THE IMPACT OF MINIMUM WAGE POLICY ON HOURS OF WORK, HAPPINESS AND QUALITY OF LIFE: THE PERCEPTION OF EMPLOYEES IN THE RUBBER ESTATES OF KEDAH, MALAYSIA.

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ABSTRACT

This study aims to investigate the relationship between hours of work, quality of life, and happiness with success of Minimum Wage Policy implementation among rubber estates employees in the agricultural sector. The relationship between those variables are predicted based on relevant literature, and are tested using survey results from 66 respondents or rubber estates employees in Kedah. Descriptive statistics analysis used to analyse the corresponding characteristics of the sample. Reliability of measures is established by testing for both consistency and stability. Pearson's Correlation used to test the relationships between minimum wage and hours of work, minimum wage and happiness, and minimum wage and quality of life. Overall results indicated that all the independent variables such as hours of work, happiness, and quality of life were significant influences by the Minimum Wage Policy. It can be observed that minimum wage is positively correlated with hours of work, happiness and quality of life. It also can be concluded that there is a small shock effect of minimum wage policy on hour of work and quality of life and a big shock effect of minimum wage policy on happiness. Moreover, the findings of this study can encourage the government to appreciate the effects of the minimum wage policy and ensure adequate monitoring with the aim of allowing estates adjust and minimize adverse effects on hours of work, happiness, and quality of life of employees. Moreover, it also will provide a useful guidance to the policy makers of other developing countries in implementation a new policy for future development especially in the agricultural sector.

Keywords: minimum wage, hours of work, happiness, quality of life

ABSTRAK

Tujuan kajian ini adalah untuk mengkaji hubungan antara masa bekerja, taraf hidup dan kegembiraan dengan kejayaan pelaksanaan Polisi Upah Minimum di kalangan pekerja perladangan terutamanya pekerja ladang getah. Hubungan di antara pembolehubah–pembolehubah berikut adalah berdasarkan ramalan kajian lepas dan hubungan ini juga diuji dengan melakukan kaji selidik terhadap 66 pekerja ladang getah di negeri Kedah. Ujian 'Descriptive statistic' digunakan untuk menganalisis maklumat demografi. Ujian 'Reliability' digunakan untuk menguji konsisten dan kestabilan data. Ujian 'Pearson's Correlation' digunakan untuk menguji hubungan antara pemboleh ubah bebas seperti masa bekerja, kegembiraan dan taraf hidup dengan pelaksanaan Polisi Upah Minimum. Keputusan keseluruhan menunjukkan bahawa Polisi Upah Minimum mempengaruhi kesemua pemboleh-ubah bebas. Keputusan ini juga menunjukkan bahawa upah minimum mempunyai hubungan positif dengan masa bekerja, taraf hidup dan kegembiraan. Keputusan ini juga menunjukkan bahawa upah minimum mempunyai kesan terkejut kecil terhadap masa bekerja dan taraf hidup. Ia juga menunjukkan bahawa upah minimum mempunyai kesan terkejut besar terhadap kegembiraan. Selain itu, keputusan kajian ini akan mengalakkan pihak kerajaan mengenal pasti kesan pelaksanaan polisi ini. Mereka juga akan menggalakkan pihak pengurus ladang untuk mengurangkan kesan sampingan terhadap masa bekerja, taraf hidup dan kegembiraan pekerja ladang. Tambahan pula, kajian ini juga dikategorikan sebagai satu panduan kepada negara-negara membangun untuk membuat satu polisi yang baru terutamanya dalam sektor peladangan.

Kata kunci: Upah Minimum, masa bekerja, kegembiraan, taraf hidup

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Thilagavathi A/P Muttu

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter provides a general introduction of the study. The first section introduces the background of the study while the second section presents the problem statement. The third section of this chapter presents the research questions and the research objectives of the study are stated in fourth section. The significance of the study is presented in the fifth section, followed by the scope of the study. Finally, the organization of the report is in the last section.

