEMBANGUNAN KEMAHIRAN
KEMENTERIAN SUMBER MANUSIA

Department of Skills Development
Ministry of Human Resources

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ABSTRACT

An Occupational Framework (OF) is the outcome of the analysis conducted in identifying the work scope of the occupational areas in terms of competencies. It is used to analyse skilled manpower competency requirements for the industry. The OF aims to provide an overall view of the industry's Occupational Structure (OS) and identify skills gaps, critical job titles and Occupational Descriptions (OD) that would assist in further understanding the job requirements of the various occupations in the industry. This document is divided into several chapters; the first chapter includes standard definitions of terminology used in *Jabatan Pembangunan Kemahiran* (Department of Skills Development) skills training system and documentation, followed by the objectives, scope and justification of the OF development for the Support Activities to Agriculture and Post-Harvest Crops Activities industry. Chapter two includes the industry overview highlighting the definition and scope of the industry, stakeholders, legislation, initiatives as well as the industry & market intelligence. The third chapter explains the methodology used in the OF development such as qualitative analysis through focus group discussion sessions and industry surveys. Chapter 4 discusses the findings of the focus groups and survey conducted that are translated into the Occupational Structure, Occupational Description, Jobs in Demand, Skills in Demand and Emerging Skills. Lastly, Chapter 5 recommends the NOSS or NCS that should be developed based on the jobs in demand identified in this OF and also the skills in demand plus emerging skills that should be included in the NOSS and skills training curriculum under JPK. The OF for Support to Agriculture Activities and Post-Harvest Crops Activities is based on the Malaysian Standards Industrial Classification 2008 (MSIC 2008) under Section A – Agriculture, Forestry and Fishing, Division 01 – Crops and Animal Production, Hunting and Related Service Activities, Group 016 – Support to Agriculture Activities and Post-Harvest Crops Activities. This industry is one of vital industries that play a big role in the development of the agriculture sector. All the information in this OF development is gathered using data analysis, survey, industry visit and focus group discussion. The total number of job areas identified is 19 with 152 job titles. 57 of these job titles are identified as critical job titles and are therefore of highest priority to be filled in the industry.

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ABBREVIATION

CBT	Competency-Based Training
DESCUM	Development of Standard and Curriculum
ILB	Industry Lead Body
JPk	<i>Jabatan Pembangunan Kemahiran</i> (Department of Skills Development)
MOSQF	Malaysian Occupational Skills Qualification Framework
MQA	Malaysian Qualification Agency
MQF	Malaysian Qualifications Framework
MSC	Malaysian Skills Certificate
NCS	National Competency Standards
NKEA	National Key Economic Areas
NOSS	National Occupational Skills Standard
OF	Occupational Framework
OD	Occupational Description
OS	Occupational Structure

CHAPTER 1: INTRODUCTION

1.1 Chapter Introduction

This chapter defines the objectives, scope and justification for the development of the Occupational Framework for Support Activities to Agriculture and Post-Harvest Crops Activities. The concept of the Occupational Framework and its function in skills training and curriculum development is also discussed in this chapter.

1.1.1 Research Background

The Department of Skills Development (DSD) has conducted multiple researches on the Occupational Structure of many industries and has succeeded in finding the industry demands regarding skills and expertise needed. Using the information, DSD develops a learning system that helps in fulfilling industry requirements for the workers.

However, there has not been a particular research on the Occupational Structure for Support Activities to Agriculture and Post-Harvest Crops Activities based on the definition provided by the Malaysian Standard Industry Classification (MSIC). This particular group is defined in MSIC under Section A, which is Agriculture, Forestry and Fishing and Division 01 which is Crops and Animal Production, Hunting and Related Service Activities. This research is significant to ensure the development of the Occupational Framework is in line with the development of NOSS based on MSIC sections and divisions. Therefore, the purpose of this research is to develop an Occupational Framework for the industry as specified in MSIC based on qualitative research on its overall Occupational Structure, Critical Jobs and also Skills in Demand.

1.1.2 National Skills Development Act, 2006 (Act 652)

The National Skills Development Act, 2006 (Act 652) came into effect on 1st September 2006 after it was officially gazetted on 29th June 2006, with the mandate of promoting, through skills training, the development and improvement of a person's abilities, which are needed for vocation, and to provide for other matters connected therewith. The Act 652 is significant because for the first time in the history of skills training in Malaysia, a national legislation has been enacted solely and exclusively for skills training and development. In addition, the meaning and scope of skills training have been clarified and given a statutory interpretation that can be used to distinguish it from other components of the country's national education and training system. The Act 652 also provides for the implementation of a Malaysian Skills Certification System, leading to the award of five (5) levels of national skills qualification, namely Malaysian Skills Certificate Level 1, 2 and 3; Malaysian Skills Diploma; and Malaysian Skills Advanced Diploma.

1.1.3 Malaysian Qualification Act, 2007 (Act 679)

The Malaysian Qualification Act 2007 (Act 679) which was implemented on the 29th August 2007, Establishes the Malaysian Qualifications Agency, sets out its composition, functions and responsibilities. This act repeals the *Lembaga Akreditasi Negara* Act 1996 [Act 556] and dissolves the *Lembaga Akreditasi Negara*. The Malaysia Qualification Framework (MQF) refers to the policy framework that satisfies both the national and international recognized qualifications. It consists of titles and guidelines, together with principles and protocols covering articulation and issuance of qualifications and statements of attainment. Elements of the qualification's framework indicate the achievement for each qualification title. It will also provide progression routes for all the graduates in the respective occupational fields. The MQF has eight levels of qualifications in three sectors and it is supported by lifelong education pathways as shown in Figure 1.1. JPK governs the skills sector, in which there are five (5) levels of skills qualification. The definition for each level of skills qualification is specified in the Malaysian Occupational Skills Qualification Framework (MOSQF).

MQF Levels	Sectors			Lifelong Learning
	Skills	Vocational and Technical	Higher Education	
8			Doctoral Degree	Accreditation of Prior Experiential Learning (APEL)
7			Masters Degree	
6			Bachelors Degree	
5	Malaysian Advanced Skills Diploma	Advanced Diploma	Advanced Diploma	
4	Malaysian Skills Diploma	Diploma	Diploma	
3	Malaysian Skills Certificate 3	Vocational and Technical Certificate	Certificate	
2	Malaysian Skills Certificate 2			
1	Malaysian Skills Certificate 1			

Figure 1.1: MQF Chart

(Source: Jabatan Pembangunan Kemahiran (JPK), 2013)

1.1.4 National Occupational Skills Standard (NOSS)

The National Occupational Skills Standard (NOSS) is defined as a specification of the competencies expected of a skilled worker who is gainfully employed in Malaysia for an occupational area, level and pathway to achieve the competencies and is gazetted in Part IV of the National Skills Development Act, 2006 (Act 652). NOSS is developed by industry experts based on the needs of the industry and is utilised as the main tool in the implementation of Malaysian Skills Certification System in which the performance of existing industry workers and trainees are assessed based on the NOSS to award the Malaysian Skills Certificate.

1.1.5 Competency Based Training (CBT)

Competency Based Training (CBT) is an approach to vocational training which emphasizes what a person can do in a work place as a result of education and training obtained. CBT is based on performance standards which are set by the industry with main focus on measuring the performance while considering knowledge and attitude rather than the duration taken to complete the course. CBT is a learner-centric, outcome-based approach to training which allows each individual to develop skills at his or her own pace for a similar outcome. Thus, training practices can be customized for each individual to achieve a similar outcome. CBT concept is the basis of Malaysian Skills Certification system which is coordinated by JPK.

1.1.6 Occupational Framework (OF)

The Occupational Framework (OF) is described as the outcome of the occupational analysis process to identify the occupational structure of an industry. The OF which was previously known as Occupational Analysis (OA) consists of Occupational Structure (OS), Occupation Description (OD) and Skills in Demand.

The development of the OF is a preliminary process in developing relevant NOSS. Once developed, the NOSS can be used as the basis to conduct skills training and skills certification of competent personnel.

1.1.7 Malaysia Standard Industrial Classification (MSIC)

The MSIC is intended to be a standard classification of productive economic activities. Its main purpose is to provide a set of activity categories that can be utilised for the collection and presentation of statistics according to such activities. Therefore, MSIC aims to present these set of activity categories in such a way that entities can be classified according to the economic activity that they carry out. For purposes of international comparability, the MSIC 2008 Version 1.0 conforms closely to the International Standard Industrial Classification of All Economic Activities (ISIC) Revision 4, published by the United Nations Statistics Division, with some modifications to suit national requirements. The objective of an industrial classification system is to classify data in respect of the economy according to categories of activities and the characteristics of which will be similar. The MSIC is a classification of all types of economic activities and is not a classification of goods & services nor is it a classification of occupations. (Department of Statistics. MSIC 2008)

1.2 Objectives of Study

The objectives of the study conducted on the group of Support Activities to Agriculture and Post-Harvest Crops Activities are as below:

- a. To produce the OS for Support Activities to Agriculture and Post-Harvest Crops Activities industry from data analysis, interviews, site visits and focus group;
- b. To determine Occupational Descriptions (OD) of job titles in the aforesaid OS; and
- c. To investigate the jobs and skills in demand in the Support Activities to Agriculture and Post-Harvest Crops Activities industry.

1.3 Scope of Study

The scope of work for the study conducted on the Support Activities to Agriculture and Post-Harvest Crops Activities industry are as listed below:

- a. The scope of this research is only on Support Activities to Agriculture and Post-Harvest Crops Activities and does not include the product development, growing and marketing of the crop's products.
- b. To conduct literature review on Support Activities to Agriculture and Post-Harvest Crops Activities
- c. To consult with Support Activities to Agriculture and Post-Harvest Crops Activities industry representatives to obtain industry expert input;
- d. To develop the expected outcome of the research namely OS, OD, Jobs in demand and Skills in demand;
- e. To develop, disseminate and analyse survey data via Support Activities to Agriculture and Post-Harvest Crops Activities industry representatives; and
- f. To perform focus group discussion with the industry representatives, interviews, site visits and/or any other methods in order to achieve the study outcomes.

1.4 Justification for MSIC Section Selection

The justification for the selection of MSIC's Section A, Agriculture, Forestry and Fishing and Division 01 and Group 016 for this particular Occupational Framework is as follows:

The Agriculture sector was identified as one of the twelve National Key Economic Areas that played an important role as the catalyst for the economic growth in Malaysia. Agricultural activities include the use of land for farming for the production of food and fibre products, including seeding, cultivating, harvesting and post-harvesting activities, beekeeping, horticulture, aquaculture, and animal and poultry husbandry.

These activities are classified in various divisions and groups in MSIC 2008. The scope of Support Activities to Agriculture and Post-Harvest Crops Activities is classified in Group 016.

Support and post-harvest activities for crops include preparation of fields, harvesting, pest control, operation of irrigation equipment for agricultural purposes and maintenance of land to keep it in good condition for agricultural use as well as improving the propagation quality of seeds through the removal of non-seed materials, undersized, mechanically or insect-damaged and immature seeds as well as removing the seed moisture to a safe level for seed storage, the drying, cleaning, grading and treating of seeds until they are marketed and the treatment of genetically modified seeds.. Support activities for animal husbandry include activities to promote propagation, growth and output of animals, activities related to artificial insemination, feedlot and herd testing services, droving services, agistment service and poultry caponizing. All these activities are classified in the four classes of Group 016 namely 01610, 01620, 01631-01634 and 01640.

According to the Institute of Malaysian Plantation and Commodities (IMPAC), there are six big commodities in Malaysia that is Cocoa, Rubber, Timber, Pepper, Palm Oil and Kenaf. These commodities are supervised by the responsible boards such as Malaysian Cocoa Board (MCB), National Kenaf and Tobacco Board (NKTB), Malaysian Pepper Board (MPB), Malaysian Rubber Board (MRB), Malaysian Timber Industry Board (MTIB) and Malaysian Palm Oil Board (MPOB). These boards are responsible for the commodities research and development, market development and techno-economy, regulatory and quality control, target group development, extension and transfer of technology and technical and advisory services. The Occupational Framework developed from this research includes all the commodities except timber which is classified in another group.

The current NOSS registry (May 2018) has stated that the NOSS relevant to the industry are under Section A, Division 01.

1.5 Chapter Summary

In this chapter, research background includes all acts (i.e. National Skills Development Act 2006 (Act 652) and Malaysian Qualification Act 2007 (Act 679)), the Malaysian Qualification Framework (MQF), definitions of NOSS, OF and Competency Based Training. These items have been discussed and elaborated in this chapter to give a clear understanding about the research. The research objectives, scope and justification have also been defined in this chapter.

This research aims to define industry needs with regards to its Occupational Structure, Jobs in Demand and Skills in Demand using a qualitative approach. The research output can provide crucial information that help in identifying skills shortage in the industry. It can also be utilised by stakeholders to plan strategies to meet industrial needs.

CHAPTER 2: LITERATURE REVIEW

2.1 Chapter Introduction

This chapter provides a brief overview of the Support Activities to Agriculture and Post-Harvest Crops Activities industry in Malaysia, stakeholders, related legislations, key government initiatives and policies for the industry and industry intelligence.

Findings in this chapter were acquired primarily through literature review and confirmed by the development panel members.

2.2 Definition of Research Area

In order to ensure that the scope of Support Activities to Agriculture and Post-Harvest Crops Activities industry is comprehensively covered in this Occupational Framework research, the definition of Support Activities to Agriculture and Post-Harvest Crops Activities industry has to be spelt out clearly.

The definitions specified by the MSIC are as follows:

2.2.1. MSIC 2008 Definition of Post-Harvest Crops Activities

Under MSIC, the area being researched falls under the Sections and Divisions listed below:

Table 2.1: MSIC definition

MSIC SECTION	A	AGRICULTURE, FORESTRY AND FISHING
MSIC DIVISION	01	CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES
MSIC GROUP	016	Support activities to agriculture and post-harvest crops activities
MSIC CLASS	0161	Support activities for crops production
	0162	Support activities for animal production
	0163	Post-harvest crops activities
	0164	Seed processing for propagation

2.3 Scope of Occupational Framework Based on MSIC 2008

To further understand the scope of this particular Occupational Framework based on MSIC 2008¹, Table 2.2 through Table 2.3 below can be referred.

Table 2.2: MSIC Section, Division and Group

Classification	Code	Description
Section	A	Agriculture, Forestry and Fishing
Division	01	Crops and Animal Production, Hunting and Related Service Activities
Group	016	Support activities to agriculture and post-harvest crops activities This group includes activities incidental to agricultural production and activities similar to agriculture not undertaken for production purposes (in the sense of harvesting agricultural products), done on a fee or contract basis. Also included are post-harvest crops activities, aimed at preparing agricultural products for the primary market.
Class	0161	Support activities for crops production (a) Agricultural activities for crops production on a fee or contract basis Excludes: (a) post-harvest crops activities (b) activities of agronomists and agricultural economists (c) landscape architecture (d) landscape gardening, planting (e) maintenance of land to keep it in good ecological condition (f) organization of agricultural shows and fairs Includes: (a) the preparation of fields, harvesting, pest control (including rabbits) in connection with agriculture (b) operation of irrigation equipment for agricultural purposes (c) maintenance of land to keep it in good condition for agricultural use

¹ Department of Statistic Malaysia. (2008). Malaysian Standard Industrial Classification (MSIC). p.C-150

Classification	Code	Description
	0162	Support activities for animal production (a) Agricultural activities for animal production on a fee or contract basis Includes: activities of farrier Excludes: (a) provision of space for animal boarding only (b) veterinary activities (c) vaccination of animals (d) renting of animals (e.g. herds) (e) service activities to promote commercial hunting and trapping (f) pet boarding Includes: (a) activities to promote propagation, growth and output of animals (b) activities related to artificial insemination (c) sheep shearing (d) farm animal boarding activities without health care (e) herd testing services, droving services, agistment service, poultry caponizing
	0163	Post-harvest crops activities a) Preparation of crops for primary markets b) Preparation of tobacco leaves c) Preparation of cocoa beans d) Sun-drying of fruits and vegetables Excludes: (a) preparation of agricultural products by the producer, see groups 011 or 012 (b) preserving of fruits and vegetables, including dehydration by artificial means, see 1030 (c) stemming and re-drying of tobacco, see 1200 (d) marketing activities of commission merchants and cooperative associations, see division 46 (e) wholesale of agricultural raw materials, see 4620 Includes: (a) cleaning, trimming, grading, disinfecting, cotton ginning Includes: (a) preliminary processing tobacco leaves

Classification	Code	Description
	0164	Seed processing for propagation a) Seed processing for propagation Includes: (a) all post-harvest activities aimed at improving the propagation quality of seed through the removal of non-seed materials, undersized, mechanically or insect-damaged and immature seeds as well as removing the seed moisture to a safe level for seed storage (b) the drying, cleaning, grading and treating of seeds until they are marketed (c) the treatment of genetically modified seeds Excludes: (a) growing of seeds (b) processing of seeds to obtain oil (c) research to develop or modify new forms of seeds

2.4 Key Stakeholders

The stakeholders for the Support Activities to Agriculture and Post-Harvest Crops Activities industry in Malaysia comprises of government agencies, regulatory bodies, industry associations, and professional bodies of Support Activities To Agriculture And Post-Harvest Crops Activities industry.

2.4.1 Regulatory Bodies and Relevant Government Agencies

The regulatory bodies and relevant government agencies for the Support Activities to Agriculture and Post-Harvest Crops Activities industry can be referred in Table 2.3 below:

Table 2.3: List of Government Agencies/Regulatory Agencies/Licensing Bodies

No	Government Agency/Regulatory Agency/Licensing Body	Relevance to Support activities to agriculture and post-harvest crops activities Industry
1.	Ministry of Primary Industry (MPI) (Website: https://www.mpi.gov.my)	MPI acts as the government agency that formulates policies and strategies for the overall development of the plantation and the commodity sectors ² . MPI also supervises agencies under the Ministry on management and implementation of plantation and commodities development programmes
2.	Ministry of Agriculture and Agro-Based Industry (MOA) (Website: http://www.moa.gov.my)	MOA is the government's principal agency to legislate, plan and implement agriculture, development program's policies and strategies into the agriculture sectors in Malaysia. In terms of the Support Activities to Agriculture and Post-Harvest Crops Activities industry, MOA's role is to conduct R&D and innovation that enhance productivity and competitiveness in the agro-food sector and also post-harvest crops itself, to evaluate, coordinate and ensure the implementation of agro-food agriculture development projects/programs, and promote foreign and local investment in the agro-food sector ³ . MOA also assists in structuring and implementing an effective and efficient agro-food market chain.

² Ministry of Primary Industry (MPI) (2018, August 12). Retrieved from <https://www.mpi.gov.my/mpic/index.php/en/about-mpic/profile/overview>

³ Ministry of Agriculture (MOA). (2018, August 13). Retrieved from <http://www.moa.gov.my/about-moa/posts>

No	Government Agency/Regulatory Agency/Licensing Body	Relevance to Support activities to agriculture and post-harvest crops activities Industry
3.	Department of Agriculture (DOA) (Website: http://www.doa.gov.my)	DOA is responsible in providing extension services and agricultural development through technology transfer based on good agricultural practices throughout the value chain in order to improve the incomes, production of high-quality crops, and ensure adequate and safe food for consumption. DOA also assists and produces progressive agriculture entrepreneurs in order to improve the farm productivity and the country's agriculture production ⁴ . Support Activities to Agriculture and Post-Harvest Crops Activities industry will refer DOA in terms of consultation in producing high quality crops and foods which are safe for consumption and conserve the environment.
4.	Farmers Organization Authority (FOA) (Website: http://www.lpp.gov.my)	FOA helps in boosting, encouraging and striving for economic and social progress of Farmers' Organizations. FOA also registers, controls and supervises Farmers' Organizations and makes provision for related matters. FOA's role in Support Activities to Agriculture and Post-Harvest Crops Activities industry is to supervise and control all activities of PP and agriculture-based cooperatives and also to help in educating and training their

⁴ Department of Agriculture (DOA). (2018, August 13). Retrieved from <http://www.doa.gov.my/index.php/pages/view/497?mid=23>

No	Government Agency/Regulatory Agency/Licensing Body	Relevance to Support activities to agriculture and post-harvest crops activities Industry
		members in terms of farming and agriculture knowledge ⁵ .
5.	Malaysian Agricultural Research and Development Institute (MARDI) (Website: https://www.mardi.gov.my)	MARDI is the government agency to conduct researches in the fields of science, technical, economy, and social involving production, utilisation and processing of all crops (except rubber, oil palm and cocoa), livestock and food and integrated farming⁶. MARDI will be referred by Support Activities to Agriculture and Post-Harvest Crops Activities industry in a center that provides expert services in food, agriculture and agro-based industry such as consultancy services, laboratory analysis, quality assurance and contract research and development (R&D).
6.	<i>Bahagian Latihan Kemahiran Pertanian</i> (BLKP)	BKLP was established on October 1, 2002. BKLP is responsible for planning, preparing, monitoring and evaluating National Agricultural Training Program (PLKPK). BKLP also assists in producing modern, dynamic and competitive skilled workers and entrepreneurs in various fields.

⁵ Farmers Organization Authority (FOA). (2018, August 6). Retrieved from <http://www.lpp.gov.my/article/view/fungsi-lpp>

⁶ Malaysian Agricultural Research and Development Institute (MARDI). (2018, August 6). Retrieved <https://www.mardi.gov.my/index.php/pages/view/749?mid=313>

No	Government Agency/Regulatory Agency/Licensing Body	Relevance to Support activities to agriculture and post-harvest crops activities Industry
7.	Institute of Malaysian Plantation and Commodities (IMPAC) (Website: https://www.impac.edu.my)	IMPAC is formal training institution established under MPIC to merge and coordinate all courses and training carried out by the different agencies under one organization. Agencies involved are Malaysian Palm Oil Board (MPOB), Malaysian Rubber Board (MRB), Malaysian Timber Industry Board (MTIB), Malaysian Cocoa Board (MCB), Malaysian Pepper Board (MPB) and National Kenaf and Tobacco Board (NKTB). IMPAC helps in Support Activities to Agriculture and Post-Harvest Crops Activities industry by providing a suitable training plan to agencies involved under its supervision ⁷ .
8.	Malaysian Cocoa Board (MCB) (Website: http://www.koko.gov.my)	MCB is a federal statutory agency under the Ministry of Plantation Industries and Commodities (MPIC) and supervised by IMPAC. MCB objectives are to develop the cocoa industry in Malaysia to be well integrated and competitive in the global market ⁸ . MCB is important in post-harvest crops industry because it provides technical and advisory services to the cocoa planting and downstream industry.
9.	National Kenaf and Tobacco Board (NKTB)	NKTB is founded to implement policies and developmental programmes to

⁷ Institute of Malaysian Plantation and Commodities (IMPAC). (2018, August 6). Retrieved from https://www.impac.edu.my/about_us/about_impac/objectives

⁸ Malaysian Cocoa Board (MCB). (2018, August 6). Retrieved from <http://www.koko.gov.my/lkmbm/loader.cfm?page=aboutus/introduction.cfm>

No	Government Agency/Regulatory Agency/Licensing Body	Relevance to Support activities to agriculture and post-harvest crops activities Industry
	(Website: http://www.lktn.gov.my)	ensure the growth and availability of the kenaf and tobacco industry of Malaysia ⁹ . NKTB also aims to develop the kenaf and tobacco industry in Malaysia to be well integrated and competitive in the global market.
10.	Malaysian Palm Oil Board (MPOB) (Website: http://www.mpob.gov.my)	MPOB's function is to implement policies and development programmes to ensure the viability of the oil palm industry of Malaysia. MPOB conducts and promotes research and development activities, regulates, registers, co-ordinates and promotes all activities relating to the oil palm industry. The Board also develops, promotes and commercialises research findings as well as provides technical, advisory and consultancy services to the oil palm industry, and develops and maintains markets for oil palm products as well as promotes efficient marketing ¹⁰ .
11.	Malaysian Pepper Board (MPB) (Website: http://www.mpb.gov.my)	MPB is established to implement policies and developmental programmes to ensure the growth of the pepper industry of Malaysia. The Board engages in the trading of pepper and pepper products and also expands its services to other spices. It also promotes or conducts research and development relating to the pepper industry and commercialises the research findings for the benefit of the

⁹ National Kenaf and Tobacco Board (NKTB). (2018, August 6). Retrieved from <http://www.nktb.gov.my/en/about-us/about>

¹⁰ Malaysian Palm Oil Board (MPOB). (2018, August 10). Retrieved from <http://www.mpob.gov.my/en/about-us/about>

No	Government Agency/Regulatory Agency/Licensing Body	Relevance to Support activities to agriculture and post-harvest crops activities Industry
		pepper industry. In addition, it also promotes ¹¹ , controls and monitors measures towards attaining high quality pepper, pepper products and other spices and provides technical, advisory, consultancy and related services including training for the pepper industry.
12.	Malaysian Rubber Board (MRB) (Website: www.lgm.gov.my)	The primary objective of MRB is to assist in the development and modernization of the Malaysian rubber industry in all aspects from cultivation of the rubber tree ¹² , the extraction and processing of its raw rubber, the manufacture of rubber products and the marketing of rubber and rubber products.
13.	Department of Veterinary Services (DVS) (Website: http://www.dvs.gov.my)	DVS is responsible to strengthen and maintain animal health status conducive to the animal industry, public health assurance through the control of zoonotic diseases and wholesome food production from animal-based products, encourage sustainable livestock production and value-added industry, explore, develop ¹³ and encourage the use of technology and optimum use of sources in animal-based industry and promote animal welfare practices in all aspects of rearing and production system.

¹¹ Malaysian Pepper Board (MPB). (2018, August 14). Retrieved from <http://www.mpb.gov.my/general/Aboutus.aspx>

¹² Malaysian Rubber Board (MRB). (2018, August 10). Retrieved from <http://www.lgm.gov.my/general/Aboutus.aspx>

¹³ Department of Veterinary Services (DVS). (2018, September 27). Retrieved from <http://www.dvs.gov.my>

2.4.2 Professional Bodies and Industry Associations

Table 2.4 lists the industry associations that serve their respective categories of organisations by promoting their interests and facilitating close collaboration between their member organisations towards strengthening the industry.

Table 2.4: List of Industry Associations

No	Industry Association	Relevance to Support agriculture activities and post-harvest crops activities Industry
1	Malaysian Plant Protection Society (MPPS) (Website: http://mapps.org.my)	MPPS is responsible to promote and advance knowledge on all aspects of plant protection in Malaysia ¹⁴ . MPPS also organises and arranges lectures, meetings, symposia, seminars, workshops for promotion and exchange of views among members on plant protection at regional and international levels. MPPS publishes ¹⁵ and communicates scientific knowledge on plant protection and related subjects.
2	Malaysian Estate Owners' Association (MEOA) (Website: https://www.meoa.org.my)	Malaysian Estate Owners' Association (MEOA) is an organisation that helps to promote, foster and protect the interests of the plantation industry in Malaysia. MEOA also builds bridges by engaging other associations within the industry and keeping its members informed about the latest issues affecting the industry.

¹⁴ Malaysian Plant Protection Society (MPPS). (2018, August 13). Retrieved from <http://mapps.org.my/introduction/>

¹⁵ Malaysian Estate Owners' Association (MEOA). (2018, August 12). Retrieved from <https://www.meoa.org.my>

No	Industry Association	Relevance to Support agriculture activities and post-harvest crops activities Industry
3.	Malaysian Palm Oil Association (MPOA) (Website: http://mpoa.org.my)	MPOA provides representation for the industry at both the domestic and international levels, lobbies the special interests and needs of the industry, provides long term strategic thinking and direction, shapes R & D policies and priorities, supports national marketing and promotion efforts and disseminates industry-relevant information to members ¹⁶
4.	The Incorporated Society of Planters (ISP) (Website: https://www.isp.org.my/v2/)	The Incorporated Society of Planters (ISP) with a proven team at its helm will continue to tap the innovative and technical skills of its members to maintain the growth of the Society and Malaysia's unrivalled record of excellence in plantation agriculture in the new millennium. ISP also functions in award of Professional Qualifications and in maintaining the registration, application of membership and publications. ¹⁷

¹⁶ Malaysian Palm Oil Association (MPOA). (2018, September 26). Retrieved from <http://mpoa.org.my>

¹⁷ The Incorporated Society of Planters (ISP). (2018, September 23). Retrieved from <https://www.isp.org.my/v2/>

2.4.3 Training Centres

The following is the list of training centre dedicated to provide training locally in areas related to the Support Activities to Agriculture and Post-Harvest Crops Activities Industry.

Table 2.5: List of Training Centres

NO.	ORGANISATIONS	OVERVIEW, ROLES, FUNCTIONS AND RESPONSIBILITIES
1.	<i>Pusat Latihan Sawit Malaysia (PLASMA)</i>	PLASMA is the training facilities or Centre of Excellence established by Malaysian Palm Oil Board (MPOB), which prepare and provides training for skills needed in Palm Oil Plantation. There are two PLASMA established at Keratong, Pahang and Lahad Datu, Sabah.
2.	Cocoa Innovation and Technology Centre	Cocoa Innovation and Technology Centre is the research facilities or Centre of Excellence established by Malaysian Cocoa Board (MCB), which prepare and provides research needed in Cocoa Plantation.
3.	Academic Hevea Malaysia (AHM)	Malaysian Rubber Boarda (MRB) had established Academy Hevea Malaysia (AHM) on 1 October 2006. The establishment of AHM is in line with the national aspiration to accelerate transfer of technology in rubber. The main objectives of AHM are to provide industry-oriented skills training for the rubber industry, produce adequate skilled manpower for the rubber industry and also expedite technology transfer through technical training ¹⁸ . AHM are located at Sungai Buloh, Selangor.
4.	<i>Pusat Latihan dan Pengembangan Lada (PENLada)</i>	PENLada is the training facilities established by Malaysian Pepper Board (MPB), which prepare and provides training and seminar for skills needed in Pepper Farming. PENLada are located at Kuching, Sarawak.
5.	<i>Institut Latihan Kenaf Dan</i>	ILKT is the training centre established by National

¹⁸ Academic Hevea Malaysia (AHM). (2018, October 21), Retrieved from <http://www3.lgm.gov.my/ahm/Default.aspx>

NO. ORGANISATIONS		OVERVIEW, ROLES, FUNCTIONS AND RESPONSIBILITIES
	<i>Tembakau (ILKT)</i>	Kenaf and Tobacco Board (NKTB). The main objective of ILKT are to provide place, tools and accommodation for staff training and activities. ILKT are located at Pasir Mas, Kelantan.
6.	<i>Institut Veterinar Malaysia (IVM)</i>	IVM is the training facilities established by Department of Veterinary Services which prepare and provides training for skills needed in Veterinary Services. The main objective of IVM are to provide infrastructure and industry-oriented skills training for the veterinary services. IVM are located at Kluang, Johor
7.	<i>Institut Pertanian Malaysia (IPSM)</i>	<i>Institut Pertanian Malaysia (IPSM)</i> is a leading institution that conduct both education and training in agriculture to youths at certificate level since 1950s. The main objective of IPSM is to create a skilled human capital in helping the transformation of national agricultural sector.
8.	<i>Universiti Putra Malaysia (UPM)</i>	<i>Universiti Putra Malaysia (UPM)</i> a leading research university in Malaysia is located in Serdang, next to Malaysia's administrative capital city; Putrajaya. As a world renowned centre of learning and research, UPM has attracted students and staff from all around the world making it a well- respected global entity especially in agriculture development

2.5 Government Legislation, Policy and Initiatives

It is imperative that this research has to refer to legislations, by-laws and policies that are directly related to the Support Activities to Agriculture and Post-Harvest Crops Activities industry.

2.5.1 Legislations

Table 2.6 indicates the legislations that are relevant to the Support Activities to Agriculture and Post-Harvest Crops Activities industry.

Table 2.6: List of Relevant Legislations

NO.	LEGISLATIONS	ENFORCEMENT AGENCY	DESCRIPTION OF LEGISLATIONS
1.	Pesticide Act 1974 (Act 149)	Department of Agriculture (DoA)	Pesticides Act 1974 is the principal legislation to regulate the management of pesticides in Malaysia. The Act covers the management of all pesticides and other chemicals used in agriculture.
2.	Plant Quarantine Act 1976 (Act 167)		An Act to amend and consolidate the laws relating to the control, prevention and eradication of agricultural pests, noxious plants and plant diseases and to extend co-operation in the control of the movement of pests in international trade for matters connected therewith ¹⁹ .
3.	Bank Pertanian Malaysia Berhad Act 2008 (Act 684)	N/A	This Act is to provide for the transfer to and for the vesting of Bank Pertanian Malaysia property, rights and liabilities in a company under the name of Bank Pertanian Malaysia Berhad, and to provide for other related matters.
4.	Malaysian Agricultural Research and Development Institute Act (MARDI) 1969 (Act 11)	MARDI	An Act to establish the Malaysian Agricultural Research and Development Institute (MARDI) and for matters connected with it.
5.	Environmental Quality Act 1974	Department of Environment (DOE)	This Act is for the prevention, abatement, control of pollution and enhancement of the environment, and for purposes connected therewith.

¹⁹ Ministry of Agriculture (MOA). (2018, August 13). Retrieved from <http://www.moa.gov.my/perundangan>

NO.	LEGISLATIONS	ENFORCEMENT AGENCY	DESCRIPTION OF LEGISLATIONS
6.	Malaysian Cocoa Board (Incorporation) Act 1988 (Act 343)	Malaysian Cocoa Board	An Act to establish the Malaysian Cocoa Board and to provide for matters connected therewith.
7.	Malaysian Pepper Board Act 2006 (Act 656)	Malaysian Pepper Board	An Act to establish the Malaysian Pepper Board and to provide for matters connected therewith.
8.	Malaysian Rubber Board (Incorporation) Act 1996 (Act 551)	Malaysian Rubber Board	An Act to establish the Malaysian Rubber Board and to provide for matters connected therewith.
9.	Malaysian Palm Oil Board Act, 1998 (No. 582)	Malaysian Palm Oil Board	An Act to establish the Malaysian Palm Oil Board and to provide for matters connected therewith.
10	Pineapple Industry Act 1957 (Revised 1990) (Act 427)	Malaysian Pineapple Board	An Act to establish the Malaysian Pineapple Board and to provide for matters connected therewith.
11	Farmers' Organisation Act 1973 (Act 109)	Farmers' Organisation Board	An Act to incorporate the Farmers' Organization Authority and to make provisions on the relevant matters.

2.5.2 Government Policies and Initiatives

The prevailing economic plans (IMP3 and RMK11) are still pertinent and remain as Malaysia's mid-term policy guide until 2020. RMK11 (2016-2020) has provided that agriculture industry will be modernized in order to become a high income and sustainable sector. Support Activities to Agriculture and Post-Harvest Crops Activities industry alongside agriculture will be developed further to ensure this sector will grow at 3.5% per annum and contribute 7.8% to GDP in 2020.

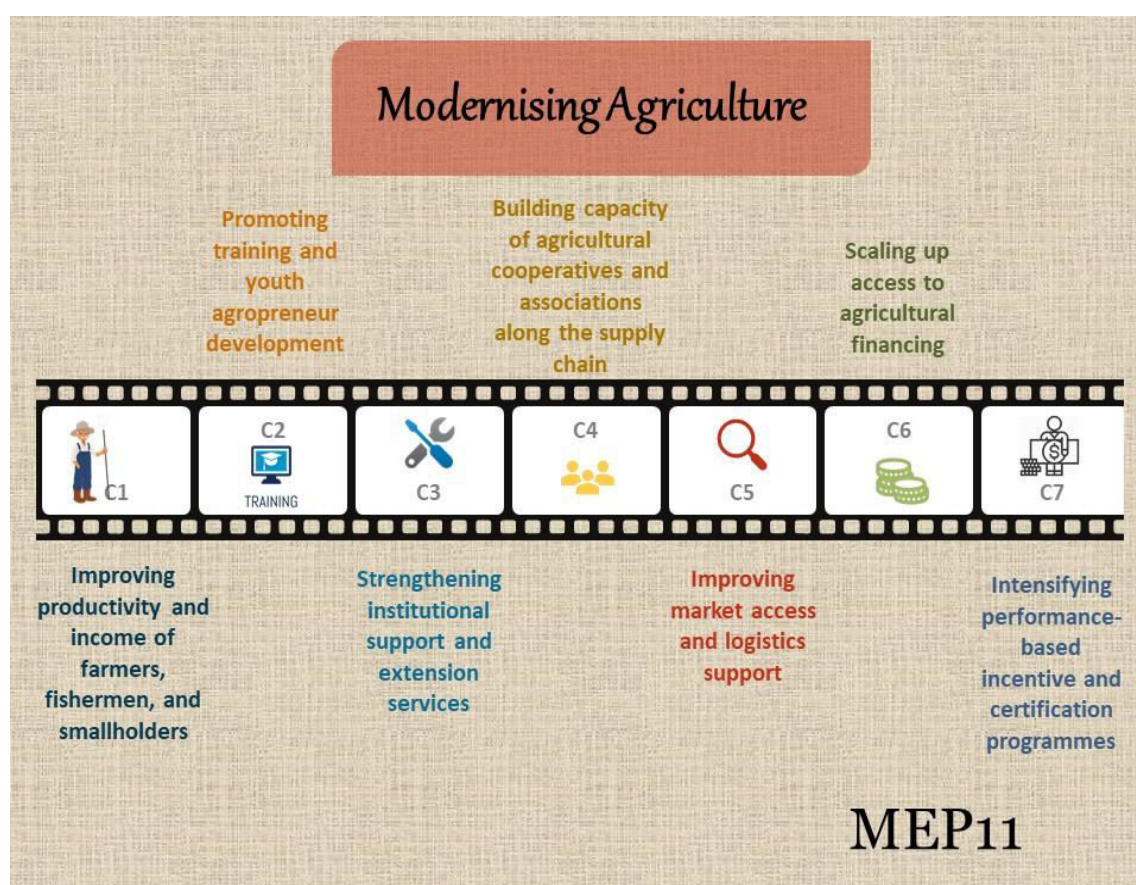


Figure 2.1: 7 Pillars in modernizing Agriculture sector in Malaysia

(Source: Eleventh Malaysia Plan, 2016-2020)

Based on Figure 2.1 above, the Eleventh Malaysia Plan has prepared seven strategies (C1- C7) to modernise the agriculture sector in Malaysia²⁰. The first strategy is on improving productivity and income of farmers, fishermen, and smallholders by accelerating adoption of ICT and farming technology, preserving and optimizing agricultural land, and intensifying R&D&C in priority areas. Next is on promoting training and youth agropreneur development

²⁰ Eleventh Malaysia Plan. Chapter 7: Strengthening infrastructure to support economic expansion. Focus area C Modernising Agriculture. Page 259-261

through collaboration across agencies and the private sector to modernise farming techniques and nurture agribusiness start-ups. The third strategy is on strengthening institutional support and extension services by streamlining extension services and encouraging advisory services from industry and academia. Another strategy is on building capacity of agricultural cooperatives and associations along the supply chain by vertically integrating the supply chain for selected crops, enhancing management skills, and pooling resources for promotion and exports. The fifth strategy is on improving market access and logistics support by strengthening logistics and enhancing access to domestic and international marketplaces.

Scaling up access to agricultural financing by restructuring and providing a more flexible payment mechanism as well as increasing sustainability of financing mechanisms for replanting programmes; and intensifying performance-based incentive and certification programmes by encouraging farmers to get certified, and prioritising certified farms for incentives and support are the last two pillars that the government has planned in order to modernize the agriculture sector in Malaysia.



Figure 2.2: Strategic ICT Plan MOA (PSICT)

(Source: Ministry of Agriculture, 2017)

Malaysia and MOA are fully aware of the importance of technology in development of agriculture sector and MOA has prepared a strategic plan for ICT for agriculture sector in order to improvise and take the agriculture sector in Malaysia to the next level. In the Support Activities to Agriculture and Post-Harvest Crops Activities industry, the development of technology in agriculture will ensure rapid movement in preparation of crops after harvesting and maximise the crops production by time²¹.

In addition to the above, the Government has also implemented the National Commodity Policy (NCP) to help the agriculture sector in empowering commodity industries. The National Commodity Policy (NCP) 2011-2020 was launched on 17 February 2012. The NCP provides strategic direction for the development of the plantation and commodities industry until 2020. There are 7 thrusts to further transform the commodity sector as described below:

Thrust 1:

Strengthening Commodities Industries in National Economic Development

To empower the development of the commodity industry, priority will be given to the development of new improved products and it will be market oriented. This step will be implemented through the production of new innovative products by local R & D institutions. In addition, strategic cooperation between local and overseas R & D institutions will be improved.

Thrust 2:

Elevating Modernisation of the Commodity Industry

The use of modern technology, mechanization and automation will be expanded to improve commodity industry productivity. Focus is given to promote the use of technology to save cost, reduce dependency towards labour and improve quality along the value chain of the commodity industry.

²¹ Pelan Strategik ICT (PSICT). Ministry of Agriculture (MOA). (2018, August 13). Retrieved from <http://www.moa.gov.my/ispmoa>

Thrust 3:

Diversifying Production of High Value-added Products

Efforts will be intensified to diversify high value-added downstream product production to meet market needs. This is supported by local and international R & D collaboration networks in strengthening donations towards existing commodity industry.

Thrust 4:

Generating New Sources of Revenue

The implementation of the concept of waste to wealth will be developed and promoted. Through R & D activities, waste of palm oil, rubber, cocoa and sago will be potentially developed to produce new products that are environmentally friendly and sustainable. Besides being able to generate new sources of income, the use of waste of commodity industry can optimize the use of resources and help to conserve the environment

Thrust 5:

Enhancing Competitiveness and Market Expansion

Industrial competitiveness is strengthened through branding quality commodity-based products that are sustainable and environmentally friendly. To complete this effort, focus will be given on development of products that meet user preferences and niche market. Other than that, regional and international cooperation will be reinforced to promote local commodities in global markets. The use of the latest information and communication technology will also be improved.

Thrust 6:

Accelerating the Development of Smallholders and Entrepreneurs

Smallholder commodities will continue to be developed through an integrated development approach, including promoting replanting programmes using quality planting materials, providing technical advice as well as increasing the use of mechanization. This sector is also strengthened by promoting the management of smallholders in batches, including integrated with value added processing activities.

Thrust 7:

Developing and Strengthening Human Capital in Commodity Industries

Human capital development will be strengthened, especially to increase the number of skilled and semi-skilled workers to spur modernization and enhance the competitiveness of the commodity industry. Focus will be given to increase the level of skills and knowledge of employment at both upstream and downstream levels in using and dissemination of the latest technology. Human capital development efforts will be expanded through the strengthening of the role of the Plantation Institute and Malaysian Commodities (IMPAC), including establishing partnerships with the industry. Recognition of courses and training skills offered will improve career image and will be able to attract more local workforce to join the commodity industries. In addition, collaboration with local and foreign higher learning institutions in the field required by industries such as biotechnology, mechanization and plantation engineering will be developed to fulfil industrial needs.

2.6 Industry and Market Intelligence

This section provides an overview of the relevant factors which have substantial impact on the industry. Such information may be used to forecast the future manpower needs of the industry and to influence the necessary manpower planning.

2.6.1 Industry Economic Growth of Support agriculture activities and post-harvest crops activities

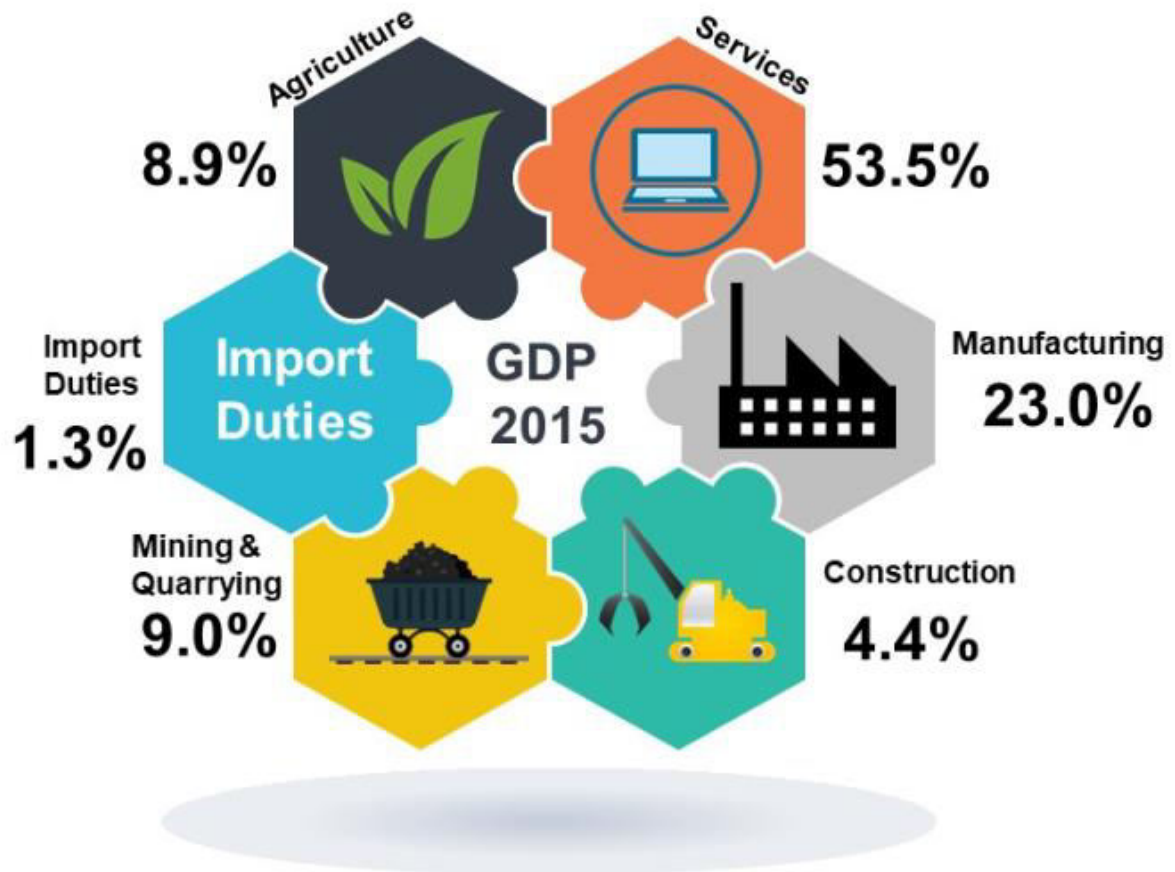


Figure 2.3: Selected Agricultural Indicators, Malaysia, 2016
(Source: Department of Statistics Malaysia, 2016)

- Based on GDP 2015, the agriculture sector contributes 8.9% from the total GDP in 2015.
- Oil palm was a major contributor to the GDP of agriculture sector at 46.9 per cent followed by other agriculture (17.7%), livestock (10.7%), fishing (10.7%), rubber (7.2%) as well as forestry & logging (6.9%) in 2015.