1.2 Background Of The Study

Malaysia is a federal constitutional monarchy located in Southeast Asia. It consists of thirteen states and three federal territories and has a total landmass of 329,847 square kilometres separated by the South China Sea into two similarly sized regions, East of Malaysia and Peninsular of Malaysia. It also called as Malaysian Borneo. It is named as a developing country which is moving in the path of modern economic and demographic transitions. It has experienced tremendous economic growth since 1957. The encouragement and leading by our former Prime Minister, Tun Dr Mahathir, the father of modernization, has transformed Malaysia from an agricultural nation to an industrial nation in the early 1984. As a result, the contribution of manufacturing and construction (secondary sector) and services sector (tertiary sector) have increased rapidly (Subramaniam, 2008).

The Agriculture sector of Malaysia involves more in oil palm plantation and rubber plantation. Before 1990, Malaysia was the world's largest rubber exporter followed by Indonesia and Thailand. Since 1991, Thailand has replaced Malaysia as the biggest rubber exporting country. Thus, Malaysia's declining rubber industry was caused by migration of the labour into other industries and an expansion of other cash crops such as oil palm and cocoa (Booranapin, 2000).

The origin of natural rubber was discovered in Brazil, Amazon in South America in the 19th century. Before coming to Malaysia in the early 20th century, the rubber tree was planted in Kew Gardens London, then to Sri Lanka and Singapore. British took the authority to commercial the rubber tree plantation by using the labour which brought from India. Malaysia was the largest natural rubber producer in the world from 1930s to 1980s. It produces about 1.67 million tonnes in 1988. It was exported in smoked sheet, crumbs, and latex form. Until 1992, Malaysia maintained its top position in the world for natural rubber production. But now, Malaysia is placed third natural rubber producer as shown in table below:-

Table 1.2.1: *Main natural rubber producing countries in 2010*

	Million Metric Tonnes	**World Production (%)**
Thailand	3.168	31
Indonesia	2.600	26
Malaysia	0.939	9
Vietnam	0.754	7
India	0.851	8
China	0.649	6

Sources: Talk On the Rubber Industry and Prospects in Malaysia by Dato' Dr. Ong Eng Long on 12th November 2011

There are few reasons for reduced natural rubber production in Malaysia. Firstly, the rubber planted area reduced from 2.04 million hectares in 1988 to 1.03 million

hectares in 2010. The reason is that, the income which was received from each hectare of land planted with oil palm is higher than rubber plantation. Secondly, the yield of natural rubber from current small holding is below 1000 kg per hectare per year because after 25 years, the old rubber trees were cut down and replanted with oil palm. Most of the rubber estates nowadays is turned into other purposes such as lucrative housing, commercial or industrial development. As a result, it brings high value for the economic growth. After that, factor of shortage of labour and lacking clear planning and direction of government policy also lead to reduced natural rubber production in Malaysia (Long, 2011).

The annual growth rates on principal statistic of rubber industry from 2005 to 2010 are shown below:-

Table 1.2.2: *Principal Statistic of rubber industry, 2005-2010*

Principal statistic	**2005***	**2010**	**Annual growth rate (%)**
Total rubber planted area (hectares)	1,257,315	1,021,981	-4.2
Estates	58,708	9,866	-3.2
Smallholdings	1,198,607	963,115	-4.3
Employment on estates (number)	11, 781	10,557	-22
Salaries & wages (RM '000)	103,110	115,848	2.4

Source: Monthly Rubber Statistics, Department of Statistic, Malaysia

From the Table 1.2.2, the total rubber planted area was higher in 2005 compare to 2010. In 2005, the total rubber planted area was 1,257,315 hectares. This number was reduced to 1,021,981 hectares after the five years. The annual growth rate was -4.2 percent. The reduction was due to the conversion from rubber planting to oil palm. The total employment in the estates was 11,781 people in 2005 and it was reduced to 10,557 people in 2010 due to job shifted from agricultural sector to industrial sector. Industrial sector was guaranteed for the safety of employees and

fixed payment compared to agriculture sector. Besides that, the agricultural sector production is influenced by the factor of weather and season. Moreover, the total salaries and wages was RM103,110 in 2005. The value was increased about 12.35 percent in 2010 and the annual growth rate was 2.4 percent which was due to the growth of production level of rubber industries.

Furthermore, the percentages of rubber planted area (hectares) by different states in 2010 are shown as below:-

Table 1.2.3: *Percentages of rubber planted area by different states, 2010*

Name of state	**Rubber planted area (%)**
Kedah and Perlis	23.4
Negeri Sembilan	19.3
Kelantan and Terengganu	16.6
Pahang	15.0
Johor	12.0
Perak	6.6
Selangor and Sabah	4.9
Melaka	2.2
Total (1,021,981 hectares)	**100**

Source: Monthly Rubber Statistics, Department of Statistic, Malaysia

The table 1.2.3 shows that the biggest rubber planted area on estates was Kedah and Perlis (23.4%), followed by Negeri Sembilan (19.3%), Kelantan and Terengganu (16.6%), Pahang (15.0%), Johor (12.0%), Perak (6.6%), Selangor and Sabah (4.9%), and Melaka (2.2%). The state of Kedah and Perlis were good in soil fertility. The sustainable development in Kedah made the rubber plantation growth very well in this particular year.

In addition, the number of employees and percentages of 2010 are shown below:-

Table 1.2.4: *Number of estates worker by categories, 2010*

Categories of work	**Number of worker (persons)**	**Percentages (%)**
Estates workers	8,990	85.2
Administrative	1,204	11.4
Working proprietors, active partners and unpaid family workers	23	0.2
Sub-contractor	340	3.2
Total	**10,557**	**100**

Source: Monthly Rubber Statistics, Department of Statistic, Malaysia

The table 1.2.4 shows that there are 8,990 people (85.2%) worked as estates workers, 1,204 people (11.4%) worked as administrative, 23 people (0.2%) worked as proprietors, active partners and unpaid family workers, and followed by 340 people (3.2%) worked as sub-contractor. There are many people who have family background from plantation areas. It would lead them to involve in the rubber industries. Some of them who are educated in agricultural sector will contribute their knowledge and experiences to the development of rubber plantation. Some of them planned to do their family business and they are categories in the unpaid family workers. All of these people play an important role in the development of agricultural sector especially in the rubber plantation.

Besides that, the monthly average salaries and wages by the states for the year 2010 are shown below:-

Table 1.2.5: *Monthly average salaries and wages by the states, 2010*

State	**No. of employment**	**No. of paid employees**	**Salaries & wages**	**Monthly average salaries & wages (RM)**
Johor	1,294	1,282	12,243	796
Kedah & Perlis	2,554	2,393	27,878	971
Kelantan & Terengganu	1,617	1,614	16,794	867
Melaka	317	313	4,847	1,290

(continues) **State**	**No. of employment**	**No. of paid employees**	**Salaries & wages**	**Monthly average salaries & wages (RM)**
Negeri Sembilan	2,208	2,168	25,059	963
Pahang	1,392	1,297	16,272	1,045
Perak	730	682	7,939	970
Selangor & Sabah	445	445	4,816	902
Total	**10,557**	**10,194**	**115,848**	**947**

Source: Department of Statistic, Malaysia

The Table 1.2.5 shows the monthly average salaries and wages that received by each state in Malaysia in 2010. The average monthly salaries and wages received by the estate workers was RM947. Melaka recorded the highest average monthly salaries and wages at RM1,290 compared to other states. A few numbers of employees (313 people) decrease their cost of adjustment. Thus, Melaka has the ability to pay more to the plantation workers. In the case of Kedah and Perlis, the monthly average salaries were RM971. The large numbers of employees (2393 people) increase their cost of adjustment. These monthly average salaries and wages will influence the development of rubber plantation and the living standard of employees.