Figure 2.4 below is a summary of recent statistics obtained from the Department of Statistics Malaysia regarding Selected Agricultural Indicators, Malaysia, 2017. (DOS 2017) shown in Figure 2.4.

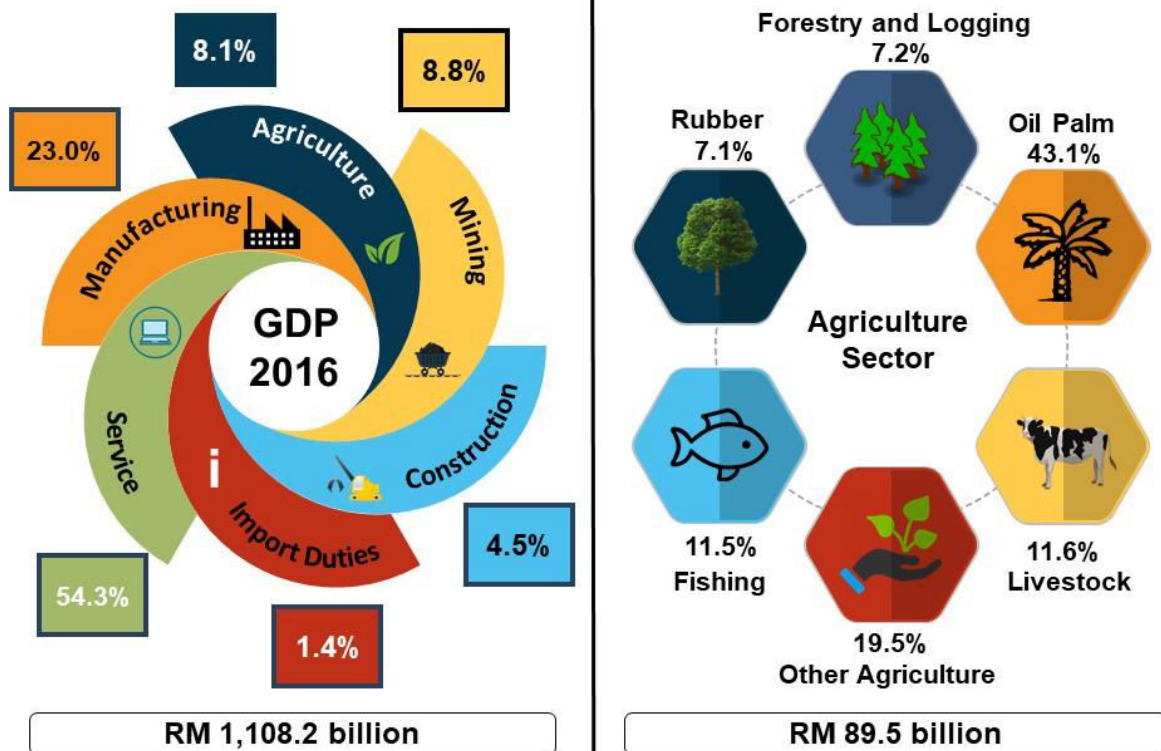


Figure 2.4: Selected Agricultural Indicators, Malaysia, 2017
(Source: Department of Statistics Malaysia, 2017)

- Based on GDP 2016, the agriculture sector contributes RM 89.5 billion that is 8.1% from the total GDP in 2016 that is RM 1,108.2 billion²².
- Agriculture sectors contribution are divided into six groups that is oil palm, fishing, other agriculture, forestry and logging, livestock and rubber. Oil palm gives the highest contribution that is 43.1% and other agriculture records 19.5%, the second highest contributor for the agriculture sector.

²² Department of statistic Malaysia (DOSM). (2017). Selected Agricultural Indicator, Malaysia 2017

EMPLOYED PERSONS IN THE AGRICULTURE SECTOR

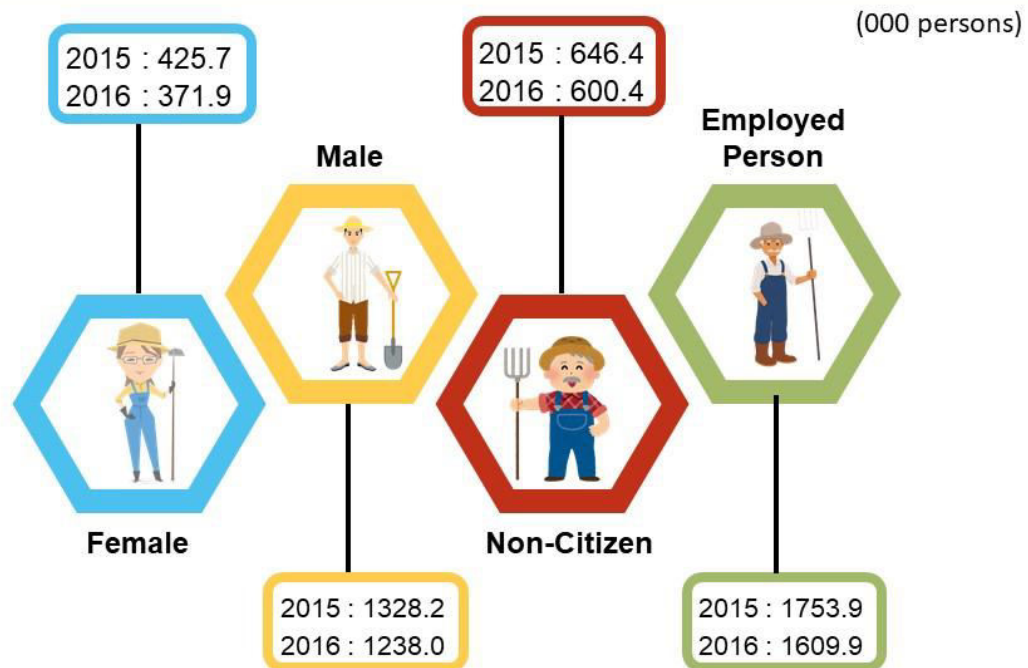


Figure 2.5: Selected Agricultural Indicators, Malaysia, 2017

(Source: Department of Statistics Malaysia, 2017)

- a. The number of employed persons in the agriculture sector decreased by 8.2 per cent as well as non-citizens employed persons declined by 7.1 per cent as compared to 2015. This sector was dominated by males with over 70 per cent of employed percent while the rest was females.

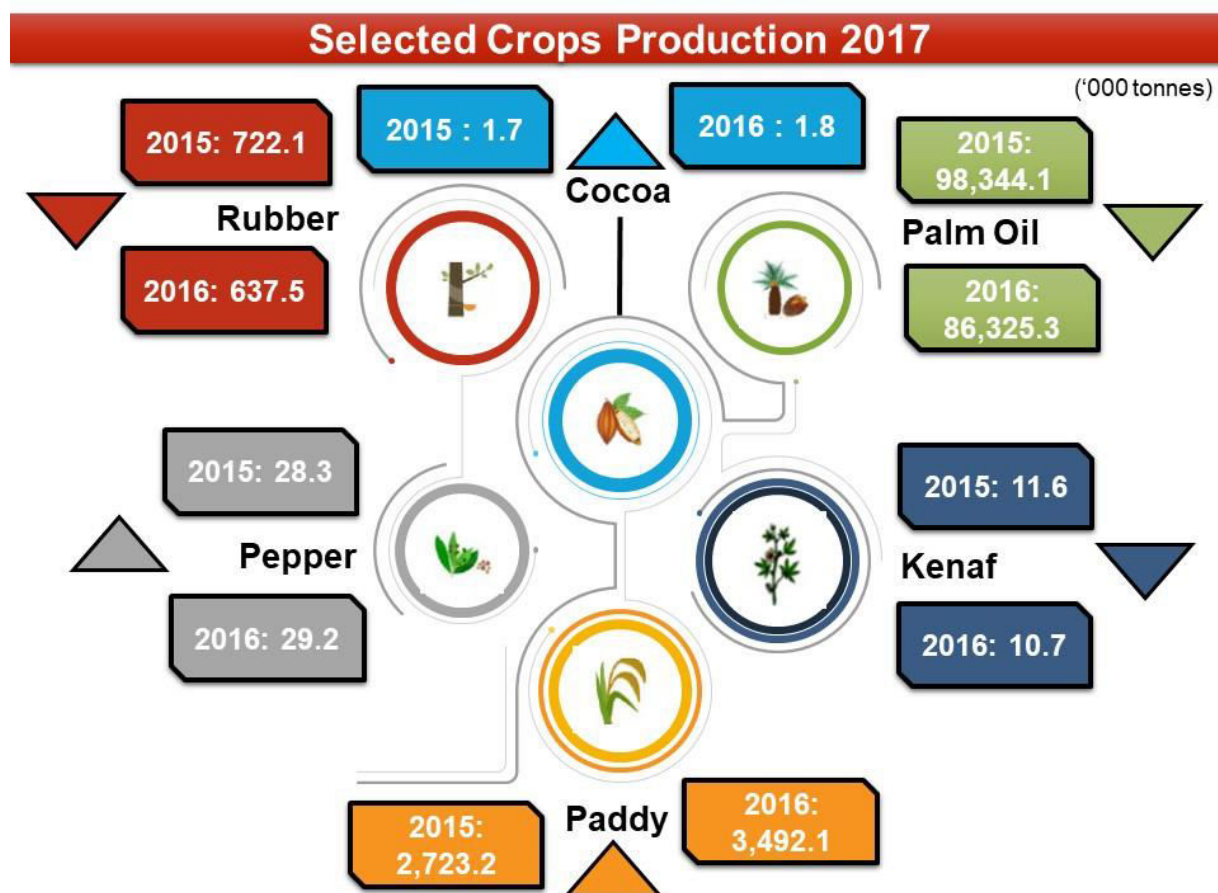


Figure 2.6: Selected Agricultural Indicators, Malaysia, 2017
(Source: Department of Statistics Malaysia, 2017)

- a. The production of staple food namely paddy increased by 768.9 thousand tonnes (28.2%) in 2016 as compared to the previous year. Similarly, the production of cocoa beans and pepper also increased by 0.1 thousand tonnes (5.9%) and 0.9 thousand tonnes (3.3%). Meanwhile, fresh fruit bunches (oil palm), kenaf (dried stem) and natural rubber showed a decrease of 12,018.8 thousand tonnes (12.2%), 0.9 thousand tonnes (7.8%) and 48.6 thousand tonnes (6.7%) respectively in 2016.

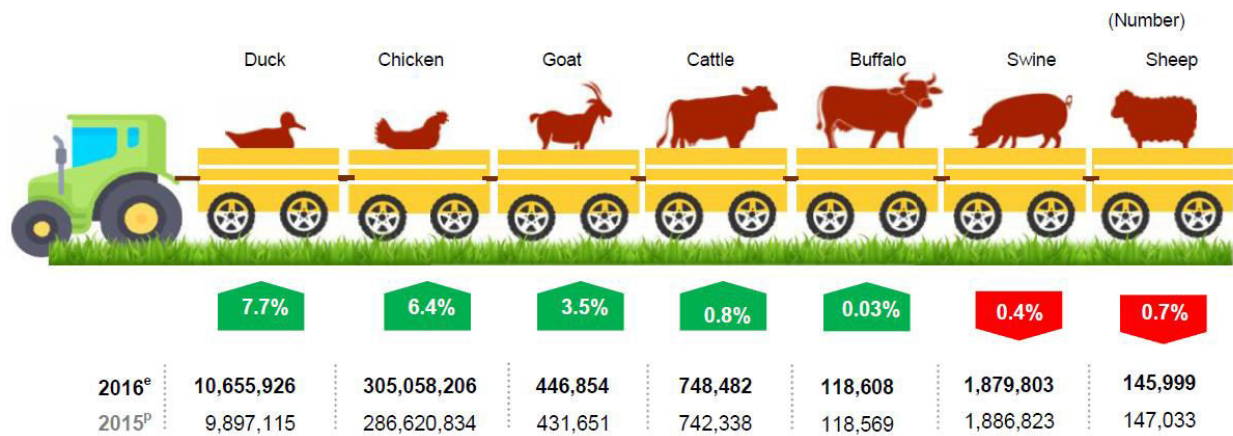


Exhibit 4: Production of livestock products, Malaysia, 2015 and 2016

Figure 2.7: Selected Agricultural Indicators, Malaysia, 2017

(Source: Department of Statistics Malaysia, 2017)

- a. In 2016, the number of ducks showed the highest percentage increase of 7.7 per cent as compared to other livestock followed by chicken (6.4%) and goat (3.5%). Meanwhile, the number of sheep and swine recorded a decrease as compared to the previous year by 0.7 per cent and 0.4 per cent respectively.

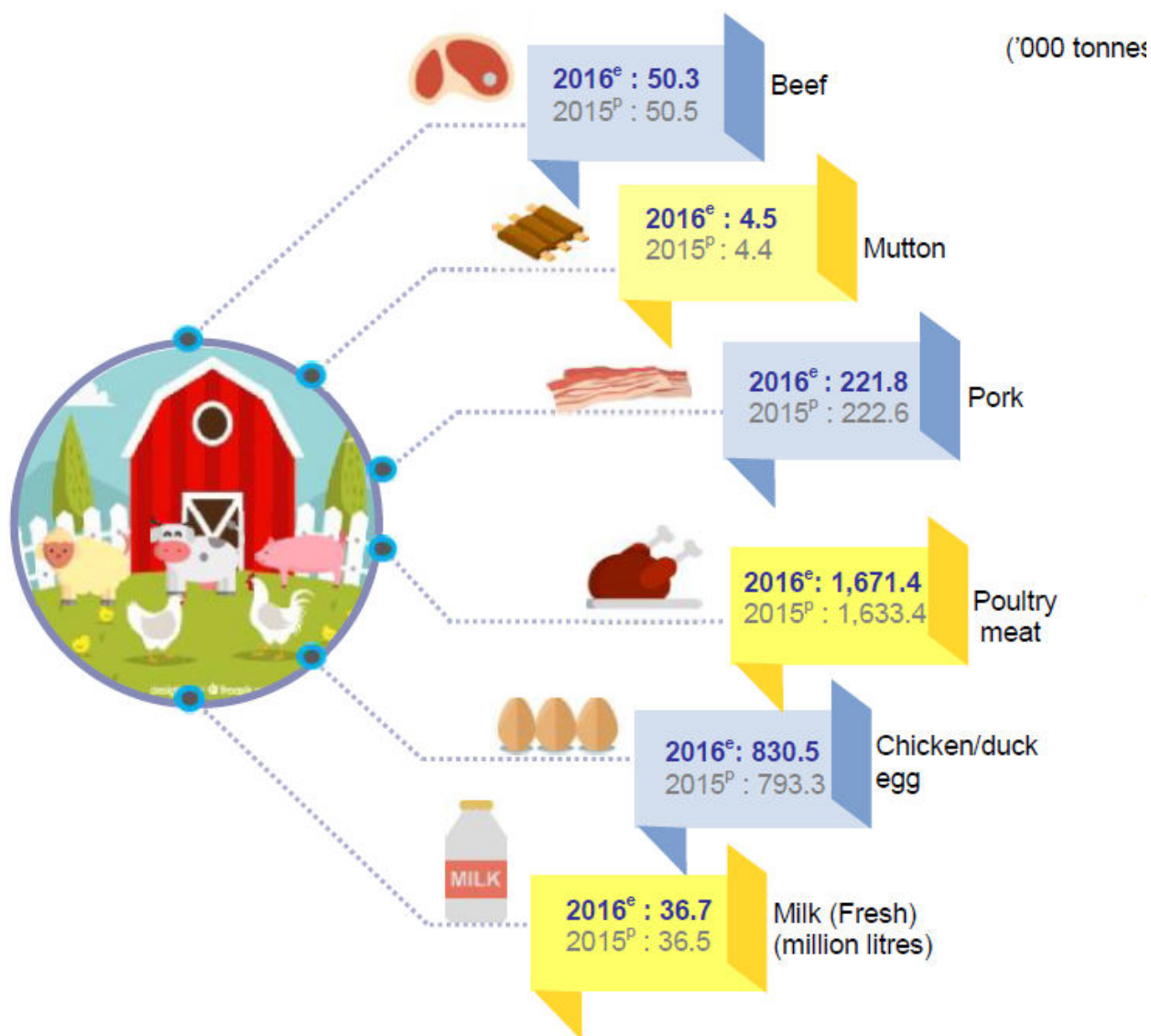


Figure 2.8: Selected Agricultural Indicators, Malaysia, 2017
 (Source: Department of Statistics Malaysia, 2017)

- a. Production for the three livestock products showed an increase in 2016, namely chicken/duck egg, poultry meat, and mutton. The production of chicken/duck egg registered the highest increase as compared to other livestock products by 4.7 per cent.

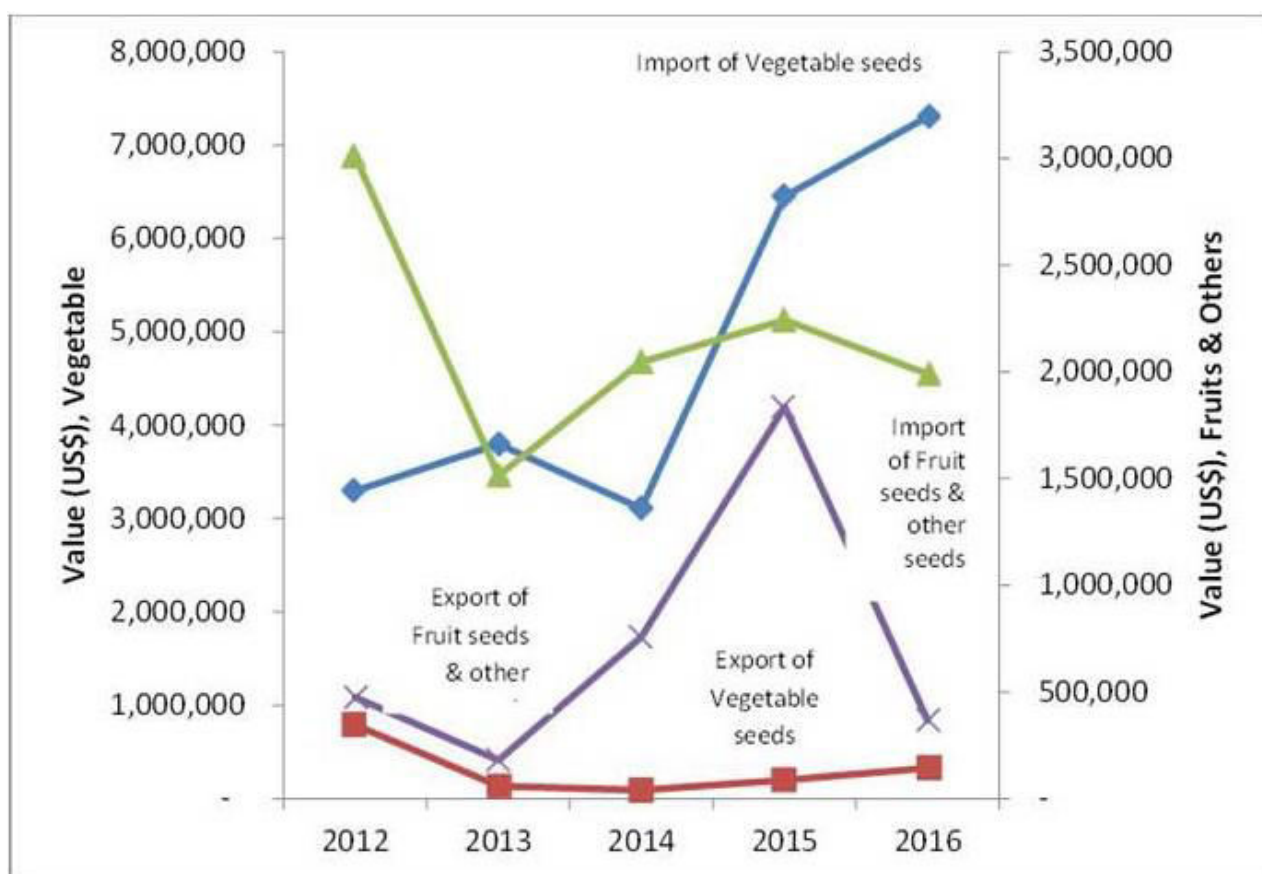


Figure 2.9: Import and Export Value of Malaysian Seed Industry, 2012-2016
(Source: *The Malaysian Agricultural Seed Industry – Seed Policy and Development*, 2017)

- a. Figure 2.9 shows the total import and export values for vegetable seeds, fruit seeds, and seeds of other crops for the year 2012 to 2016. The import values for vegetables seeds as well as for fruit seeds and others are higher than the export values, whereby in general the Balance of Trade (BOT) for the seed planting material are deficit. However, the production of seeds of vegetables increased tremendously with an annual growth rate of 14%²³. The export and import of seeds in Malaysia show that this sector also contributes to the growth of the agriculture sector.
- b. Countries like China, Thailand, Taiwan and Japan are the main suppliers of vegetables seeds to Malaysia. While the partner countries of the Malaysian seed exports are Brunei, Papua New Guinea, and Indonesia. These countries account for more than 50% of the total Malaysian seed export market share.

²³ Suhana Safari. *The Malaysian Agricultural Seed Industry – Seed Policy and Development*

The Department of Statistics Malaysia also released data about Malaysian economy that shows a commendable growth of 5.4 per cent in the first quarter of 2018 as compared to 5.9 per cent in the fourth quarter of 2017²⁴. It shows a small decline in the first quarter of 2018 compared to 2017 but an increasing percentage on agriculture sector. As shown in Figure 2.10 below, the agriculture sector elevated 2.8 % and became the fourth sector that contributed in GDP in the first quarter of 2018. Agriculture sector is supported by oil palm sub-sector while rubber, forestry & logging and fishing sub sectors declined.

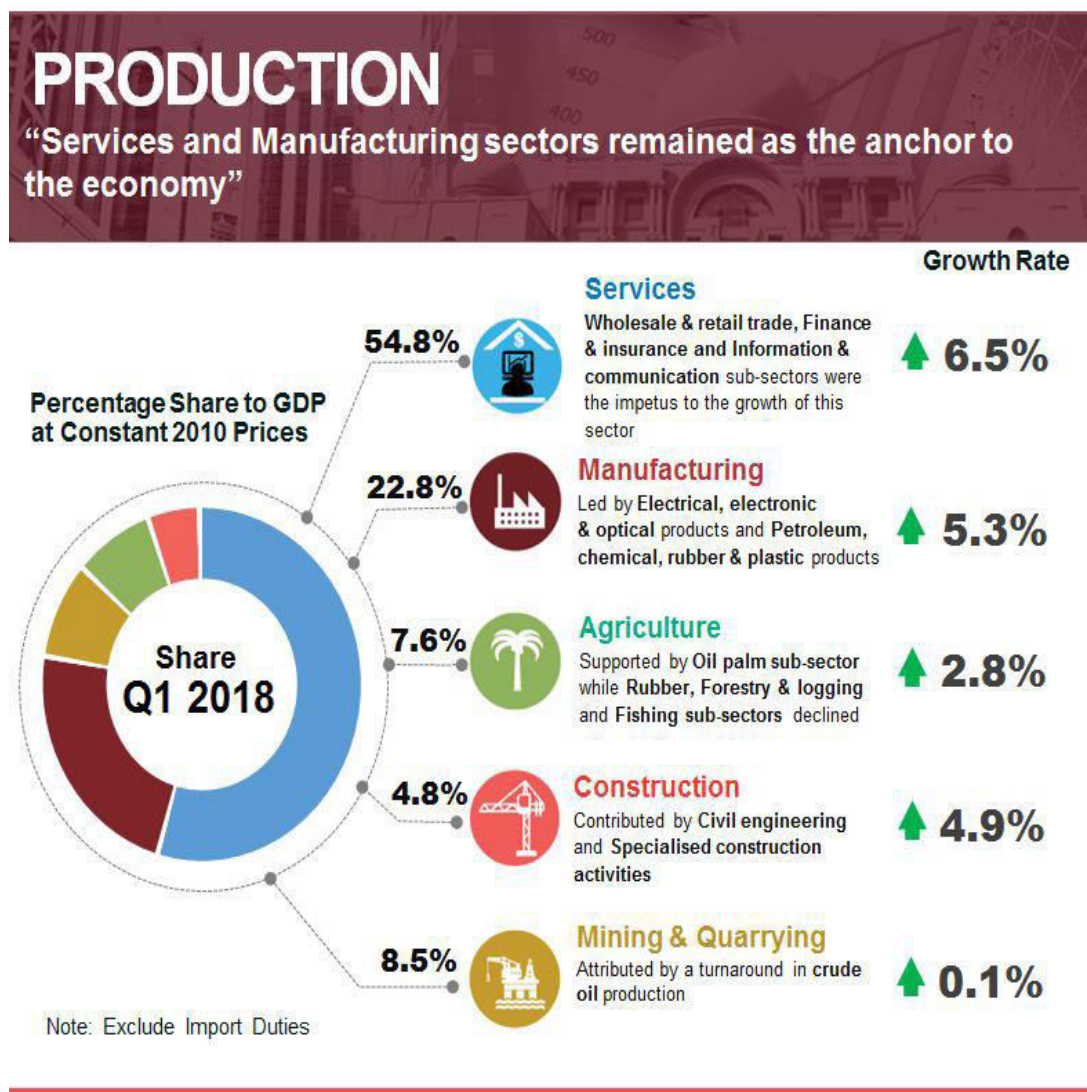


Figure 2.10: Malaysia Economic Performance First Quarter 2018
(Source: Department of Statistics Malaysia, 2018)

²⁴ Department of statistic Malaysia (DOSM). (2018). Malaysia Economic Performance First Quarter 2018

2.6.2 The Support Activities to Agriculture and Post-Harvest Crops Activities industry and the 4th Industrial Revolution (Industry 4.0)

After the introduction of Industry 4.0 in Malaysia by the Ministry of International Trade and Industry (MITI), clear plans are yet to be developed on how it is to be implemented in the agriculture sector. The researchers of this OF suggest that the agriculture sector should be equipped with Internet of Things (IOT) in order to evolve to the next level.

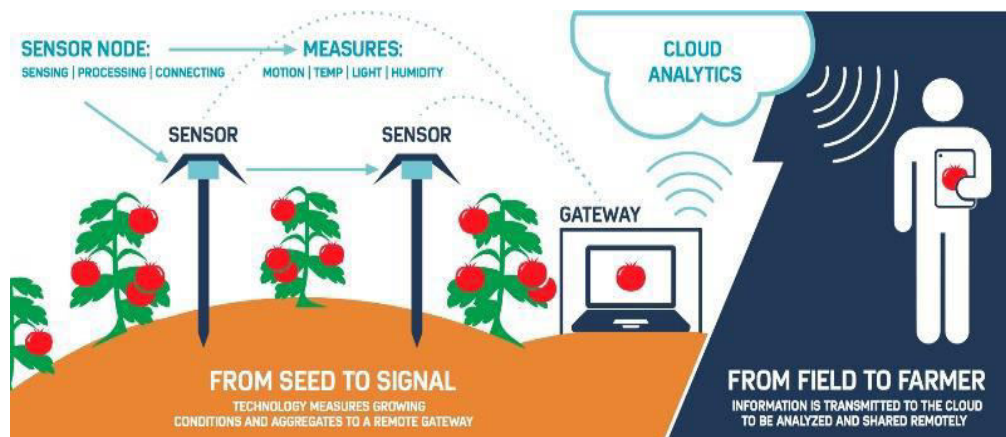


Figure 2.11: Internet of Things (IOT) in Agriculture Sector
(Source: *Smart Sensors: Key to Precision Agriculture Applications*, 2018)

As shown in Figure 2.11 above, the application of technology on agriculture is a new focus in Malaysia; where farmers start to adopt technologies for supervising plantation and also for quickening the process of production in the agriculture sector to maximise profits. Furthermore, industry 4.0 also gives a significant impact in the agriculture sector by system integration where it involves the process of linking together different computing systems and software applications physically or functionally to act as a coordinated whole via Internet of Things (IOT). This technology will allow whole supervision of the plantation process placed under an integrated control and will reduce cost from hiring different labour for different processes.

The Government is committed to move away from low-skilled and foreign workers dependency particularly for the agriculture sector. Adopting new technology to ensure companies be more efficient and productive will be in

tandem with global trends. Cheap labour is unsustainable in the long run and prone to human errors thus reducing the quality of products produced²⁵.

2.7 Existing National Occupational Skills Standards (NOSS) Relevant to the MSIC Section A and Group 016

Currently there are 29 National Occupational Skills Standards (NOSS) that have been developed by the Department of Skills Development that are relevant to the sub-sectors and areas in Support Activities to Agriculture and Post-Harvest Crops Activities. The details of the existing NOSS relevant to Support Activities to Agriculture and Post-Harvest Crops Activities are as shown in Table 2.6 below.

²⁵ Nizar. 2018. Smart Sensors: Key to Precision Agriculture Applications

Table 2.7: Support activities to agriculture and Support agriculture activities and post-harvest crops activities industry related NOSS

MSIC Group	NOSS Code	NOSS Name	Level
016 Support Activities to Agriculture and Post- Harvest Crops Activities Industry Related NOSS	1. A016-001-5:2016	Crop Technology Management	Level 5
	2. A016-002-5:2017	Fertigation Technology Operation Management	Level 5
	3. Y-050-5	Agriculture Farm Manager	Level 5
	4. A016-001-4:2016	Crop Technology Coordination	Level 4
	5. A016-002-4:2017	Fertigation Technology Operation Control	Level 4
	6. Y-050-4	Agriculture Executive	Level 4
	7. A016-001-3:2016	Crop Production Operation	Level 3
	8. AF-090-3	Quality Control Supervisor	Level 3
	9. AF-090-2	Quality Control Assistant	Level 2
	10. RB-015-3	Estate Conductor	Level 3
	11. RB-015-2	Mandore-Rubber Plantation	Level 2
	12. BT-024-3:2013	Plant Breeding & Seeds Production Operation	Level 3
	13. BT-024-4:2013	Plant Breeding & Seeds Production Management	Level 4
	14. BT-024-5:2013	Plant Breeding & Seeds Production Management	Level 5
	15. AF-071-3:2015	Poultry Farm Operation	Level 3
	16. AF-071-4:2017	Poultry Farm Operation and Technical Control	Level 4
	17. AF-071-5:2017	Poultry Farm Management	Level 5
	18. AF-060-1	Ruminant Farmhand*	Level 1
	19. AF-060-2	Ruminant Farm Assistant*	Level 2
	20. AF-060-3	Ruminant Farm Supervisor *	Level 3
	21. A014-001 4:2017	Ruminant Farm Administration Ruminant Farm Management	Level 4 Level 5
	22. A014-001- 5:2017	Oil Palm Plantation Operation &Supervision Oil Palm Plantation Administration	Level 3 Level 4
	23. RB-081-3:2012	Oil Palm Plantation Management	Level 3
	24. RB-081-4:2012	Pineapple Plantation Operation	Level 3
	25. RB-081-5:2012	Pineapple Crop Management	Level 4
	26. AF-016-3:2014	Kenaf Plantation Mechanisation Operation	Level 2
	27. A012-001- 4:2017	Kenaf Production Operation Supervision	Level 3
	28. RB-097-2:2016		
	29. RB-097-3:2016		

(Source: NOSS Registry May 2018, Jabatan Pembangunan Kemahiran (JPK))

2.8 Chapter Summary

Based on the literature review findings, the group of Support Activities to Agriculture and Post-Harvest Crops Activities is seen as one of the main potential contributors to the economic performance and foreign investment in Malaysia.

Currently there are several stakeholders in the industry comprising of government agencies (i.e. MOA, MPI, DOA, FOA, MARDI etc.) involved in the development and monitoring of the industry in terms of compliance to the relevant acts and regulations. The main industry associations are the MEOA and MPPS. In this report, the acts highlighted are those related to Support Activities to Agriculture and Post-Harvest Crops Activities in general.

There are 29 NOSS that have been developed for the industry. However, due to the fast-moving advancement of technologies in the industry and in order to increase employment mobility for the workforce, it is imperative that the occupational areas are redefined in the Occupational Structure. This is to allow scalability of skills and to accommodate the emerging skills required in the current Industrial Revolution, which is the 4th Industrial Revolution. Segmentation of the industry based on the Malaysian Standard Industrial Classification (MSIC) is also taken into consideration in order to be in sync with data from the Department of Statistics on labour demographics.

In order to identify the above, structured research approaches must be applied. The research methodology used for this study is elaborated in Chapter 3.

CHAPTER 3: METHODOLOGY

3.1 Chapter Introduction

This chapter describes the methodology to be used in the occupational analysis process for the purpose of developing the Occupational Framework (OF) for Support Activities to Agriculture and Post-Harvest Crops Activities.

3.2 Research Methodology

In this study, qualitative analysis was selected as the main method of obtaining and analysing the necessary input for the Support Activities to Agriculture and Post-Harvest Crops Activities Industry's Occupational Framework.

Qualitative analysis was selected as the method of research for the following reasons:

- a. It investigates not only the what, where and when, but also the why and how of the decision-making process;
- b. It requires smaller but more focused samples; and
- c. It focuses on unique themes that illustrate the range of the meanings of the subject matter rather than the statistical significance of the occurrence.

This process uses inductive reasoning, by which themes and categories emerge from the data through the researcher's careful examination and constant comparison. This study uses a combination of the following methods as shown in Figure 3.1 to gather information:

- a. Document analysis;
- b. Survey Analysis and Industry Visit
- c. Focus Group Discussion (FGD) workshops.



Figure 3.1 Operational framework of the research and expected outcomes.

Three methods were used to get sufficient information for this research namely Document Analysis, Focus Group Discussion, Survey Analysis and Industry Visit. Every method used will lead to the expected outcomes that will be used in this research.

3.2.1 Phase 1: Inception

a. Document Analysis

Document analysis or literature review was done in the Inception Phase to obtain an overview of the industry in terms of Industry Definition, Stakeholders, Acts and Industry Intelligence.

In this process, pertinent and relevant information published by the government, regulatory and professional bodies, news agencies, research agencies and any other sources relevant to the background information of Support Activities to Agriculture and Post-Harvest Crops Activities industry

were reviewed and analysed. Most information obtained was mainly on the larger industry, which was the agriculture sector rather than specific information on the Support Activities to Agriculture and Post-Harvest Crops Activities.

Details of the sources for the documents reviewed can be referred in the Reference section of this report, but generally the documents referred during the document analysis phase were as follows:

- i. Selected Agricultural Indicator 2015, 2016 and 2017
- ii. Department of Statistics Census Report
- iii. Department of Statistics data on Employment and Industry Productivity
- iv. MITI Frequently Asked Questions (FAQ) on Industry 4.0
- v. NOSS Registry May 2018
- vi. Malaysian Standard Industrial Classification (MSIC) 2008
- vii. Online newspaper/magazine articles
- viii. Official websites of industry stakeholders and legislations
- ix. Etc. (as listed in the references section of report)

The outcome of this step is an overall view of the industry as described in Chapter 2 which includes the list of stakeholders (i.e. Regulatory bodies, related government agencies, certification organisations, industry associations), legislations, policies and initiatives, industry and market intelligence, MSIC scope of section and groups, as well as the list of developed NOSS relevant to Support Activities to Agriculture and Post-Harvest Crops Activities.

b. Industry Engagement / Focus Group Meeting with Development Panel

The Industry Engagement/Focus Group Discussion (FGD) meeting with the development panel members was conducted to confirm the findings obtained during document analysis, review the draft questionnaire form in order to gauge the response of the industry and obtain industry intelligence information such as issues and challenges and use of Industry 4.0. This is because certain information especially for the industry intelligence section is not available in the form of available literature.

Facts obtained during the literature review were discussed and presented to the Development Panel members, comprising representatives from various sectors of the industry in focus group workshop sessions for their review and confirmation. The Focus Group Discussion was held from 31 August until 2 September and was participated by the industry representatives that are listed in Table 3.1.

Table 3.1: List of Focus Group Discussion Panel Members

NO.	NAME	EXPERTISE AREA	POSITION & ORGANISATION
1	Dato Syed Abdul Rahman Syed Abdul Rashid	Growing of Fruit and Beverage Crops A0161/A0164	Managing Director Agro Almashoor, Cameron Highland
2	Mohd Zainal @ Zainol Bin Ismail	Conduct Research in Agriculture, Food and Agri-Based Industries A0163	Agriculture Officer Institut Penyelidikan & Kemajuan Pertanian Malaysia (MARDI), Serdang
3	Noor Arina Binti Zainal Abidin	Conduct Research in Agriculture, Food and Agri-Based Industries A0163	Agriculture Officer Institut Penyelidikan & Kemajuan Pertanian Malaysia (MARDI), Serdang
4	Francis Bin Dungkit	Market Development, Techno-Economy A0163	Economic Affairs, Statistics and Analysis Services Manager Lembaga Koko Malaysia, Sabah
5	Langgi Anak Chaling	Growing of Spices Aromatic, Drugs and Pharmaceutical Crops A0161	Manager Lembaga Lada, Sarawak
6	Akbarudin Nasurdin	Trading Activities for Various Products 0162	Manager FAMA Corporation, Pulau Pinang

Other than confirming the document analysis findings with the development panel, initial information was also obtained from the Focus Group Discussions such as the Occupational Structures, Skills in Demand and Emerging Skills. The scope of the analysis was centered on the following key areas:

- i. Industry background;
- ii. Occupational structure; and

iii. Skills in demand.

The Focus Group Discussion members who are also considered as the core development panel members for this research, together with the facilitator have produced the draft survey questionnaire in the first Focus Group Discussion held from 31 August to 2 September. The questionnaire can be referred in Annex 3 of this report. The questionnaire seeks to elicit information on the key areas from the industry representatives.

The dates, venue and activities of the industry engagement sessions involving industry players, government agencies and subject matter experts are as shown in Table 3.2 below:

Table 3.2: List of Industry Engagement Sessions

Date	Venue	Activity
31 Aug. – 2 Sep. 2018	Ibis Styles Hotel, Cheras, KL	• Confirmation of Preliminary Literature Search • Identification of Occupational Structure
21 – 23 Sep. 2018	Ibis Styles Hotel, Cheras, KL	• Confirmation of Preliminary Literature Search • Confirmation of Occupational Structure • Development of Job Description

In the next phase, the occupational descriptions were developed with the development panel, and the jobs in demand, skills in demand and emerging skills were confirmed via industry survey.

c. Validation of the Literature Review and Questionnaire by Review Panel

The draft report and survey questionnaire were reviewed and validated by the Review Panel comprising of industry representatives. A sample of the validated survey questionnaire is included in this report in Annex 3.

The table below lists the evaluation sessions conducted to review the OF document.

Table 3.3: List of Evaluation Sessions

No.	Date	Venue	Activity
1.	18 th September 2018	Ibis Style Hotel Cheras	1st JTPOF Technical Evaluation Meeting
2.	11 th October 2018	NOSS Division, Level 3, JPK Cyberjaya	PEMANDU-meeting with JPK officers to review report content
3.	20 th October 2018	Ibis Style Hotel Cheras	2nd JTPOF Technical Evaluation Meeting
4.	29 th October 2018	NOSS Division, Level 3, JPK Cyberjaya	PEMANDU-meeting with JPK officers to review report content

3.2.2 Phase 2: Interim

a. Interview Surveys

Interview surveys were conducted concurrently during the industry visits. The survey respondents comprised of those from all job areas under the Support Activities to Agriculture and Post-Harvest Crops Activities. The interviews were aimed to obtain a 'house view' which means the agreed upon response for the organisation. That is why the target group for the survey was the organization's Human Resource or higher management representatives. These interviews aimed to obtain information on the common occupational structures used in various organisations, their job scopes, skills gap and emerging skills required. The actual number of interview respondents was targeted to be from each of the four MSIC items of Support Activities to Agriculture and Post-Harvest Crops Activities. The targeted number of industry survey respondents was 30.

Table 3.4: Number of Targeted Respondents According to MSIC Group

MSIC SECTION	C	Agriculture, Forestry and Fishing	NUMBER OF TARGETED RESPONDENTS	NUMBER OF ACTUAL RESPONDENTS
MSIC DIVISION	01	Crops and Animal Production, Hunting and Related Service Activities		
MSIC GROUP	016	Support Agriculture Activities and Post-Harvest Crops Activities	30	30

The sampling size will not be too large (as mentioned in the previous paragraph), as the main focus is the coverage of all sub areas under this particular area of research for Support Activities to Agriculture and Post-Harvest Crops Activities.

b. Qualitative Data Analysis

The findings from these interviews are tabulated and presented in Chapter 4 of this report as Occupational Structure, Skills in Demand, Jobs in Demand and Emerging Skills. The information collected regarding organization structures were analysed during the following focus group discussion when determining the Occupational Structure. Thematic reasoning was used when analysing the data based on the main objectives of research and guided by the research scope.

The analysed findings of the survey were presented to the Development Panel for their review and confirmation. Thereafter, the Development Panel proceeded with the development of the Occupational Structure (OS) and Occupational Description (OD).

3.2.3 Phase 3: Final

a. Review and Handover of Final OF document to Industry Stakeholders

The final draft of the OF Document is to be presented to the Review Panel at the Occupational Framework Technical Evaluation Committee meeting for their comments and approval before it is to be submitted to DSD. The details for these sessions can be referred in Table 3.2. After obtaining approval from DSD, the document will be handed over to industry stakeholders in the final session of the research. The review and final handover session aims to finalise the OF research project by having the final meeting with industry stakeholder representatives who will be briefed on the contents and findings of the research.

3.3 Chapter Summary

This chapter has elaborated on the methodology used in the study which consists of document analysis, focus group discussion, survey analysis and industry visit. There are 9 documents identified as a reference for this research base on data analysis method. More than that, base on survey conducted, there are 30 respondents from various background of expertise in this sector had given their opinion on skill in demands and industry 4.0 in Support to Agriculture Activities and Post-Harvest Crops Activities industry. Last but not least, two focus group discussion session had been conducted with the expertise from this sector in order to gaining the information such as Occupational Structure and Occupational Description.

The results of the Occupational Structure and Occupational Description development and skills in demand identified through focus group discussion and survey analysis are presented in the next chapter that is Chapter 4: Findings.

CHAPTER 4: FINDINGS

4.1 Chapter Introduction

This chapter elaborates the findings from the research works. The findings revolve around the objectives set for the study namely to produce Occupational Structure (OS) from data analysis, interviews, site visits and focus group; to determine job descriptions of each job title from the OS; and to investigate the skills in demand in the sector.

4.2 Surveys and Questionnaires Analysis

The respondents for the surveys and questionnaires are from 30 different companies; their designation ranging from HR executives to senior managers. The results of the surveys and questionnaires are presented below:

4.2.1 Section 1: Competency in Demand

This section explores the competency that is required by the industry. Another objective of this section is to analyse the skills gap and how to overcome the gap.

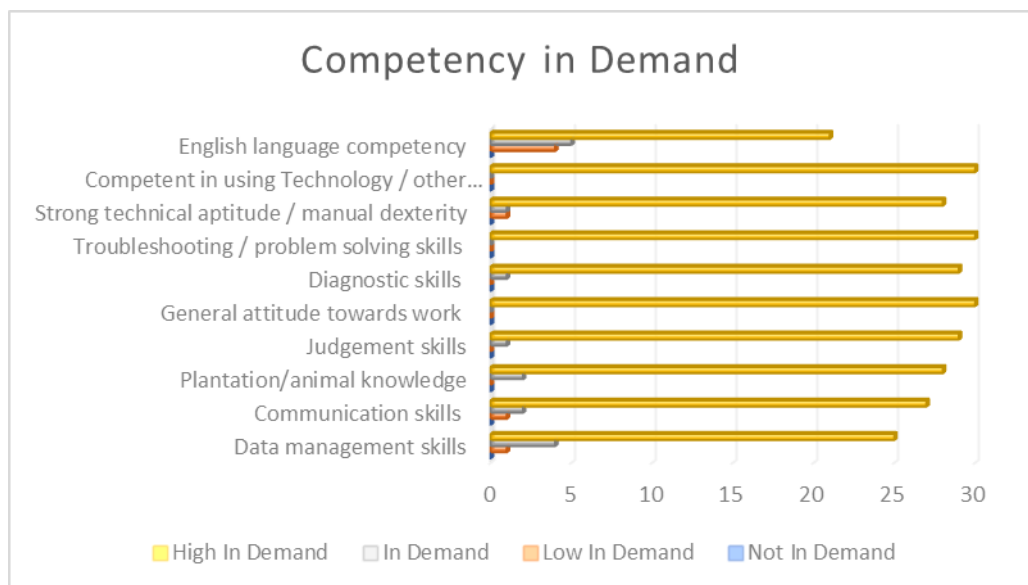


Figure 4.1: Competency in demand

The respondents have explicitly marked the top 5 skills highly demanded by the employer as troubleshooting / problem solving, competent in using technology, general attitude towards work, judgement skills and plantation /animal knowledge.

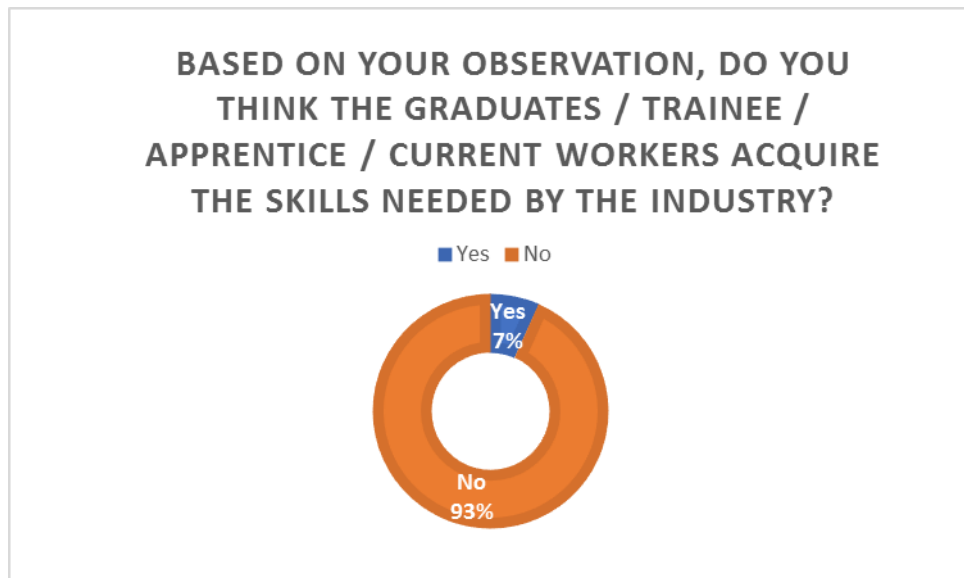


Figure 4.2: Skills mismatch responses

Only 7% of the respondents agreed that the graduates / trainees / apprentices / current workers have the skills required by the employers/ industry. The reasons for that are shown in the chart below:



Figure 4.3: Reasons for skills gap

The respondents choose education/ training mismatch and major changes in traditional training as the main reasons for skills gap.



Figure 4.4: Solutions for skills gap

Majority of the respondents suggested that skills training curriculum must be revised and must suit the current requirements of the industry.