Table 1.2.6 presents the statistic of planted area of natural rubber estates from 2011 until 2013.

Table 1.2.6: *Planted area of natural rubber estates from 2011-2013* [e]

Region	**Sector**	**2011**	**2012**	**2013** [e]
Peninsular Malaysia	Estates Smallholdings	64,114 712,769	64,114 713,769	64,114 714,769
Sabah	Estates Smallholdings	87 89,820	87 94,802	87 98,017
Sarawak	Estates Smallholdings	- 160,252	- 168, 772	- 173,172
Total	Estates Smallholdings	64,201 962,841	64,201 977,343	64,201 985,958

Notes: [e] estimated (January – December 2013)
Source: Malaysian Rubber Board, 2015

Based on Malaysian Rubber Board Report, Peninsular Malaysia shows the constant number of estates from 2011 until 2013 about 64,114 estates. There is an increase of about 0.28 percent in smallholding sector from 2011 to 2013. Besides that, Sabah also shows constant number of estates about 87 estates from 2011 until 2013. This state shows that the number of smallholdings of natural rubber planted area increase about 8,197 places from 2011 until 2013. Unfortunately, state of Sarawak only operated smallholdings from 2011 about 160,252, 168,772 in 2012, and 173,172 of planted area of natural rubber in 2013. From the year 2012, all the rubber estates workers received the minimum wage that was fixed by the government. From this policy implementation, there is an impact to the employees personally that going to examine through this study.

1.3 Profile Of Rubber Estates In Kedah

According to LGM (Malaysian Rubber Board) of Kedah, there are 42 estates in Kedah excluding the number of estates that is owned by the Rubber Industry Smallholders Development Authority (RISDA). Table 1.3.1 shows the lists of estates that are operate in Kedah.

Table 1.3.1: *List of Estates Produced by LGM, Kedah, 2015*

No.	**Place and Name of Estates**
	A. Island of Langkawi
1.	Sungai Raya Estate (Boon Siew) (Langkawi)
	B. Kubang Pasu
2.	Ladang FELDA Laka Temin
3.	Kiet Loong Estate
4.	Ladang Laka Temin (PKNK)
5.	Lim Chow Chong Estate
6.	Binjal Estate (O.RM.M.S.S.S)
7.	Ladang Jeyam Kondar (S.S.S.V. Meyappa) Padang Terap
8.	Ladang Durian Burung
9.	Ladang Batu Hitam
10.	Ladang Sungai Seraya
11.	Ladang Sungai Tekai

No.	(continued) **Place and Name of Estates**
12.	Ladang Ketapang
13.	LGM Stesen Penyelidik Sungai Srai Kedah (SPSSK)
	C. Kota Setar
14.	Ladang Bukit Nguan (PKNK)
	D.Pendang
15.	Ladang Bukit Perak Utara (PKNK)
16.	Heng Seng Rubber Estate SDN.BHD
17.	Ladang Bukit Perak Selatan (PKNK)
18.	Ngeow Hong Seng SDN.BHD
19.	Sin Tiong Heng Estate SDN.BHD
20.	Su Poh W.SDN.BHD
	E. Kuala Muda
21.	Ghee Guat Realty SDN.BHD
22.	Impian Seloka SDN.BHD
23.	Taytex Plantation SDN.BHD
24.	Tay Plantation SDN.BHD
25.	A.V.B SDN.BHD
26.	Yeoh Eng Hock Enterprise SDN.BHD
27.	Kai Sik Latex Products SDN.BHD
28.	Ban Hin Plantation SDN.BHD
29.	Lim Peng Juu-Lee Heng Estate
	F. Sik
30.	Ladang Getah Pantai Molek
31.	Ladang Terenas PPN Kedah
32.	LGM Ladang Begia
	G. Baling
33.	Ladang Kupang
34.	Ladang Aman Jaya (PKNK)
35.	Getah Teluk Teduri
36.	Evergreen Estate (Tan Kok Keat)
	H. Kulim
37.	Ladang Sungai Ular (PKNK)
38.	Ladang Getah Sungai Tengas
39.	Ladang PKNK Sera
40.	Alma Produce. Bagan Sena Plantation
41.	Kuala Lumpur Kepong BHD. Ladang Pelam
42.	Geh Hong Chip & Sons SDN.BHD