4.2.2 Section 2: Jobs in Demand

This section is aimed to determine which category of workers is in shortage supply or over supply. The category is divided based on MASCO structure namely skilled workers and semi-skilled workers.

Category of Skills	Description
Skilled Workers	Supervisor, Assistant Manager, Managers, Technologist
Semi-Skilled Workers	General Workers, Plant Operator

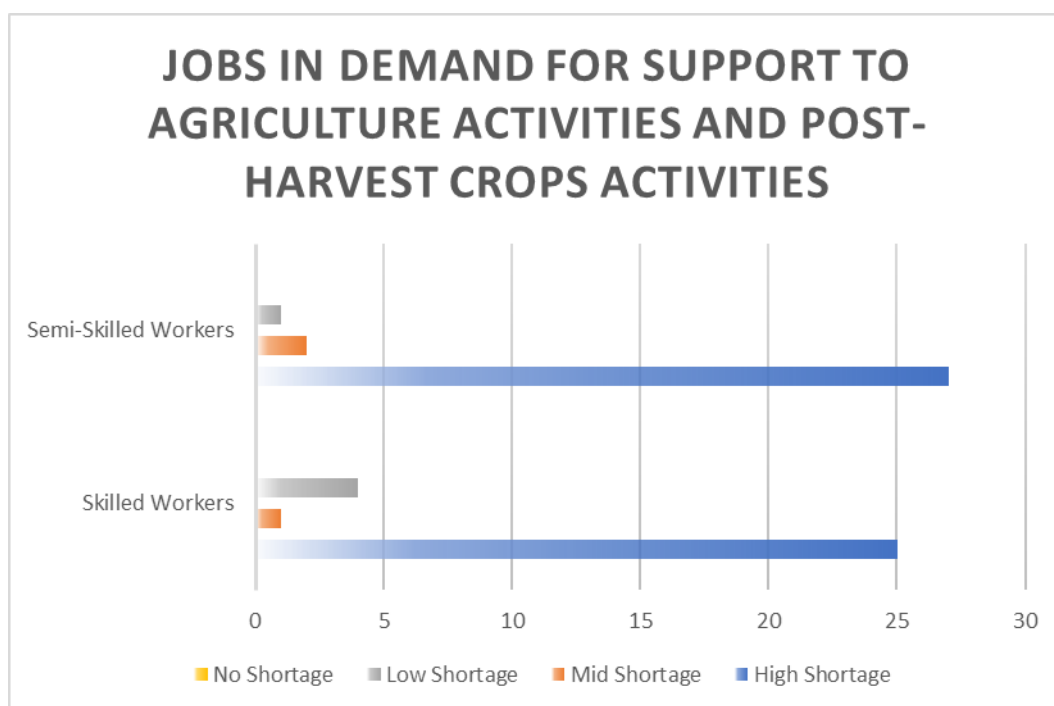


Figure 4.5: Jobs in demand for group 016

The skilled and semi-skilled workers for group 016 are high in demand as the current manpower supply is short of these two groups of workers.

4.2.3 Section 3: Emerging Skills

This section aims to determine the readiness of industry players and workers in the advent of IR4.0. The technology drives or pillars of IR4.0 were listed and the respondents had to decide the relevancy of each element in their line of duty.

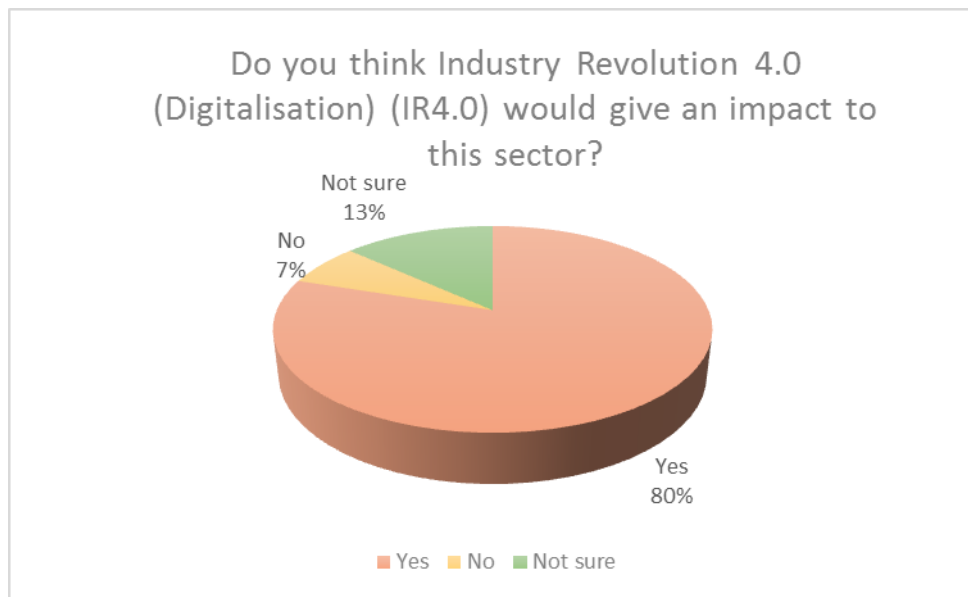


Figure 4.6: Impact of IR40 to the industry

80% of the respondents agreed that IR4.0 would give an impact to this sector. The respondents agreed that only eight from nine technology pillars would affect the work of Support Activities to Agriculture and Post-Harvest Crops Activities especially for Level 2 and above as shown in Chart 4.7 below.

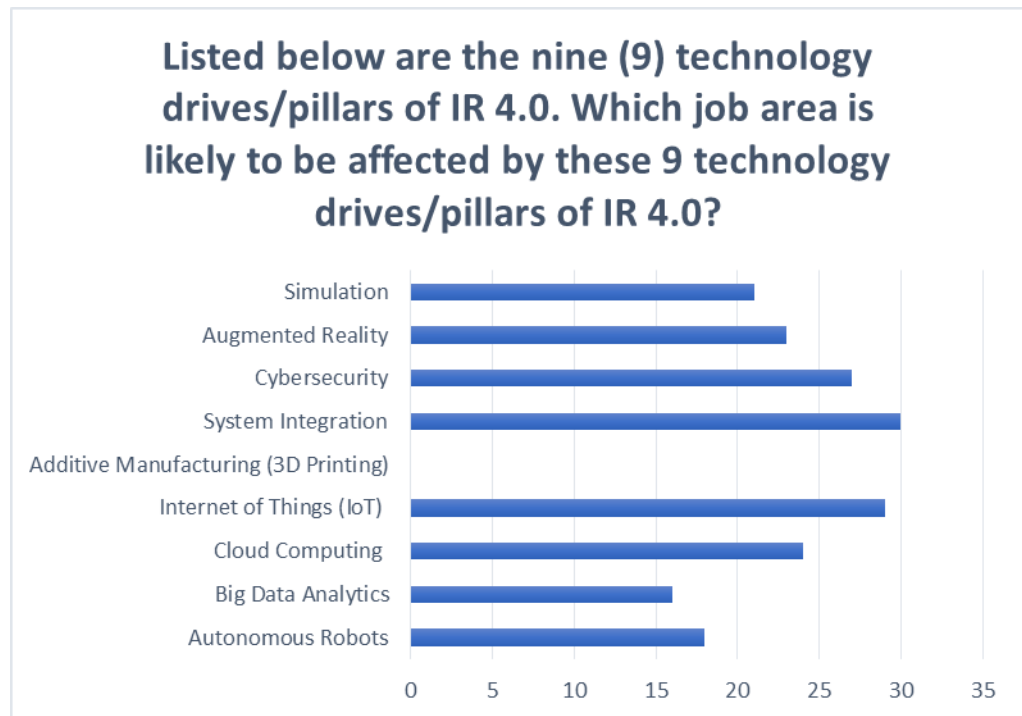


Figure 4.7: The 9 technology drives in relation to the group 016

Table 4.1: The description of important prerequisite and skills for workforce in the age of IR4.0 published in Skill Development for Industry 4.0 Whitepaper by Roland Berger GMBH in 2016

PREREQUISITE & SKILLS	KNOWLEDGE ABOUT ICT	ABILITY TO WORK WITH DATA	TECHNICAL KNOW-HOW	PERSONAL SKILLS
DETAILS	- Basic Information Technology knowledge - Ability to use and interact with computers and smart machines like robots, tablets etc. - Understanding machine to machine communication, IT security & data protection	- Ability to process and analyze data and information obtained from machines - Understanding visual data output & making decisions - Basic statistical knowledge	- Inter-disciplinary & generic knowledge about technology - Specialized knowledge about manufacturing activities and processes in place - Technical know-how of machines to carry out maintenance related activities	- Adaptability & ability to change - Decision making - Working in team - Communication skills - Mindset change for lifelong learning

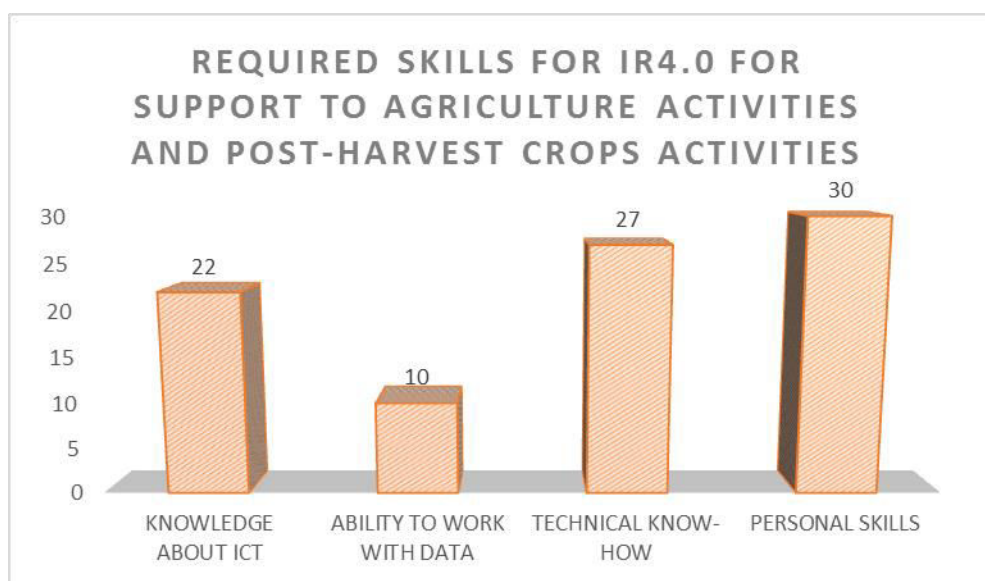


Figure 4.8: Required skills for IR4.0 for group 016

In order to survive in the era of IR4.0, the respondents unanimously ranked personal skills and technical know-how as the most important required skills for IR4.0.

4.2.4 Section 4: Related Issues

This section explores the common issues surrounding the industry. The respondents ranked the most relevant issues for the industry.

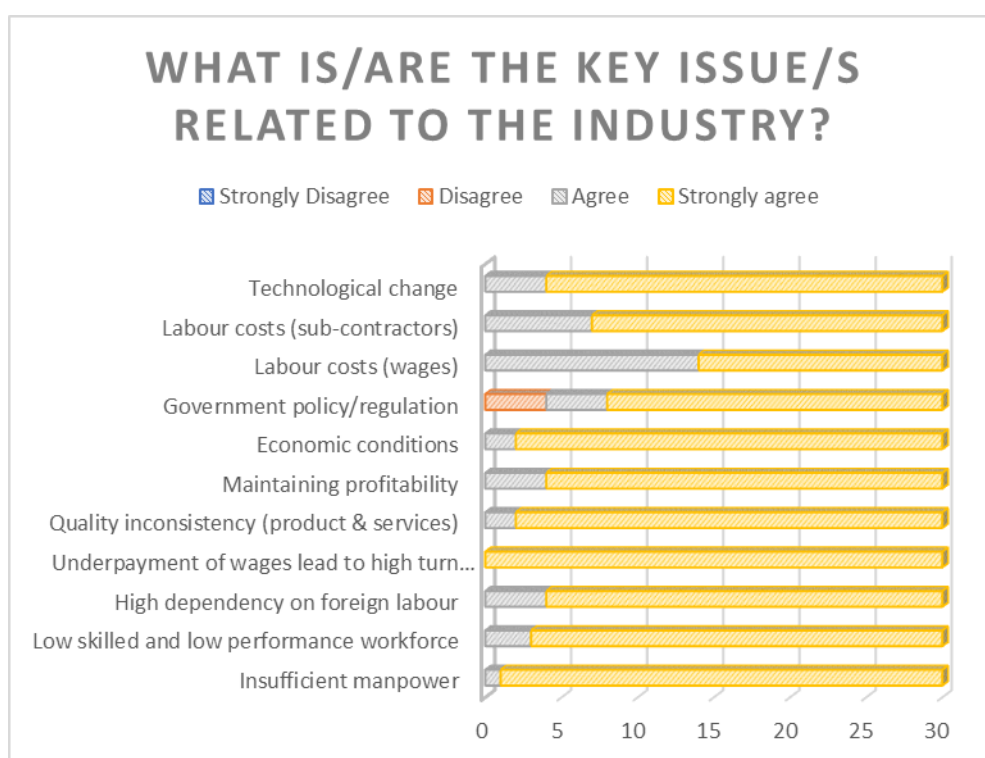


Figure 4.9: List of key issues related to the industry

4.3 OCCUPATIONAL STRUCTURE (OS)

Table 4.2: Group 016 Occupational Structure (1 of 3)

SECTION	(A) AGRICULTURE, FORESTRY AND FISHING					
DIVISION	(01) CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES					
GROUP	(016) SUPPORT ACTIVITIES TO AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES					
AREA	Oil Palm Plantation	Oil Palm (Collection Centre)	Rubber Plantation	Rubber (Collection Centre)	Cocoa Plantation	Cocoa (Collection Centre)
LEVEL 8	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**
LEVEL 7	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**
LEVEL 6	Senior Manager* **	Senior Manager* **	Senior Manager* **	Senior Manager* **	Senior Manager* **	Senior Manager* **
LEVEL 5	Plantation Manager**	Manager**	Plantation Manager**	Manager**	Plantation Manager**	Manager**
LEVEL 4	Plantation Assistant Manager**	Assistant Manager**	Plantation Assistant Manager**	Assistant Manager**	Plantation Assistant Manager**	Assistant Manager**
LEVEL 3	Plantation Supervisor**	Supervisor**	Plantation Supervisor**	Supervisor**	Plantation Supervisor**	Supervisor**
LEVEL 2	Plantation Technician*	Technician*	Plantation Technician*	Technician*	Plantation Technician*	Technician*
LEVEL 1	Plantation Operator*	General Worker*	Plantation Operator*	General Worker*	Plantation Operator*	General Worker*

Note: *Critical Job Titles

**Jobs relevant to IR 4.0

Table 4.3: Group 016 Occupational Structure (2 of 3)

SECTION	(A) AGRICULTURE, FORESTRY AND FISHING					
DIVISION	(01) CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES					
GROUP	(016) SUPPORT ACTIVITIES TO AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES					
AREA	Pepper Farming	Pepper (Collection Centre)	Kenaf Plantation	Kenaf (Collection Centre)	Coconut Plantation	Coconut (Collection Centre)
LEVEL 8	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**
LEVEL 7	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**
LEVEL 6	Senior Manager* **	Senior Manager* **	Senior Manager* **	Senior Manager* **	Senior Manager* **	Senior Manager* **
LEVEL 5	Farm Manager**	Manager**	Plantation Manager**	Manager**	Plantation Manager**	Manager**
LEVEL 4	Farm Assistant Manager**	Assistant Manager**	Plantation Assistant Manager**	Assistant Manager**	Plantation Assistant Manager**	Assistant Manager**
LEVEL 3	Farm Supervisor**	Supervisor**	Plantation Supervisor**	Supervisor**	Plantation Supervisor**	Supervisor**
LEVEL 2	Farm Technician*	Technician*	Plantation Technician*	Technician*	Plantation Technician*	Technician*
LEVEL 1	Farm Operator*	General Worker*	Plantation Operator*	General Worker*	Plantation Operator*	General Worker*

Note: *Critical Job Titles

**Jobs relevant to IR 4.0

Table 4.4: Group 016 Occupational Structure (3 of 3)

SECTION	(A) AGRICULTURE, FORESTRY AND FISHING						
DIVISION	(01) CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES						
GROUP	(016) SUPPORT ACTIVITIES TO AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES						
AREA	Vegetables Farming	Vegetables (Packing House)	Fruits Farming	Fruits (Packing House)	Ruminants Farming	Poultry House	Crops Seed Production
LEVEL 8	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Crop Specialist**	Senior Specialist**	Senior Specialist**	Senior Seed Specialist**
LEVEL 7	Crop Specialist**	Crop Specialist**	Crop Specialist**	Crop Specialist**	Specialist**	Specialist**	Seed Specialist**
LEVEL 6	Senior Manager**	Senior Manager**	Senior Manager**	Senior Manager**	Senior Manager**	Senior Manager**	Senior Seed Production Manager**
LEVEL 5	Farm Manager**	Manager**	Farm Manager**	Manager**	Farm Manager**	House Manager**	Seed Production Manager**
LEVEL 4	Farm Assistant Manager**	Assistant Manager**	Farm Assistant Manager**	Assistant Manager**	Farm Assistant Manager**	House Assistant Manager**	Seed Production Executive**
LEVEL 3	Farm Supervisor**	Supervisor**	Farm Supervisor**	Supervisor**	Farm Supervisor**	House Supervisor**	Seed Production Supervisor**
LEVEL 2	Farm Technician*	Technician*	Farm Technician*	Technician*	Farm Technician*	House Technician*	Seed Production Technician*
LEVEL 1	Farm Operator*	General Worker*	Farm Operator*	General Worker*	Farm Operator*	House Operator*	General Worker*

Note: *Critical Job Titles

**Jobs relevant to IR 4.0

Table 4.5: Summary of Job Titles

No	Job Area	Level								Total Identified Job Titles
		1	2	3	4	5	6	7	8	
A016 -Support Activities to agriculture and post-harvest crops activities										
1	Oil Palm Plantation	1	1	1	1	1	1	1	1	8
2	Oil Palm (Collection Centre)	1	1	1	1	1	1	1	1	8
3	Rubber Plantation	1	1	1	1	1	1	1	1	8
4	Rubber (Collection Centre)	1	1	1	1	1	1	1	1	8
5	Cocoa Plantation	1	1	1	1	1	1	1	1	8
6	Cocoa (Collection Centre)	1	1	1	1	1	1	1	1	8
7	Pepper Farming	1	1	1	1	1	1	1	1	8
8	Pepper (Collection Centre)	1	1	1	1	1	1	1	1	8
9	Kenaf Plantation	1	1	1	1	1	1	1	1	8
10	Kenaf (Collection Centre)	1	1	1	1	1	1	1	1	8
11	Coconut Plantation	1	1	1	1	1	1	1	1	8
12	Coconut (Collection Centre)	1	1	1	1	1	1	1	1	8
13	Vegetables Farming	1	1	1	1	1	1	1	1	8
14	Vegetables (Collection Centre)	1	1	1	1	1	1	1	1	8
15	Fruits Farming	1	1	1	1	1	1	1	1	8
16	Fruits (Collection Centre)	1	1	1	1	1	1	1	1	8
17	Ruminants Farm	1	1	1	1	1	1	1	1	8
18	Poultry House	1	1	1	1	1	1	1	1	8
19	Crops Seed Production	1	1	1	1	1	1	1	1	8
Grand Total of Identified Job Titles										152

4.4 TABLE OF JOB RESPONSIBILITIES VS NOSS LEVEL (AREA DESCRIPTION)

Section: (A) Agriculture, Forestry and Fishing

Division: (01) Crops and Animal Production, Hunting and Related Service Activities

Group: (016) Support Activities to Agriculture and Post-Harvest for Crops Activities

Table 4.6: List of Responsibilities for Group 016 according to NOSS Levelling (1 of 7)

AREA	OIL PALM PLANTATION Responsibilities May Include	OIL PALM (COLLECTION CENTRE) Responsibilities May Include	RUBBER PLANTATION Responsibilities May Include
Level 8	Not Available	Not Available	Not Available
Level 7	Not Available	Not Available	Not Available
Level 6	<u>Senior Manager</u> 1) Conduct visit and evaluate estate practices to conform with company policy and manual 2) Conduct regular review of palm oil policy/ manuals and operational efficiency 3) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 4) Evaluate field losses and propose solution 5) Conduct field visit and area stability assessment for oil palm and other crops.	<u>Senior Manager</u> 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of palm oil policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit	<u>Senior Manager</u> 1) Conduct visit and evaluate estate practices to conform with company policy and manual 2) Conduct regular review of rubber policy/ manuals and operational efficiency 3) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 4) Evaluate field losses and propose solution 5) Conduct field visit and area stability assessment for rubber and other crops.

AREA	OIL PALM PLANTATION Responsibilities May Include	OIL PALM (COLLECTION CENTRE) Responsibilities May Include	RUBBER PLANTATION Responsibilities May Include
Level 5	<u>Plantation Manager</u> 1) Direct and coordinate worker activities, such as planting, irrigation, chemical application, harvesting, grading, payroll, and recordkeeping. 2) Coordinate growing activities with those from engineering, equipment maintenance, packing houses, and other related departments. 3) Analyse market conditions to determine acreage allocations, confer with purchasers and arrange for sale of crops. 4) Record, information, such as production, farm management practices, and parent stock, and prepare, financial and operational reports. 5) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 6) Analyse soil to determine type and quantity of fertilizer required for maximum production and inspect equipment to ensure proper functioning. 7) Inspect orchards and fields to determine maturity dates of crops or	<u>Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confer with purchasers and arrange for sale of crops. 3) Record information, such as production, collection centre management practices, and parent stock, and prepare financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforces safety regulations, and interprets policies. 7) Evaluate financial statements and make budget proposals.	<u>Plantation Manager</u> 1) Manage all phases of work from replanting, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Present progress reports to the Head Quarter 4) Review and monitor daily, weekly and monthly reports from plantation. 5) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 6) Hire, discharge, transfer, and promote workers, enforces safety regulations, and interprets policies. 7) Evaluate financial statements and makes budget proposals.

AREA	OIL PALM PLANTATION Responsibilities May Include	OIL PALM (COLLECTION CENTRE) Responsibilities May Include	RUBBER PLANTATION Responsibilities May Include
	to estimate potential crop damage from weather. 8) Plan and direct development and production of hybrid plant varieties with high yield or disease and insect resistant characteristics. 9) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals.		
Level 4	<u>Plantation Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including health and welfare 3) Keep up to date and accurate records 4) Negotiate with suppliers 5) Manage any farm diversification activities 6) Undertake practical work as necessary depending on the volume of work and size of the farm.	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.	<u>Plantation Assistant Manager</u> 1) Work to maximise the production quality of rubber 2) Implement and monitor budgets to ensure overhead costs are managed 3) Coordinate and control harvesting operations 4) Head implementation and timely completion of upkeep work programmes 5) Manage records to ensure their accurate and up-to-date completion
Level 3	<u>Plantation Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and make	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre	<u>Plantation Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes

AREA	OIL PALM PLANTATION Responsibilities May Include	OIL PALM (COLLECTION CENTRE) Responsibilities May Include	RUBBER PLANTATION Responsibilities May Include
	recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of crops. 3) Advise project leaders on problems; equipment and materials requisitions; approve work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.	development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional collection centres. 5) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs.	recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.
Level 2	<u>Plantation Technician</u> 1) Operate equipment used in palm oil production, such as tractors, combines, and irrigation equipment 2) Adjust and repair farm machinery and ensure major malfunctions are reported promptly	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensure major malfunctions are reported promptly	<u>Plantation Technician</u> 1) Operate equipment used in agricultural production, such as tractors, combines, and irrigation equipment 2) Adjust and repair plantation machinery and ensuring major

AREA	OIL PALM PLANTATION	OIL PALM (COLLECTION CENTRE)	RUBBER PLANTATION
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
	3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate harvesting equipment	3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging equipment	malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate harvesting equipment
Level 1	<u>Plantation Operator</u> 1) Plant, tend and harvest crops using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery 4) Clean and repair buildings 5) Spread fertilizer 6) Put up and maintain fences	<u>General Worker</u> 1) Separate, Grade, Sort and Package the harvested products. 2) Maintain vehicles 3) Maintain machinery 4) Clean the centre	<u>Plantation Operator</u> 1) Plant, tend and harvest crops using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery 4) Clean and repair buildings 5) Spread fertiliser 6) Put up and maintain fences

Table 4.7: List of Responsibilities for Group 016 according to NOSS Levelling (2 of 7)

AREA	RUBBER (COLLECTION CENTRE) Responsibilities May Include	COCOA PLANTATION Responsibilities May Include	COCOA (COLLECTION CENTRE) Responsibilities May Include
Level 8	Not Available	Not Available	Not Available
Level 7	Not Available	Not Available	Not Available
Level 6	<u>Senior Manager</u> 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of rubber policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit	<u>Plantation Senior Manager</u> 1) Manage the strategy, conceptualization and implementation of the plantation project 2) Provide leadership to overall cocoa plantation business of the company 3) Continually working with plantation managers to improve on production yield and volume 4) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 5) Ensuring all plantations are operating in optimum efficiency from the land preparation to seeding to harvesting 6) Manage and deliver assigned projects in meeting timeline, quality and budget 7) Spearhead the development of operational targets and the right strategies to strive for continuous improvement that reflects in the aspects of quality, time and cost.	<u>Senior Manager</u> 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of rubber policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit

AREA	RUBBER (COLLECTION CENTRE) Responsibilities May Include	COCOA PLANTATION Responsibilities May Include	COCOA (COLLECTION CENTRE) Responsibilities May Include
		8) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business objective	
Level 5	<u>Rubber Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confers with purchasers and arranges for sale of crops. 3) Record information, such as production, farm management practices, and parent stock, and prepares financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforces safety regulations, and interprets policies. 7) Evaluate financial statements and makes budget proposals.	<u>Plantation Manager</u> 1) Manage all phases of work from replanting, maintenance, monitoring crops, to ensuring operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Present progress reports to the Head Quarter 4) Review and monitor daily, weekly and monthly reports from plantation. 5) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and make budget proposals.	<u>Cocoa Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confer with purchasers and arrange for sale of crops. 3) Record information, such as production, farm management practices, and parent stock, and prepares financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.

AREA	RUBBER (COLLECTION CENTRE) Responsibilities May Include	COCOA PLANTATION Responsibilities May Include	COCOA (COLLECTION CENTRE) Responsibilities May Include
Level 4	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.	<u>Plantation Assistant Manager</u> 1) Maximise production quality of Cocoa 2) Implement and monitor budgets to ensure overhead costs are managed 3) Coordinate and control harvesting operations 4) Head implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including health and welfare 3) Keep up to date and accurate records 4) Helping with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.
Level 3	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Make reports on time, equipment,	<u>Plantation Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and make recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 3) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Make reports on time, equipment,

AREA	RUBBER (COLLECTION CENTRE) Responsibilities May Include	COCOA PLANTATION Responsibilities May Include	COCOA (COLLECTION CENTRE) Responsibilities May Include
	materials, and production; keep records and prepare estimates of needs.	complex institutional farms. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Makes reports on time, equipment, materials, and production; keep records and prepares estimates of needs. 6) Direct the repair and maintenance of farm buildings and equipment.	materials, and production; keep records and prepare estimates of needs.
Level 2	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensure major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging operations.	<u>Plantation Technician</u> 1) Operate equipment used in agricultural production, such as tractors, combines, and irrigation equipment 2) Adjust and repair farm machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging equipment.
Level 1	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products 2) Maintain vehicles 3) Maintain machinery 4) Clean the centre	<u>Plantation Operator</u> 1) Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products. 2) Maintain vehicles 3) Maintain machinery 4) Clean the centre

AREA	RUBBER (COLLECTION CENTRE) Responsibilities May Include	COCOA PLANTATION Responsibilities May Include	COCOA (COLLECTION CENTRE) Responsibilities May Include
		4) Clean and repair buildings 5) Spread fertiliser	

Table 4.8: List of Responsibilities for Group 016 according to NOSS Leveling (3 of 7)

AREA	PEPPER FARMING Responsibilities May Include	PEPPER (COLLECTION CENTRE) Responsibilities May Include	KENAF PLANTATION Responsibilities May Include
Level 8	Not Available	Not Available	Not Available
Level 7	Not Available	Not Available	Not Available
Level 6	<u>Senior Manager</u> 1) Manage the strategy, conceptualization and implementation of the farming project 2) Work with farming managers to improve on production yield and volume 3) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 4) Manage and deliver assigned projects in meeting timeline, quality and budget 5) Spearhead the development of operational targets and the right strategies to strive for continuous	<u>Senior Manager</u> 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of palm oil policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit	<u>Senior Manager</u> 1) Manage the strategy, conceptualization and implementation of the plantation project 2) Work with plantation managers to improve on production yield and volume 3) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 4) Manage and deliver assigned projects in meeting timeline, quality and budget 5) Spearhead the development of operational targets and the right strategies to strive for continuous

AREA	PEPPER FARMING	PEPPER (COLLECTION CENTRE)	KENAF PLANTATION
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
	improvement that reflects in the aspects of quality, time and cost 6) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business objective		improvement that reflects in the aspects of quality, time and cost. 6) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business objective
Level 5	<u>Farm Manager</u> 1) Manage all phases of work from replanting, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Review and monitor daily, weekly and monthly reports from plantation. 4) Purchases machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 5) Hires, discharges, transfers, and promotes workers, enforces safety regulations, and interprets policies. 6) Evaluates financial statements and makes budget proposals.	<u>Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confers with purchasers and arranges for sale of crops. 3) Record information, such as production, farm management practices, and parent stock, and prepare financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies.	<u>Plantation Manager</u> 1) Manage all phases of work from replanting, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Review and monitor daily, weekly and monthly reports from plantation. 4) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 5) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 6) Evaluate financial statements and makes budget proposals.

AREA	PEPPER FARMING Responsibilities May Include	PEPPER (COLLECTION CENTRE) Responsibilities May Include	KENAF PLANTATION Responsibilities May Include
		7) Evaluate financial statements and makes budget proposals.	
Level 4	<u>Farm Assistant Manager</u> 1) Work to maximise the production quality of pepper 2) Implement and monitor budgets to ensure overhead costs are managed 3) Coordinate and control harvesting operations 4) Head the implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.	<u>Plantation Assistant Manager</u> 1) Work to maximise the production quality of kenaf 2) Implement and monitor budgets to ensure overhead costs are managed 3) Coordinate and control harvesting operations 4) Head the implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion.
Level 3	<u>Farm Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the	<u>Plantation Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of

AREA	PEPPER FARMING	PEPPER (COLLECTION CENTRE)	KENAF PLANTATION
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
	crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farm. 5) Supervise all operations of one of the larger and more complex institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.	larger and more complex institutional farms. 5) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs.	crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.
Level 2	<u>Farm Technician</u> 1) Adjust and repair field machinery and ensuring major malfunctions are reported promptly 2) Prepare power tools and other attachments for safe and effective use 3) Mix specified materials and chemicals for application 4) Maintain and operate harvesting operations	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application	<u>Plantation Technician</u> 1) Adjust and repair field machinery and ensuring major malfunctions are reported promptly 2) Prepare power tools and other attachments for safe and effective use 3) Mix specified materials and chemicals for application 4) Maintain and operate harvesting operations

AREA	PEPPER FARMING	PEPPER (COLLECTION CENTRE)	KENAF PLANTATION
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
		5) Maintain and operate packaging equipment.	
Level 1	<u>Farm Operator</u> 1) Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters 2) Maintaining hedges and woodland 3) Maintaining vehicles and machinery 4) Cleaning and repairing buildings 5) Spread fertiliser 6) Put up and maintain fences	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products. 2) Maintaining vehicles 3) Maintaining machinery 4) Cleaning the centre	<u>Plantation Operator</u> 1) Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters 2) Maintaining hedges and woodland 3) Maintaining vehicles and machinery 4) Cleaning and repairing buildings 5) Spread fertiliser 6) Put up and maintain fences

Table 4.9: List of Responsibilities for Group 016 according to NOSS Leveling (4 of 7)

AREA	KENAF (COLLECTION CENTRE) Responsibilities May Include	COCONUT PLANTATION Responsibilities May Include	COCONUT (COLLECTION CENTRE) Responsibilities May Include
Level 8	Not Available	Not Available	Not Available
Level 7	Not Available	Not Available	Not Available
Level 6	Senior Manager 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of kenaf policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit	Senior Manager 1) Manage the strategy, conceptualization and implementation of the plantation project 2) Work with plantation managers to improve on production yield and volume 3) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 4) Manage and deliver assigned projects in meeting timeline, quality and budget 5) Spearhead the development of operational targets and the right strategies to strive for continuous improvement that reflects in the aspects of quality, time and cost 6) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business objective	Senior Manager 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of palm oil policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit

AREA	KENAF (COLLECTION CENTRE)	COCONUT PLANTATION	COCONUT (COLLECTION CENTRE)
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
Level 5	<u>Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confers with purchasers and arranges for sale of crops. 3) Record information, such as production, farm management practices, and parent stock, and prepare financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.	<u>Plantation Manager</u> 1) Manage all phases of work from replanting, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Provide effective leadership and motivation 4) Present progress reports to the Head Quarters 5) Review and monitor daily, weekly and monthly reports from plantation. 6) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 7) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 8) Evaluate financial statements and makes budget proposals.	<u>Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confers with purchasers and arranges for sale of crops. 3) Record information, such as production, farm management practices, and parent stock, and prepare financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.
Level 4	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections	<u>Plantation Assistant Manager</u> 1) Work to maximise the production quality of coconut 2) Implement and monitor budgets to ensure overhead costs are managed	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections

AREA	KENAF (COLLECTION CENTRE)	COCONUT PLANTATION	COCONUT (COLLECTION CENTRE)
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
	including health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.	3) Coordinate and control harvesting operations 4) Head the implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion	including health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers. 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.
Level 3	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs.	<u>Plantation Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex institutional	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs.

AREA	KENAF (COLLECTION CENTRE) Responsibilities May Include	COCONUT PLANTATION Responsibilities May Include	COCONUT (COLLECTION CENTRE) Responsibilities May Include
		farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.	
Level 2	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging equipment.	<u>Plantation Technician</u> 1) Operate equipment used in agricultural production, such as tractors, combines, and irrigation equipment 2) Adjust and repair farm machinery and ensure major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate harvesting operations	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging equipment.
Level 1	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products. 2) Maintaining vehicles 3) Maintaining machinery 4) Cleaning the centre	<u>Plantation Operator</u> 1) Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery 4) Clean and repair buildings	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products. 2) Maintain vehicles 3) Maintain machinery 4) Clean the centre

AREA	KENAF (COLLECTION CENTRE)	COCONUT PLANTATION	COCONUT (COLLECTION CENTRE)
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
		5) Spread fertiliser 6) Put up and maintain fences	

Table 4.10: List of Responsibilities for Group 016 according to NOSS Leveling (5 of 7)

AREA	VEGETABLES (FARM) Responsibilities May Include	VEGETABLES (PACKING HOUSE) Responsibilities May Include	FRUITS (FARM) Responsibilities May Include
Level 8	Not Available	Not Available	Not Available
Level 7	Not Available	Not Available	Not Available
Level 6	Senior Manager 1) Manage the strategy, conceptualization and implementation of the farming project 2) Work with farming managers to improve on production yield and volume 3) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 4) Manage and deliver assigned projects in meeting timeline, quality and budget 5) Spearhead the development of operational targets and the right strategies to strive for continuous improvement that reflects in the aspects of quality, time and cost. 6) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business	Senior Manager 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of vegetables policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct packing house visit	Senior Manager 1) Manage the strategy, conceptualization and implementation of the farming project 2) Work with farming managers to improve on production yield and volume 3) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 4) Manage and deliver assigned projects in meeting timeline, quality and budget 5) Spearhead the development of operational targets and the right strategies to strive for continuous improvement that reflects in the aspects of quality, time and cost 6) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business

AREA	VEGETABLES (FARM) Responsibilities May Include	VEGETABLES (PACKING HOUSE) Responsibilities May Include	FRUITS (FARM) Responsibilities May Include
	objective		objective
Level 5	<u>Farm Manager</u> 1) Manage all phases of work from farming, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Provide effective leadership and motivation 4) Review and monitor daily, weekly and monthly reports from farm. 5) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.	<u>Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage allocations and confers with purchasers and arranges for sale of crops. 3) Record information, such as production, packing house management practices, and parent stock, and prepare financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.	<u>Farm Manager</u> 1) Manage all phases of work from refarming, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines provided by the company 3) Provide effective leadership and motivation 4) Review and monitor daily, weekly and monthly reports from farm. 5) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.
Level 4	<u>Farm Assistant Manager</u> 1) Work to maximise the production quality of vegetables 2) Implement and monitor budgets to ensure overhead costs are	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including	<u>Farm Assistant Manager</u> 1) Work to maximise the production quality of fruits 2) Implement and monitor budgets to ensure overhead costs are

AREA	VEGETABLES (FARM)	VEGETABLES (PACKING HOUSE)	FRUITS (FARM)
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
	managed 3) Coordinate and control harvesting operations 4) Head the implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion	health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.	managed 3) Coordinate and control harvesting operations 4) Head the implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion
Level 3	<u>Farm Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development. 2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs.	<u>Farm Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex

AREA	VEGETABLES (FARM) Responsibilities May Include	VEGETABLES (PACKING HOUSE) Responsibilities May Include	FRUITS (FARM) Responsibilities May Include
	institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.		institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.
Level 2	<u>Farm Technician</u> 1) Operate equipment used in agricultural production, such as tractors, combines, and irrigation equipment 2) Adjust and repair farm machinery and ensure major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate harvesting operations	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging equipment.	<u>Farm Technician</u> 1) Operate equipment used in agricultural production, such as tractors, combines, and irrigation equipment 2) Adjust and repair farm machinery and ensure major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate harvesting operations
Level 1	<u>Farm Operator</u> 1) Planting, tending and harvesting crops using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products. 2) Maintain vehicles 3) Maintain machinery 4) Clean the centre	<u>Farm Operator</u> 1) Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery 4) Clean and repair buildings

AREA	VEGETABLES (FARM)	VEGETABLES (PACKING HOUSE)	FRUITS (FARM)
	Responsibilities May Include	Responsibilities May Include	Responsibilities May Include
	4) Clean and repair buildings 5) Spread fertiliser 6) Put up and maintain fences		5) Spread fertiliser 6) Put up and maintain fences

Table 4.11: List of Responsibilities for Group 016 according to NOSS Leveling (6 of 7)

AREA	FRUITS (PACKING HOUSE)	RUMINANTS FARM
	Responsibilities May Include	Responsibilities May Include
Level 8	Not Available	Not Available
Level 7	Not Available	Not Available
Level 6	<u>Senior Manager</u> 1) Conduct visit and evaluate collection centre practices to conform with company policy and manual 2) Conduct regular review of fruits policy/ manuals and operational efficiency 3) Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution 4) Assess site yield potential, identify their limitations and suggest sound /practical improvement measures 5) Evaluate collection centre losses and proposed solution 6) Conduct collection centre visit	<u>Senior Manager</u> 1) Provide meat farming policy. 2) Determining the design of financial resources. 3) Determine research & development activities. 4) Confirm management activities. 5) Conducting conferences / seminars / meetings. 6) Plan farm infrastructure. 7) Link parties related to government. 8) Verify food specifications. 9) Design farm bio-security programme.
Level 5	<u>Manager</u> 1) Direct and coordinate worker activities, such as separation, sorting, grading, and packaging. 2) Analyse market conditions to determine acreage	<u>Farm Manager</u> 1) Analyse and ascertain that the food ratio conversion standard is followed analysing food samples. 2) Ensure the suitability of indoor humidity / closed indoor

AREA	FRUITS (PACKING HOUSE) Responsibilities May Include	RUMINANTS FARM Responsibilities May Include
	allocations and confers with purchasers and arranges for sale of crops. 3) Record information, such as production, farm management practices, and parent stock, and prepare financial and operational reports. 4) Determine procedural changes in drying, grading, storage, and shipment for greater efficiency and accuracy. 5) Purchase machinery, equipment, and supplies, such as packager. 6) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 7) Evaluate financial statements and makes budget proposals.	temperature. 3) Coordinate the maintenance of drinkers. 4) Coordinate the maintenance of the presenter (enclosure, food). 5) Verify livestock health. 6) Handle the management role. 7) Prepare the Standard Operating Procedure for the field. 8) Determine date of citing / selling. 9) Coordinate pre-sale activities (transport, brackets, collection). 10) Conduct research & development activities. 11) Make requests for vaccination. 12) Implement farm bio-security program.
Level 4	<u>Assistant Manager</u> 1) Plan and implement budgets and production targets 2) Monitor the quality of the produce and performance of the sections including health and welfare 3) Keep up to date and accurate records 4) Help with product marketing and selling to a variety of customers 5) Negotiate with suppliers 6) Undertake practical work as necessary depending on the volume of work and numbers of worker.	<u>Farm Assistant Manager</u> 1) Collect daily term / humidity reading. 2) Ensure smooth operation for food-giving tools (example: presenter and drinkers). 3) Communicate with Production Technician. 4) Notify date (pick / sell). 5) Adhere to standard operating procedures. 6) Verify the supervisory assignment of Production Technician. 7) Collect and record size. 8) Align the collection of food samples. 9) Calculate the size with standard conversion of food ratio. 10) Coordinate bio-security procedure.
Level 3	<u>Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and centre development.	<u>Farm Supervisor</u> 1) Coordinate vaccination activities. 2) Conduct supervisory assignments.

AREA	FRUITS (PACKING HOUSE) Responsibilities May Include	RUMINANTS FARM Responsibilities May Include
	2) Advise project leaders on problems, requisitions equipment and materials, approves work schedules. 3) Plan and supervise the separation, grading, sorting and packaging. 4) Supervise all operations of one of the larger and more complex institutional farms. 5) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs.	3) Manage farming with supervision. 4) Carry out pre and post-sale activities. 5) Verify the analysis and collection of food samples. 6) Run periodic data based on the implementation of livestock. 7) Collect & record data. 8) Supervise and run a farm bio-security program.
Level 2	<u>Technician</u> 1) Operate equipment, such as packager machine. 2) Adjust and repair packaging machinery and ensuring major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate packaging equipment.	<u>Farm Technician</u> 1) Guide vaccination procedures. 2) Guide livestock feed. 3) Ensure that the food-feeding tool is in good condition. 4) Conduct analysis and collection of food samples. 5) Lead the collection of dead livestock. 6) Run bio-security programs.
Level 1	<u>General Worker</u> 1) Separate, grade, sort and package the harvested products. 2) Maintain vehicles 3) Maintain machinery 4) Clean the packing house	<u>Farm General Worker</u> 1) Assist in livestock vaccination. 2) Collect samples (blood) 3) Assist in livestock treatment. 4) Carry out livestock feed and vaccination procedures. 5) Maintain the condition of feeding equipment (eg: drinker) 6) Collect meat livestock. 7) Conduct meat selection and packaging. 8) Carry out animal harvesting, detention, farm cleaning activities, animal feed, milking and milk storage. 9) Conduct cleaning of livestock.

AREA	FRUITS (PACKING HOUSE) Responsibilities May Include	RUMINANTS FARM Responsibilities May Include
		10) Assist in isolating breeding livestock according to time, spinning activities, feeding activities, livestock selection for breeding and livestock health activities.

Table 4.12: List of Responsibilities for Group 016 according to NOSS Leveling (7 of 7)

AREA	POULTRY HOUSE Responsibilities May Include	SEED PRODUCTION Responsibilities May Include
Level 8	Not Available	Not Available
Level 7	Not Available	Not Available
Level 6	<u>Senior Manager</u> 1) Provide meat farming policy. 2) Determining the design of financial resources. 3) Determine research & development activities. 4) Confirm management activities. 5) Conducting conferences / seminars / meetings. 6) Plan farm infrastructure. 7) Link parties related to government. 8) Verify food specifications. 9) Design farm bio-security programme.	<u>Seed Production Senior Manager</u> 1) Manage the strategy, conceptualization and implementation of the plantation project 2) Provide leadership to overall coconut plantation business of the company 3) Work with plantation managers to improve on production yield and volume 4) Provide technical expertise in matters pertaining to plantation sustainability mechanization, pest control and cultivation processes 5) Manage and deliver assigned projects in meeting timeline, quality and budget 6) Spearhead the development of operational targets and the right strategies to strive for continuous improvement that reflects in the aspects of quality, time and cost 7) Proactively manage changes in project scope, identify, resolve and manage operational issues and challenge to achieve business objective
Level 5	<u>House Manager</u> 1) Analyse and ascertain that the food ratio conversion standard is followed analysing food samples. 2) Ensure the suitability of indoor humidity / closed indoor temperature.	<u>Seed Production Manager</u> 1) Manage all phases of work from replanting, maintenance, monitor crops, ensure operational efficiency and effective labour management 2) Plan, organize, implement and control all operations and activities within the plantation according to the practice and guidelines

AREA	POULTRY HOUSE Responsibilities May Include	SEED PRODUCTION Responsibilities May Include
	3) Coordinate the maintenance of drinkers. 4) Coordinate the maintenance of the presenter (enclosure, food). 5) Verify livestock health. 6) Handle the management role. 7) Prepare the Standard Operating Procedure for the field. 8) Determine date of citing / selling. 9) Coordinate pre-sale activities (transport, brackets, collection). 10) Conduct research & development activities. 11) Make requests for vaccination. 12) Implement farm bio-security program.	provided by the company 3) Provide effective leadership and motivation 4) Present progress reports to the Head Quarters 5) Review and monitor daily, weekly and monthly reports from plantation. 6) Purchase machinery, equipment, and supplies, such as tractors, seed, fertilizer, and chemicals. 7) Hire, discharge, transfer, and promote workers, enforce safety regulations, and interpret policies. 8) Evaluate financial statements and makes budget proposals.
Level 4	<u>House Assistant Manager</u> 1) Ensure smooth operation for food-giving tools (example: presenter and drinkers). 2) Communicate with Production Technician. 3) Notify date (pick / sell). 4) Adhere to standard operating procedures. 5) Verify the supervisory assignment of Production Technician. 6) Collect and record size. 7) Align the collection of food samples. 8) Calculate the size with standard conversion of food ratio. 9) Coordinate bio-security procedures.	<u>Seed Production Assistant Manager</u> 1) Work to maximise the production quality of coconut 2) Implement and monitor budgets to ensure overhead costs are managed 3) Coordinate and control harvesting operations 4) Head the implementation and timely completion of upkeep work programs 5) Manage records to ensure their accurate and up-to-date completion
Level 3	<u>House Supervisor</u> 1) Coordinate vaccination activities. 2) Conduct supervisory assignments.	<u>Seed Production Supervisor</u> 1) Coordinate with administrators and research project leaders on work plans and programs and makes recommendations for