Source: Malaysian Rubber Board, Kedah (LGM)

Based on Table 1.3.1, there are eight parts of Kedah that having rubber plantation area. Firstly, the Island of Langkawi has only one rubber plantation area named as Sungai Raya Estate (Boon Siew). Secondly, there are twelve rubber estates in the Kubang Pasu area of Kedah. Thirdly, the Kota Setar has only one rubber estates named Ladang Bukit Nguan (PKNK). Forthy, there are six rubber estates in the area of Pendang. Moreover, there are nine rubber plantation estates in the Kuala Muda

area, and followed by three rubber estates in the area of Sik. In the Baling, there are four rubber estates and followed by six rubber estates in the Kulim. These rubber estates gave good contribution to the development of rubber plantation in Kedah. Only few of these rubber estates used minimum wage policy in their salary payment. The rest of the rubber estates gave salary based on the production level and labour force participation.

The list of rubber estates which applying minimum wage policy in Kedah was shown below:-

Table 1.3.2: *List of estates which applying minimum wage policy in Kedah, 2015*

Name of estates	**Types of estates**	**Number of rubber tappers**		
		Local	**Foreigner**	**Total**
1. Sungai Raya Estate (Boon Siew) (Langkawi)	Private	10	-	10
2. Ladang FELDA Laka Temin	Government	95	25	120
3. Ladang Laka Temin (PKNK)	Private	22	2	24
4. Ladang Durian Burung	Private	-	-	118
5. Ladang Sungai Seraya	Private	3	110	113
6. Ladang Sungai Tekai	Private	100	80	180
7. Heng Seng Rubber Estate Sdn. Bhd.	Private	9	-	9
8. Ladang Bukit Perak Selatan (PKNK)	Semi-government	80	200	280
9. Su Poh W. Sdn. Bhd.	Private	12	-	12
10. Ghee Guat Realty Sdn. Bhd.	Private	13	-	13
11. Ban Hin Plantations Sdn. Bhd.	Private	11	-	11
12. ALMA Produce Bagan Sena Plantation	Private	26	4	30
13. Kuala Lumpur Kepong Bhd. Ladang Pelam	Private	-	-	99
14. Geh Hong Chip & Sons Sdn. Bhd.	Private	80	-	80
15. Ladang Aman Jaya (PKNK)	Government	101	-	101
16. Ladang Bukit Nguan (PKNK)	Semi-government	80	-	80
	Total	**642**	**421**	**1,280**

Source: Malaysian Rubber Board, Kedah (LGM)

Based on Table 1.3.2, there are three types of estates in Kedah that are successfully applying the minimum wage policy, namely the government, private and semi-government estates. In 2015, the total rubber tappers are 1,280 people who get

the benefits from the policy implementation. Meanwhile, the government of Malaysia has been implementing minimum wage policy since 2012. It was completed for two years until 2014. This minimum wage policy covered both local and foreign workforce, except for domestic workers and gardeners. Thus, this study may be regarded as the first stage to examine the impact of minimum wages policy on rubber industry. Also, it will reward the impact of minimum wage policy on hours of work, happiness and quality of life in the perception of employees (rubber tappers) in the rubber estates of Kedah.