AREA	POULTRY HOUSE Responsibilities May Include	SEED PRODUCTION Responsibilities May Include
	3) Manage farming with supervision. 4) Carry out pre and post-sale activities. 5) Verify the analysis and collection of food samples. 6) Run periodic data based on the implementation of livestock. 7) Collect & record data. 8) Supervise and run a farm bio-security program.	improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots. 2) Determine soil use and rotation of crops. 3) Advise project leaders on problems; requisitions equipment and materials; approves work schedules. 4) Plan and supervise the planting, cultivating, harvesting and storing of field and garden crops on large and complex institutional farms. 5) Supervise all operations of one of the larger and more complex institutional farms. 6) Make reports on time, equipment, materials, and production; keep records and prepare estimates of needs. 7) Direct the repair and maintenance of farm buildings and equipment.
Level 2	<u>House Technician</u> 1) Guide vaccination procedures. 2) Guide livestock feed. 3) Ensure that the food-feeding tool is in good condition. 4) Conduct analysis and collection of food samples. 5) Lead the collection of dead livestock. 6) Run bio-security programs.	<u>Seed Production Technician</u> 1) Operate equipment used in agricultural production, such as tractors, combines, and irrigation equipment 2) Adjust and repair farm machinery and ensure major malfunctions are reported promptly 3) Prepare power tools and other attachments for safe and effective use 4) Mix specified materials and chemicals for application 5) Maintain and operate harvesting operations
Level 1	<u>House General Worker</u> 1) Assist in livestock vaccination. 2) Collect samples (blood / wipers / stools / bird feathers). 3) Assist in livestock treatment; 4) Carry out livestock feed and vaccination procedures.	<u>SEED PRODUCTION GENERAL WORKER</u> 1) Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters 2) Maintain hedges and woodland 3) Maintain vehicles and machinery 4) Clean and repair buildings 5) Spread fertiliser

AREA	POULTRY HOUSE Responsibilities May Include	SEED PRODUCTION Responsibilities May Include
	5) Maintain the condition of feeding equipment (eg: drinker). 6) Collect meat livestock. 7) Conduct egg selection and packaging. 8) Run skin / fur copy process. 9) Conduct sustainable laying health. 10) Carry out animal harvesting, detention, farm cleaning activities, animal feed. 11) Assist in isolating breeding livestock according to time, spinning activities, feeding activities livestock selection for breeding and livestock health activities. 12) Carry out storage activities, bird's nest, control of creature activities, cleaning activities and safety activities in storage areas. 13) Carry out egg selection, penetration, reception and storage in cold air-conditioned rooms.	6) Put up and maintain fences

4.5 MAPPING OS vs AVAILABLE NOSS

Table 4.13: OS vs Existing NOSS (1 of 3)

SECTION	(A) AGRICULTURE, FORESTRY AND FISHING					
DIVISION	(01) CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES					
GROUP	(016) SUPPORT ACTIVITIES TO AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES					
AREA	Oil Palm Plantation	Oil Palm (Collection Centre)	Rubber Plantation	Rubber (Collection Centre)	Cocoa Plantation	Cocoa (Collection Centre)
LEVEL 8	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist
LEVEL 7	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist
LEVEL 6	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Manager
LEVEL 5	RB-081-5:2012	Manager	Plantation Manager	Manager	Plantation Manager	Manager
LEVEL 4	RB-081-4:2012	Assistant Manager	Plantation Assistant Manager	Assistant Manager	Plantation Assistant Manager	Assistant Manager
LEVEL 3	RB-081-3:2012	Supervisor	RB-015-3	Supervisor	Plantation Supervisor	Supervisor
LEVEL 2	Plantation Technician	Technician	RB-015-2	Technician	Plantation Technician	Technician
LEVEL 1	Plantation Operator	General Worker	Plantation Operator	General Worker	Plantation Operator	General Worker

Table 4.14: OS vs Existing NOSS (2 of 3)

SECTION	(A) AGRICULTURE, FORESTRY AND FISHING					
DIVISION	(01) CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES					
GROUP	(016) SUPPORT ACTIVITIES TO AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES					
AREA	Pepper Farming	Pepper (Collection Centre)	Kenaf Plantation	Kenaf (Collection Centre)	Coconut Plantation	Coconut (Collection Centre)
LEVEL 8	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist
LEVEL 7	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist
LEVEL 6	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Manager
LEVEL 5	Farm Manager	Manager	Plantation Manager	Manager	Plantation Manager	Manager
LEVEL 4	Farm Assistant Manager	Assistant Manager	Plantation Assistant Manager	Assistant Manager	Plantation Assistant Manager	Assistant Manager
LEVEL 3	Farm Supervisor	Supervisor	RB-097-3:2016	Supervisor	Plantation Supervisor	Supervisor
LEVEL 2	Farm Technician	Technician	RB-097-2:2016	Technician	Plantation Technician	Technician
LEVEL 1	Farm Operator	General Worker	Plantation Operator	General Worker	Plantation Operator	General Worker

Table 4.15: OS vs Existing NOSS (3 of 3)

SECTION	(A) AGRICULTURE, FORESTRY AND FISHING						
DIVISION	(01) CROPS AND ANIMAL PRODUCTION, HUNTING AND RELATED SERVICE ACTIVITIES						
GROUP	(016) SUPPORT ACTIVITIES TO AGRICULTURE AND POST-HARVEST CROPS ACTIVITIES						
AREA	Vegetables Farming	Vegetables (Packing House)	Fruits Farming	Fruits (Packing House)	Ruminants Farming	Poultry House	Crops Seed Production
LEVEL 8	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Crop Specialist	Senior Specialist	Senior Specialist	Senior Seed Specialist
LEVEL 7	Crop Specialist	Crop Specialist	Crop Specialist	Crop Specialist	Specialist	Specialist	Seed Specialist
LEVEL 6	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Manager	Senior Seed Production Manager
LEVEL 5	Y-050-5 A016-001-5:2016	Manager	Farm Manager	Manager	A014-001-5	AF-071-5:2017	BT-024-5:2013
LEVEL 4	Y-050-4 A016-001-4:2016	Assistant Manager	A012-001-4:2017	Assistant Manager	A014-001-4	AF-071-4:2017	BT-024-4:2013
LEVEL 3	A016-001-3:2016	Supervisor	AF-016-3:2014	Supervisor	AF-060-3	AF-071-3:2015	BT-024-3:2013
LEVEL 2	Farm Technician	Technician	Farm Technician	Technician	AF-060-2	House Technician	Seed Production Technician
LEVEL 1	Farm Operator	General Worker	Farm Operator	General Worker	AF-060-1	House Operator	General Worker

4.6 OCCUPATIONAL DESCRIPTION (OD)

Occupational or Job Description is a broad, general, and written statement of a specific job, based on the findings of a job analysis. It generally includes duties, purpose, responsibilities, scope, and working conditions of a job along with the job's title, and the name or designation of the person to whom the employee reports. The Occupational Description provided in **Annex 4** are the job titles that have been identified as critical or hard-to-fill job as suggested by industry representatives from focus group.

4.7 SKILLS IN DEMAND

This section elaborates about summary of sub topic 4.2 on the survey findings regarding jobs and skills in demand.

Table 4.16: Summary of Survey Findings

Top 5 skills highly demanded by the employer: a. Troubleshooting / problem solving, b. Competent in using technology c. General attitude towards work d. Judgement skills Plantation/animal knowledge.	a. Education/training mismatch b. Major changes in traditional training and new skill requirements
Solution for skills gap	Jobs in demand
a. Review skills training curriculum b. Training/retraining	The skilled and semi-skilled workers for group 016 are high in demand as the current manpower supply is short of these two groups of workers.
The 9 technology drives in relation to the group 016	Required skills for IR4.0 for group 016
The top three pillars that are related to group 016 are: a. System integration	a. Personal skills b. Technical Know-How

b. Internet of Things (IOT) c. Cybersecurity	
List of key issues related to industry	
The top 5 key issues related to the industry base on respondents are: a. Underpayment of wages lead to high turnover b. Insufficient manpower c. Quality inconsistency d. Economic conditions e. Low skilled and low performance workforce	

4.8 CHAPTER SUMMARY

Based on the discussions with panel members during the development workshops and survey findings, the OS of the industry is produced in this chapter. The OS will provide information on the competency or job areas applicable to the industry, and the skill level of the different job titles, according to the MOSQF Level Descriptors, and the available career paths.

The jobs and skills in demand, and the specific steps proposed to be taken by various parties to bridge the skills gaps are elaborated so that the parties concerned can take the necessary steps to overcome such challenges.

CHAPTER 5: DISCUSSION, RECOMMENDATION AND CONCLUSION

5.1 DISCUSSION

Based on the findings obtained throughout the Occupational Analysis on the industry, 19 area have been identified and confirmed to be in tandem with MSIC. The job titles identified require a holistic view in the development of standard, skills training and also certification for recognition. If the competency requirements are documented in the NOSS format, the personnel in these areas will obtain a more structured skills training. In addition, it will also enable personnel who are experienced and skilled to be certified through accreditation of prior learning and experience. The list of NOSS which have been developed under Group 016 is presented in Table 2.6.

5.2 RECOMMENDATION

It is hoped that the results of this Occupational Framework will be used as a reference to fulfil the future plans of developing skilled personnel and certifying Malaysians in this sector towards improving the quality of the local agriculture sector and thus spurring Malaysia's global competitiveness.

There are several options when addressing or mitigating workforce demand and supply. It may include establishing and maintaining partnerships with other agencies or departments, or educational institutions to increase external talent pools and also through the training of existing staff in line with new skills requirements.

Based on the above comments, specific recommendations are listed below:

- To continue and streamline efforts in NOSS development for areas under the sector in line with the findings of this analysis. This includes the development of NOSS for the sectors and sub-sectors that are in demand and have not been developed.

- To encourage apprenticeship training (National Dual Training System –NDTS) for the related sub sectors and job areas.
- Promote certification of existing and experienced personnel in the sector through Accreditation of Prior Experience (*Pentauliahan Pencapaian Terdahulu – PPT*).

5.3 CONCLUSION

The conclusion is based on the specified objectives of the Occupational Framework as elaborated below:

Objective 1: Occupational Structure

As a result of the Support Activities to Agriculture and Post-Harvest Crops Activities Sector Occupational Framework analysis conducted together with expert panel members from various organizations, a total of 18 sub-sectors and 144 job titles have been identified.

By planning and conducting the training and certification of this sector's personnel in the near future, it is hoped that there will be a steady flow of local skilled and certified workers.

Objective 2: Occupational Descriptions

The Occupational Descriptions for all the different job titles were obtained during the workshops and further confirmed during the survey. These Occupational Descriptions will also serve as reference of job scope and the required competencies for NOSS development.

Objective 3: Skills in Demand

Based on the survey findings, the survey respondents highlighted the skills in demand as follows:

- Data management skills
- Communication skills

- Plantation/animal knowledge
- Judgement skills
- General attitude towards work (commitment, resourcefulness, teamwork, etc.)
- Diagnostic skills
- Troubleshooting / problem solving skills
- Strong technical aptitude / manual dexterity
- Competent in using Technology / other mechanical devices
- English language proficiency

Troubleshooting / problem solving skills, General attitude towards work, and Plantation knowledge are the top 3 skills in high demand by the industry. The skills above are encouraged to be included in the training curriculum according to the respective areas.

Critical Job Titles

The respondents and Focus Group Discussion members have reviewed the list and specified the critical job titles as in the table below. The list is arranged base on level of priority and industrial needs because of manpower shortage.

Table 5.1: List of Critical Job Titles

No.	Critical Job Title	Group/Area	Level
1	Senior Manager	A016/Oil Palm (Plantation)	6
2	Field Technician	A016/Oil Palm (Plantation)	2
3	Field Operator	A016/Oil Palm (Plantation)	1
4	Senior Manager	A016/Oil Palm (Collection Centre)	6
5	Technician	A016/Oil Palm (Collection Centre)	2
6	General Worker	A016/Oil Palm (Collection Centre)	1
7	Senior Manager	A016/Rubber (Plantation)	6
8	Field Technician	A016/Rubber (Plantation)	2
9	Field Operator	A016/Rubber (Plantation)	1
10	Senior Manager	A016/Rubber (Collection Centre)	6

No.	Critical Job Title	Group/Area	Level
11	Technician	A016/Rubber (Collection Centre)	2
12	General Worker	A016/Rubber (Collection Centre)	1
13	Senior Manager	A016/Cocoa (Plantation)	6
14	Field Technician	A016/Cocoa (Plantation)	2
15	Field Operator	A016/Cocoa (Plantation)	1
16	Senior Manager	A016/Cocoa (Collection Centre)	6
17	Technician	A016/Cocoa (Collection Centre)	2
18	General Worker	A016/Cocoa (Collection Centre)	1
19	Senior Manager	A016/Pepper (Farming)	6
20	Field Technician	A016/Pepper (Farming)	2
21	Field Operator	A016/Pepper (Farming)	1
22	Senior Manager	A016/Pepper (Collection Centre)	6
23	Technician	A016/Pepper (Collection Centre)	2
24	General Worker	A016/Pepper (Collection Centre)	1
25	Senior Manager	A016/Kenaf (Plantation)	6
26	Field Technician	A016/Kenaf (Plantation)	2
27	Field Operator	A016/Kenaf (Plantation)	1
28	Senior Manager	A016/Kenaf (Collection Centre)	6
29	Technician	A016/Kenaf (Collection Centre)	2
30	General Worker	A016/Kenaf (Collection Centre)	1
31	Senior Manager	A016/Coconut (Plantation)	6
32	Field Technician	A016/Coconut (Plantation)	2
33	Field Operator	A016/Coconut (Plantation)	1
34	Senior Manager	A016/Coconut (Collection Centre)	6
35	Technician	A016/Coconut (Collection Centre)	2
36	General Worker	A016/Coconut (Collection Centre)	1
37	Senior Manager	A016/Vegetable (Farm)	6

No.	Critical Job Title	Group/Area	Level
38	Farm Technician	A016/Vegetable (Farm)	2
39	Farm Operator	A016/Vegetable (Farm)	1
40	Senior Manager	A016/Vegetable (Packing House)	6
41	Technician	A016/Vegetable (Packing House)	2
42	General Worker	A016/Vegetable (Packing House)	1
43	Senior Manager	A016/Fruit (Farm)	6
44	Field Technician	A016/Fruit (Farm)	2
45	Field Operator	A016/Fruit (Farm)	1
46	Senior Manager	A016/Fruit (Packing House)	6
47	Technician	A016/Fruit (Packing House)	2
48	General Worker	A016/Fruit (Packing House)	1
49	Senior Manager	A016/Ruminants Farm	6
50	Technician	A016/Ruminants Farm	2
51	Operator	A016/Ruminants Farm	1
52	Senior Manager	A016/Poultry House	6
53	Technician	A016/Poultry House	2
54	Operator	A016/Poultry House	1
55	Senior Manager	A016/Seed Production	6
56	Technician	A016/Seed Production	2
57	General Worker	A016/Seed Production	1

Overall Conclusion

Several essential steps need to be undertaken jointly by stakeholders from industry, training/academic institutions and the relevant accreditations authorities to ensure that the critical occupation needs of industry are addressed.

The broad direction should aim for achieving this includes:

- i) Identifying and assessing the qualifications, National Occupational Skills Standard (NOSS), and competencies associated with the identified critical job titles.
- ii) Aligning and evaluating the existing training curriculum and training packages.
- iii) Coordination among stakeholders to
 - Revise or develop required curriculum and training packages
 - Expand or create new apprenticeships/ internships / attachments schemes
 - Joint technology and knowledge transfer between instructor / training entities with industry experts

The results of this Occupational Framework research and development work can be used as a reference on how to fulfil the future plans of developing skilled personnel and certifying Malaysians in the Support Activities to Agriculture and Post-Harvest Crops Activities Sector towards enhancing services provided by the sector players.

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ANNEX 1

MOSQF LEVEL DESCRIPTORS

MALAYSIAN OCCUPATIONAL SKILLS QUALIFICATION FRAMEWORK (MOSQF) LEVEL DESCRIPTOR

LEVEL	LEVEL DESCRIPTION
1	Competent in performing a range of varied work activities, most of which are routine and predictable.
2	Competent in performing a significant range of varied work activities, performed in a variety of context. Some of the activities are non-routine and required individual responsibility and autonomy.
3	Competent in performing a broad range of varied work activities, performed in a variety of context, most of which are complex and non-routine. There is considerable responsibility and autonomy and control or guidance of others is often required.
4	Competent in performing a broad range of complex technical or professional work activities carried out in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and allocation of resources is often present. Higher level of technical skills should be demonstrated.
5	Competent in applying a significant range of fundamental principles and complex techniques across a wide and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources feature strongly, as do personal accountabilities for analysis and diagnosis, design, planning, execution and evaluation. Specialisation of technical skills should be demonstrated.
6	Achievement at this level reflects the ability to refine and use relevant understanding, methods and skills to address complex problems that have limited definition. It includes taking responsibility for planning and developing courses of action that are able to underpin 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 the theories that underpin them
7	Achievement at this level reflects the ability to reformulate and use relevant understanding, methodologies and approaches to address problematic situations that involve many interacting factors. It includes taking responsibility for planning and developing courses of action that initiate or underpin substantial change or development, as well as exercising broad autonomy and judgment. It also reflects an understanding of theoretical and relevant methodological perspectives, and how they affect their sub-area of study or work

LEVEL	LEVEL DESCRIPTION
8	Achievement at this level reflects the ability to develop original understanding and extend a sub-area of knowledge or professional practice. It reflects the ability to address problematic situations that involve many complexes, interacting factors through initiating, designing and undertaking research, development or strategic activities. It involves the exercise of broad autonomy, judgement 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.

ANNEX 2: LIST OF CONTRIBUTORS

**LIST OF SECTOR PANEL MEMBERS FOR THE SUPPORT ACTIVITIES TO AGRICULTURE
AND POST-HARVEST CROPS ACTIVITIES SECTOR FRAMEWORK DEVELOPMENT**

NO	NAME	EXPERTISE	POSITION	ORGANISATION
1	Dato Syed Abdul Rahman Syed Abdul Rashid	Growing of Fruit and Beverage Crops A0161/0164	Managing Director	Agro Almashoor, Cameron Highland
2	Mohd Zainal @ Zainol Bin Ismail	Conduct Research in Agriculture, Food and Agri-Based Industries A0163	Agriculture Officer	Institut Penyelidikan & Kemajuan Pertanian Malaysia (MARDI), Serdang
3	Noor Arina Binti Zainal Abidin	Conduct Research in Agriculture, Food and Agri-Based Industries A0163	Agriculture Officer	Institut Penyelidikan & Kemajuan Pertanian Malaysia (MARDI), Serdang
4	Francis Bin Dungkit	Market Development, Techno-Economy A0161	Economic Affairs, Statistics and Analysis Services Manager	Lembaga Koko Malaysia, Sabah
5	Langgi Anak Chaling	Growing of Spices Aromatic, Drugs and Pharmaceutical Crops A0161	Manager	Lembaga Lada, Sarawak
6	Akbarudin Nasurdin	Trading Activities for Various Products A0162/A0164	Manager	FAMA Corporation, Pulau Pinang

LIST OF OCCUPATIONAL FRAMEWORK TECHNICAL EVALUATION COMMITTEE

NO.	NAME	ORGANISATION
1	Tn. Hj. Khairani Bin Mohd	Managing Director KHM Farm Sdn Bhd
2	Alias Bin Saad	Agriculture Consultant OPENAGRO Consultancy

LIST OF DEPARTMENTS OF SKILLS DEVELOPMENT (DSD) OFFICERS INVOLVED IN OCCUPATIONAL FRAMEWORK DEVELOPMENT

NO.	NAME	ORGANISATION
1	Mohd. Yazid Bin Awalludin	Director NOSS Division Department of Skills Development
2	Siti Hasmah Binti Mustapa	Chief Assistant Director Department of Skills Development
3	Noorita Binti Lateh	Senior Assistant Director Department of Skills Development
4	Noor Azura Binti Adnan	Senior Assistant Director Department of Skills Development
5	Jeفرزain Bin Abdul Rasid	Assistant Director Department of Skills Development
6	Ahmad Azran Bin Ranaai	Assistant Director Department of Skills Development
7	Zainal Bin Abd Jalil	Senior Assistant Skills Officer Department of Skills Development

LIST OF INDUSTRY LEAD BODY (ILB) OFFICERS INVOLVED IN OCCUPATIONAL FRAMEWORK DEVELOPMENT

NO.	NAME	ORGANISATION
1	Mohd Solah Deraman	Chief Executive Officer Institute of Malaysian Plantation And Commodities (IMPAC)
2	Nur Dalilah Termizi	Administrative Officer Institute of Malaysian Plantation And Commodities (IMPAC)

LIST OF RESEARCH TEAM AND SECRETARIAT

NO.	NAME	POSITION/ ORGANISATION
1	Ah Faezal Husni	Project Leader
2	Cristnorish Lianu	Project Manager
3	Marlina Bt Zulkafli	Secretariat
4	Mastura Liza Binti Muhammad	Secretariat
4	Nabilah Ooi Binti Abdullah	Facilitator
5	Akhsan Kamil Azizi Bin Lokman Hakim	Researcher

ANNEX 3: QUESTIONNAIRE

Support Activities to Agriculture and Post-harvest crops activities Industry Occupational Framework Survey

The Department of Skills Development (DSD), Ministry of Human Resources is currently conducting an analysis on the Occupational Framework of the Industry. From this analysis, the industry framework, occupational structure, occupational job titles, and job description will be summarised for the use of the government, private sector, investors, employers, employees, educators or any personnel involved either directly or indirectly with the industry.

The main objective of this research is to enhance skills training starting from the entry level position for any job in this industry based on input from the industry. It will also provide a reference competency for skills required by workers to perform as required in the industry.

This survey will be used as field data in order to conduct a comprehensive analysis of the industry's Occupational Framework. The target group for this survey is the organisation's representative either from the Human Resource Department or personnel at Management level.

We would like to extend our heartfelt gratitude upon your cooperation in answering this survey. Please fill in where necessary in the forms provided. Do advise us if you wish to remain anonymous in your survey response. There will be further communication with survey respondents in order to verify our findings. The completed questionnaire can be emailed to:

Akhsan Kamil Azizi Bin Lokman Hakim: akhsan199@gmail.com

Survey Respondent Details

Name :

Position :

Organisation :

Date :

Please answer the questions below in the space provided, additional pages may be added if necessary. There are 4 SECTIONS in this 8 PAGES survey.

SECTION 1: COMPETENCY IN DEMAND

1.1 Listed below are set of skills related to personnel involve in **Support activities to Agriculture and Post-Harvest crops activities**. Rate the level of demand to the set of skills by using the scale below:

1	2	3	4
Not In Demand	Low In Demand	In Demand	High In Demand

No.	Competency	Rating Score
1	Data management skills	
2	Communication skills	
3	Plantation knowledge	
4	Judgement skills	
5	General attitude towards work (commitment, resourcefulness, teamwork, etc.)	
6	Diagnostic skills	
7	Troubleshooting / problem solving skills	
8	Strong technical aptitude / manual dexterity	
9	Competent in using Technology / other mechanical devices	
10	English language competency	

1.2 Based on your observation, do you think the graduates / trainee / apprentice / current workers possess the skills required by the industry? If 'No' please respond to the following questions (Question 1.3 & 1.4).

☐ Yes

☐ No

1.3 What is/are the reason/s for the skills gap? Tick (✓) where applicable, you may tick more than once.

☐ Education / training mismatch

☐ Major changes in traditional training and new skill requirements

☐ Attitude (e.g. lack of desire to work)

☐ other; please specify:

1.4 What is/are solution/s for the skills gap would you recommend? Tick (✓) where applicable, you may tick more than once.

☐ Review employment policy (e.g. enhance skilled workers incentives)

☐ Training / retraining

☐ Review skills training curriculum

☐ Formal mentoring and/or coaching

☐ other; please specify:

SECTION 2: JOBS IN DEMAND

2.1 Listed below are job areas and description of category of skills. Based on your observation, which job area is experiencing **shortage of manpower in support agriculture activities and post-harvest crops activities industry?**

Tick (√) where applicable.

Category of Skills	Description
Skilled Workers	Managers, Assistant Manager, Specialist
Semi-Skilled Workers	General Workers, Operator, Technician

No.	Job Areas & Category of Skills	High Shortage	Mid Shortage	Low Shortage	No Shortage
1	Support activities to agriculture and post-harvest crops activities				
	a) Skilled Workers				
	b) Semi-Skilled Workers				
	c) Low Skilled Workers				

SECTION 3: EMERGING SKILLS

(Note: Emerging Skills are skills that are predicted to be imperative to the industry in the near future based on recent development, trend or study)

3.1 Do you think Industry Revolution 4.0 (Digitalisation) (IR4.0) would give an impact to the economic activities of support agriculture activities and post-harvest crops activities industry?

☐ Yes

☐ No

☐ Not sure

3.2 Listed below are the nine (9) technology drives/pillars of IR 4.0. Which job area is likely to be affected by these 9 technology drives/pillars of IR 4.0?

Tick (✓) where applicable, you may tick more than once.

NO.	TECHNOLOGY DRIVES / PILLARS	JOB AREAS
		Support agriculture activities and post-harvest crops activities
1	Autonomous Robots (coordinated and automated actions of robots to complete tasks intelligently, with minimal human input)	
2	Big Data Analytics (the analysis of ever larger volumes of data. Circulation, collection, and analysis of information is a necessity because it supports productivity growth based on a real-time decision-making process)	
3	Cloud Computing (storing and accessing data and programs over the Internet instead of your computer's hard drive)	
4	Internet of Things (IoT) (all machines and systems connected to the production plant (as well as other systems) must be able to collect, exchange and save these massive volumes of information, in a completely autonomous way and without the need of human intervention)	
5	Additive Manufacturing (3D Printing) (use in prototyping, design iteration and small-scale production and often described as "rapid prototyping" - produce the desired components faster, more flexibly and more precisely than ever before)	
6	System Integration (the process of linking together different computing systems and software applications physically or functionally to act as a coordinated whole via Internet of Things-IoT)	

7	Cybersecurity (with the increased connectivity and use of standard communications protocols, the need to protect critical industrial systems and manufacturing lines from cybersecurity threats is increasing)	
8	Augmented Reality (Augmented-reality-based systems support a variety of services, such as selecting parts in a warehouse and sending repair instructions over mobile devices - provide workers with real-time information to improve decision making and work procedures)	
9	Simulation (simulations will leverage real-time data to mirror the physical world in a virtual model, which can include machines, products, and humans. This allows operators to test and optimize the machine settings for the next product in line in the virtual world before the physical changeover, thereby driving down machine setup times and increasing quality)	

3.3 Table 2 is the list of important prerequisite and skills required in order to equip the workforce for IR 4.0. Select prerequisite and skills that are relevant to the job area. Tick (✓) where applicable, you may tick more than once.

Table 2: The description of important prerequisite and skills for workforce in the age of IR4.0 published in Skill Development for Industry 4.0 Whitepaper by Roland Berger GMBH in 2016

PREREQUISITE & SKILLS	KNOWLEDGE ABOUT ICT	ABILITY TO WORK WITH DATA	TECHNICAL KNOW-HOW	PERSONAL SKILLS
DETAILS	▪ Basic Information Technology knowledge ▪ Ability to use and interact with computers and smart machines like robots, tablets etc. ▪ Understanding machine to machine communication, IT security & data protection	▪ Ability to process and analyze data and information obtained from machines ▪ Understanding visual data output & making decisions ▪ Basic statistical knowledge	▪ Inter-disciplinary & generic knowledge about technology ▪ Specialized knowledge about manufacturing activities and processes in place ▪ Technical know-how of machines to carry out maintenance related activities	▪ Adaptability & ability to change ▪ Decision making ▪ Working in team ▪ Communication skills ▪ Mindset change for lifelong learning

No.	Job Areas	IMPORTANT PREREQUISITE AND SKILLS FOR IR4.0			
		KNOWLEDGE ABOUT ICT	ABILITY TO WORK WITH DATA	TECHNICAL KNOW-HOW	PERSONAL SKILLS
1	Support agriculture activities and post-harvest crops activities				

SECTION 4: RELATED ISSUES

4.1 What is/are the key issue/s related to support agriculture activities and post-harvest crops activities industry?

Please rate **ALL** the key issues by using the scale below.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

NO.	KEY ISSUES	JOB AREAS
		Support activities to agriculture and post-harvest crops activities
1	Insufficient manpower	
2	Low skilled and low performance workforce	
3	High dependency on foreign labour	
4	Underpayment of wages lead to high turn over	
5	Quality inconsistency (product & services)	
6	Maintaining profitability	
7	Economic conditions	
8	Government policy/regulation	
9	Labour costs (wages)	
10	Labour costs (sub-contractors)	
11	Technological change	

***End of Questionnaire **

ANNEX 4:
OCCUPATIONAL DESCRIPTIONS (OD)

SECTION : (A) AGRICULTURE, FORESTRY AND FISHING
DIVISION : (01) CROPS AND ANIMAL PRODUCTION, HUNTING
AND RELATED SERVICE ACTIVITIES
GROUP : (016) SUPPORT TO AGRICULTURE ACTIVITIES AND
POST- HARVEST CROPS ACTIVITIES

MSIC GROUP : 016
JOB AREA : OIL PALM (PLANTATION)
LEVEL : 6

RESPONSIBILITIES

The Oil Palm Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programmes and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of oil palm crops, plantation and harvest.
- Communications and problem-solving methods.
- Equipment standards and technical planting support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of oil palm policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for oil palm and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to think creatively and can apply alternative thinking to develop new ideas and answers to work-related problems
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : OIL PALM (PLANTATION)
LEVEL : 2

RESPONSIBILITIES:

The Oil Palm Plantation Technician is responsible to operate equipment used in palm oil production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of oil palm plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in palm oil production, such as tractors, combines, and irrigation equipment
- Adjust and repair farm machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : OIL PALM (PLANTATION)
LEVEL : 1

RESPONSIBILITIES

The Oil Palm Plantation Operator is responsible for planting, tending and harvesting the crops using planting and harvesting equipment, and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spread fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of oil palm plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : OIL PALM (COLLECTION CENTRE)
LEVEL : 6

RESPONSIBILITIES

The Oil Palm Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for oil palm collection centre.

Knowledge:

- Knowledge of oil palm crops, plantation and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate collection centre practices to conform with company policy and manual
- Conduct regular review of oil palm policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate collection centre losses and proposed solution
- Conduct collection centre visit and area stability assessment for oil palm and its packaging process

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to think creatively and can apply alternative thinking to develop new ideas and answers to work-related problems
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : OIL PALM (COLLECTION CENTRE)
LEVEL : 2

RESPONSIBILITIES:

The Oil Palm Technician is responsible to operate equipment used in palm oil collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of oil palm plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in oil palm post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair collection centre machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : OIL PALM (COLLECTION CENTRE)
LEVEL : 1

RESPONSIBILITIES

The Oil Palm General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of oil palm plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : RUBBER (PLANTATION)
LEVEL : 6

RESPONSIBILITIES

The Rubber Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and make recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of Rubber crops, plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of rubber policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for rubber and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : RUBBER (PLANTATION)
LEVEL : 2

RESPONSIBILITIES:

The Rubber Plantation Technician is responsible to operate equipment used in rubber production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of rubber plantation and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in rubber production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : RUBBER (PLANTATION)
LEVEL : 1

RESPONSIBILITIES

The Rubber Plantation Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spread fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of Rubber plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : RUBBER (COLLECTION CENTRE)
LEVEL : 6

RESPONSIBILITIES

The Rubber Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for Rubber collection centre.

Knowledge:

- Knowledge of rubber crops, plantation and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of rubber policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate collection centre losses and proposed solution
- Conduct collection centre visit and area stability assessment for rubber

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : RUBBER (COLLECTION CENTRE)
LEVEL : 2

RESPONSIBILITIES:

The Rubber Technician is responsible to operate equipment used in rubber collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of rubber plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in rubber post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair collection centre machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : RUBBER (COLLECTION CENTRE)
LEVEL : 1

RESPONSIBILITIES

The Rubber General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of rubber plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCOA (PLANTATION)
LEVEL : 6

RESPONSIBILITIES

The Cocoa Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of cocoa crops, plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management.
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of rubber policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for cocoa and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to reliable, responsible, and dependable, and fulfilling obligations
- Ability to work under pressure and is strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : COCOA (PLANTATION)
LEVEL : 2

RESPONSIBILITIES:

The Cocoa Plantation Technician is responsible to operate equipment used in rubber production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of Cocoa plantation and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in cocoa production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCOA (PLANTATION)
LEVEL : 1

RESPONSIBILITIES

The Cocoa Plantation Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spreading fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of Cocoa plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCOA (COLLECTION CENTRE)
LEVEL : 6

RESPONSIBILITIES

The Cocoa Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for Cocoa collection centre.

Knowledge:

- Knowledge of cocoa crops, plantation and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of cocoa policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate collection centre losses and proposed solution
- Conduct collection centre visit and area stability assessment for cocoa

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to think creatively and can apply alternative thinking to develop new ideas and answers to work-related problems
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : COCOA (COLLECTION CENTRE)
LEVEL : 2

RESPONSIBILITIES:

The Cocoa Technician is responsible to operate equipment used in cocoa collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of cocoa plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in cocoa post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair collection centre machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCOA (COLLECTION CENTRE)
LEVEL : 1

RESPONSIBILITIES

The Cocoa General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of cocoa plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : PEPPER (FARMING)
LEVEL : 6

RESPONSIBILITIES

The Pepper Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of pepper crops, plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management.
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of pepper policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for pepper and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision making
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is strong team player
- Adhere to safety regulations and environmental regulations

MSIC GROUP : 016
JOB AREA : PEPPER (FARMING)
LEVEL : 2

RESPONSIBILITIES:

The Pepper Farm Technician is responsible to operate equipment used in rubber production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of pepper plantation and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in rubber production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : PEPPER (FARMING)
LEVEL : 1

RESPONSIBILITIES

The Pepper Farm Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spreading fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of pepper plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : PEPPER (COLLECTION CENTRE)
LEVEL : 6

RESPONSIBILITIES

The Pepper Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for pepper collection centre.

Knowledge:

- Knowledge of Pepper crops, plantation and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of oil palm policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for oil palm and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to think creatively and can apply alternative thinking to develop new ideas and answers to work-related problems
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : PEPPER (COLLECTION CENTRE)
LEVEL : 2

RESPONSIBILITIES:

The Pepper Technician is responsible to operate equipment used in pepper collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of pepper plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in pepper post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair collection centre machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : PEPPER (COLLECTION CENTRE)
LEVEL : 1

RESPONSIBILITIES

The Pepper General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of pepper plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : KENAF (PLANTATION)
LEVEL : 6

RESPONSIBILITIES

The Kenaf Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of Kenaf crops, plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management.
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of kenaf policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for pepper and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision making
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is strong team player
- Adhere to safety regulations and environmental regulations

MSIC GROUP : 016
JOB AREA : KENAF (PLANTATION)
LEVEL : 2

RESPONSIBILITIES:

The Kenaf Plantation Technician is responsible to operate equipment used in kenaf production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of kenaf plantation and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in kenaf production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : KENAF (PLANTATION)
LEVEL : 1

RESPONSIBILITIES

The Kenaf Plantation Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spreading fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of Pepper plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP: 016

JOB AREA : KENAF (COLLECTION CENTRE)

LEVEL : 6

RESPONSIBILITIES

The Kenaf Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for kenaf collection centre.

Knowledge:

- Knowledge of kenaf crops, plantation and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of kenaf policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate collection centre losses and proposed solution
- Conduct collection centre visit and area stability assessment for kenaf and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : KENAF (COLLECTION CENTRE)
LEVEL : 2

RESPONSIBILITIES:

The Kenaf Technician is responsible to operate equipment used in kenaf collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of kenaf plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in kenaf post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair collection centre machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : KENAF (COLLECTION CENTRE)
LEVEL : 1

RESPONSIBILITIES

The Kenaf General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of kenaf plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCONUT (PLANTATION)
LEVEL : 6

RESPONSIBILITIES:

The Coconut Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of Coconut crops, plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management.
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of coconut policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for coconut and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to reliable, responsible, and dependable, and fulfilling obligations
- Ability to work under pressure and is strong team player
- Adhere to safety regulations and environmental regulations

MSIC GROUP : 016
JOB AREA : COCONUT (PLANTATION)
LEVEL : 2

RESPONSIBILITIES:

The Coconut Plantation Technician is responsible to operate equipment used in coconut production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of coconut plantation and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in coconut production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCONUT (PLANTATION)
LEVEL : 1

RESPONSIBILITIES

The Coconut Plantation Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spreading fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of Coconut plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP: 016

JOB AREA : COCONUT (COLLECTION CENTRE)

LEVEL : 6

RESPONSIBILITIES

The Coconut Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for coconut collection centre.

Knowledge:

- Knowledge of coconut crops, plantation and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate collection centre practices to conform with company policy and manual
- Conduct regular review of coconut policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate collection centre losses and proposed solution
- Conduct collection centre visit and area stability assessment for coconut and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : COCONUT (COLLECTION CENTRE)
LEVEL : 2

RESPONSIBILITIES:

The Coconut Technician is responsible to operate equipment used in coconut collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of coconut plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in coconut post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair collection centre machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : COCONUT (COLLECTION CENTRE)
LEVEL : 1

RESPONSIBILITIES

The Coconut General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of coconut plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : VEGETABLES (FARM)
LEVEL : 6

RESPONSIBILITIES:

The Vegetables Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of Vegetables crops, farming and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management.
- Business, financial and future budget planning.
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of vegetables policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate farm losses and proposed solution
- Conduct farm visit and area stability assessment for vegetables and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to reliable, responsible, and dependable, and fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations and environmental regulations

MSIC GROUP : 016
JOB AREA : VEGETABLES (FARM)
LEVEL : 2

RESPONSIBILITIES:

The Vegetable Farm Technician is responsible to operate equipment used in rubber production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of vegetables farming and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in vegetable production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : VEGETABLES (FARM)
LEVEL : 1

RESPONSIBILITIES

The Vegetables Farm Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spreading fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of Vegetables plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : VEGETABLES (PACKING HOUSE)
LEVEL : 6

RESPONSIBILITIES

The Vegetables Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programmes and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of vegetables crops and post-harvest.
- Communications and problem-solving methods.
- Equipment standards and technical planting support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate packing house practices to conform with company policy and manual
- Conduct regular review of vegetables policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate packing house losses and proposed solution
- Conduct packing house visit regularly

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : VEGETABLES (PACKING HOUSE)
LEVEL : 2

RESPONSIBILITIES:

The Vegetables Technician is responsible to operate equipment used in vegetables collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of vegetables plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in vegetables post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair packing house machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : VEGETABLES (PACKING HOUSE)
LEVEL : 1

RESPONSIBILITIES

The Vegetables General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of vegetables plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : FRUITS (FARM)
LEVEL : 6

RESPONSIBILITIES:

The Fruits Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of Fruits crops, plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of fruits policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate farm losses and proposed solution
- Conduct farm visit and area stability assessment for fruit and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to reliable, responsible, and dependable, and fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations and environmental regulations

MSIC GROUP : 016
JOB AREA : FRUITS (FARM)
LEVEL : 2

RESPONSIBILITIES:

The Fruits Farm Technician is responsible to operate equipment used in Fruits production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of fruit farming and harvest.
- Communication and problem-solving methods.
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in fruits production, such as tractors, combines, and irrigation equipment
- Adjust and repair field machinery and ensuring major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : FRUITS (FARM)
LEVEL : 1

RESPONSIBILITIES

The Fruits Farm Operator is responsible for planting, tending and harvesting the crops and mastery the uses of heavy equipment and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spreading fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of Fruits plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : FRUITS (PACKING HOUSE)
LEVEL : 6

RESPONSIBILITIES

The Fruits Senior Manager is responsible to coordinate with administrators and leaders on work plans and programmes and makes recommendations for improvements for fruits packing house.

Knowledge:

- Knowledge of fruits, farming and packaging.
- Communications and problem-solving methods.
- Equipment standards and technical post-harvest support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of fruits policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate packing house losses and proposed solution
- Conduct packing house visit and area stability assessment for fruits and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to think creatively and can apply alternative thinking to develop new ideas and answers to work-related problems
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : FRUITS (PACKING HOUSE)
LEVEL : 2

RESPONSIBILITIES:

The Fruits Technician is responsible to operate equipment used in fruits collection and packaging, such as tractors, and related machine used in post-harvest process.

Knowledge:

- Knowledge of fruits plantation, collection process and packaging.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in fruits post-harvest activities, such as tractors, packaging machine and other equipment in post-harvest process.
- Adjust and repair packing house machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate post-harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : FRUITS (PACKING HOUSE)
LEVEL : 1

RESPONSIBILITIES

The Fruits General Worker is responsible for clean, sorting and packaging the crops using packaging and post-harvest equipment.

Skills:

- Separate, grade, sort and package the harvested products
- Maintain vehicles
- Maintain machinery
- Clean and repair buildings

Knowledge:

- Knowledge of fruits plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical post-harvest support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : RUMINANTS (FARM)
LEVEL : 6

RESPONSIBILITIES:

The Ruminant Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for meat quality improvement, farming technique, breeding technique, management and care.

Knowledge:

- Knowledge of Ruminant farming, breeding, management and care.
- Communication and problem-solving methods
- Equipment standards and technical farming support
- Budget and cost management.
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate farm practices to conform with company policy and manual
- Conduct regular review of ruminant policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site quality assurance, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct farm visit and area stability assessment for ruminants.

Attributes:

- Possess good communication skills
- Possess leadership qualities
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : RUMINANT (FARM)
LEVEL : 2

RESPONSIBILITIES:

The Ruminant Technician is responsible to operate equipment used in ruminant farm, such as tractors, food feeding tools and other equipment that used by farm operator and general worker on handling the farm.

Knowledge:

- Knowledge of Ruminant farming, breeding, management and care.
- Communication and problem-solving methods.
- Equipment standards and technical farming support
- Vaccination knowledge
- Budget and cost management
- Computer software applications

Skills:

- Guide vaccination procedures
- Guide livestock feed
- Conduct analysis and collection of food samples
- Lead collection of dead livestock
- Run bio-security programs.

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : RUMINANT (FARM)
LEVEL : 1

RESPONSIBILITIES

The Ruminant Farm Operator is responsible for farming, breeding, management and care about ruminants.

Skills:

- Farming, breeding and feeding ruminants
- Ability to use a variety of equipment such as tractors.
- Maintaining ruminant's daily needs
- Maintaining ruminant's health
- Clean and repair buildings farm

Knowledge:

- Knowledge of Ruminant's farming, breeding, management and care.
- Communication and problem-solving methods
- Knowledge of equipment standards and technical farming support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : POULTRY (HOUSE)
LEVEL : 6

RESPONSIBILITIES:

The Poultry Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programs and makes recommendations for meat quality improvement, farming technique, breeding technique, management and care.

Knowledge:

- Knowledge of Poultry farming, breeding, management and care
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Business, financial and future budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate farm practices to conform with company policy and manual
- Conduct regular review of rubber policy/ manuals and operational efficiency
- Review resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess quality potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate farm losses and proposed solution
- Conduct farm visit and area stability assessment for poultry.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations and environmental regulations

MSIC GROUP : 016
JOB AREA : POULTRY (HOUSE)
LEVEL : 2

RESPONSIBILITIES:

The Poultry Technician is responsible to operate equipment used in poultry farm, such as tractors, food feeding tools and other equipment that used by farm operator and general worker on handling the farm.

Knowledge:

- Knowledge of Poultry farming, breeding, management and care.
- Communication and problem-solving methods.
- Equipment standards and technical farming support
- Vaccination knowledge
- Budget and cost management
- Computer software applications

Skills:

- Guide vaccination procedures
- Guide livestock feed
- Conduct analysis and collection of food samples
- Lead collection of dead livestock
- Run bio-security programs.

Attribute:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : POULTRY (HOUSE)
LEVEL : 1

RESPONSIBILITIES

The Poultry House Operator is responsible for farming, breeding, management and care about poultry.

Skills:

- Farming, breeding and feeding poultry
- Ability to use a variety of equipment such as tractors.
- Maintaining poultry's daily needs
- Maintaining poultry's health
- Clean and repair buildings farm

Knowledge:

- Knowledge of Poultry's farming, breeding, management and care.
- Communication and problem-solving methods
- Knowledge of equipment standards and technical farming support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is a strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : SEED PRODUCTION
LEVEL : 6

RESPONSIBILITIES

The Seed Production Senior Manager is responsible to coordinate with administrators and research project leaders on work plans and programmes and makes recommendations for improvements, land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of seed production crops, plantation and harvest.
- Communications and problem-solving methods.
- Equipment standards and technical planting support.
- Budget and cost management.
- Business acumen, financial and budget planning
- Computer software applications

Skills:

- Conduct visit and evaluate estate practices to conform with company policy and manual
- Conduct regular review of seed production policy/ manuals and operational efficiency
- Ensure resources assessment (manpower and machinery) are utilized efficiently and proposed solution
- Assess site yield potential, identify their limitations and suggest sound /practical improvement measures
- Evaluate field losses and proposed solution
- Conduct field visit and area stability assessment for seed production and other crops.

Attributes:

- Possess good communication skills
- Possess good judgment and decision-making skills
- Reliable, responsible, and dependable in fulfilling obligations
- Ability to work under pressure and is a strong team player
- Adhere to safety and environmental regulations

MSIC GROUP : 016
JOB AREA : SEED PRODUCTION
LEVEL : 2

RESPONSIBILITIES:

The Seed Production Field Technician is responsible to operate equipment used in palm oil production, such as tractors, combines, and irrigation equipment that used by field operator and general worker on land preparation, fertilizing, planting crops, cultivation, and harvesting of experimental feed plots.

Knowledge:

- Knowledge of seed production plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support
- Budget and cost management
- Computer software applications

Skills:

- Operate equipment used in seed production, such as tractors, combines, and irrigation equipment
- Adjust and repair farm machinery and ensure major malfunctions are reported promptly
- Prepare power tools and other attachments for safe and effective use
- Mix specified materials and chemicals for application
- Maintain and operate harvesting operations

Attribute:

- Possess good communication skills
- Possess good judgment and decision making
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations

MSIC GROUP : 016
JOB AREA : SEED PRODUCTION
LEVEL : 1

RESPONSIBILITIES

The Seed Production Field Operator is responsible for planting, tending and harvesting the crops using planting and harvesting equipment, and tractors.

Skills:

- Plant, tend and harvest using a variety of equipment such as tractors and combine harvesters
- Maintain hedges and woodland
- Maintain vehicles and machinery
- Clean and repair buildings
- Spread fertilizer
- Put up and maintain fences

Knowledge:

- Knowledge of seed plantation and harvest.
- Communication and problem-solving methods
- Equipment standards and technical planting support

Attribute:

- Possess good communication skills
- Ability to work under pressure and is strong team player
- Adhere to safety regulations
- Adhere to environmental regulations