1.4 Problem Statement

The National Union of Plantation (NUPW) which is formed in 1954 play an important role for the plantation workers in their negotiations for wages and physical working conditions with the employers, the Malayan Agricultural Producers' Association (MAPA). It help determines the basic wages and other auxiliary payments to rubber tappers which are linked to rubber price, land yield, labour productivity, agronomic practices and weather. This union planned to give minimum level of wages which secures the rubber tapper a sufficient and stable income since 1956. However, the employer resistance are not supported despite spending energy and resources pursuing this idea over many years.

In 2003, this union successfully signed to provide a monthly wages to workers but this agreement claimed that it did not offer an adequate protection to labour. Currently, there are two types of payment systems (time rate and piece rate) that are used in rubber estates. But, now Malaysia successfully implemented the minimum wage policy about RM900 monthly for all the sector of Peninsular Malaysia and RM800 per monthly for Sabah, Sarawak and the Federal Territory of Labuan. It is a

welcome policy for workers in all sectors especially employees in the rubber estates who waited for a stable level of income.

According to a theoretical literature on payment system, monthly wages (time based payment) is appropriate in a workplace where supervision of workers are easy; maintaining the quality of output and output is difficultly attributed to a particular worker. Thus, the rubber estates presents opposite relationship where the supervision of tappers is difficult because they are spread out over a wide area. The output of rubber is attributable to the workers who are taps and collect it, and the quality of natural rubber is consistent. The theoretical and practical grounds found that a monthly wage scheme (minimum wage policy) was inappropriate in the plantation field like estates (Gopal, 2004). Thus, the implementation of minimum wage might influence the hours of work, happiness and quality of life of employees in the rubber estates. So, this paper will examine the relationship and impact of minimum wage policy on hours of work, happiness and quality of life of rubber estates employees in the state of Kedah.

The minimum wage policy may reduce employment in the affected industries, for example the rubber industry. There is likely to be a rise in unemployment that increased production targets for existing staff, thus pushing the unskilled workers hard to meet new production targets. Most of the workers in the rubber estates are low-skilled workers. So, it will increase the hours of worked of the exiting paid employees. It shows that there is a positive relationship between minimum wage policy and hours of work. According to Conolly and Gregory (2002) the hours of worked adjustment costs tent to be lower than the employment adjustment costs. The employers might also adjust their labour utilization at the intensive margin by changing the relative use of full-time and part-time for their existing workers. Thus,

the implementation of minimum wage might influence the hours of work for workers. So, this paper will examine the relationship and impact of minimum wage policy on hours of work of rubber estates employees in the state of Kedah.

Besides that, Navamukundun (2004) found that the rubber estates workers will gain RM1,389.65 per month if they are diligent to work during their days of rest and public holidays. It might change their health condition when they worked more to get higher payment. It might reduce their happiness level although they received high payment. A fixed payment like minimum wage would increase their leisure and improve their health condition. Also, they can go for an outstation with their family members or working colleagues during the public holidays. It might increase their happiness level. On the other hands, before the minimum wage policy, the estates workers might receive facilities and other financial support from their employers. After the policy implementation, it might be cancelled by their employers. And, it will reduce the happiness of estates workers. Thus, the implementation of minimum wage might influence the happiness of workers. So, this paper will examine the relationship and the impact of minimum wage policy on happiness of rubber estates employees in the state of Kedah.

According to Ahmed and Peerlings (2009), the minimum wage policy has one major problem that it increased the cost of production and price of the products for the customers. Based on this statement, this policy might increase the living cost of workers especially the low skilled workers. The high living cost will make the employees to plan their expenditure wisely. They might save their money rather than buying new furniture, new vehicle, and go to fast food restaurant. Also, they might borrow some money from their employer and also friends if the minimum wage is not enough for them. It will reduce their quality of life. On the other hands, if the

minimum wage is higher than their previous salary, it might improve their quality of life. The employees might prepare new facilities, buying new house and vehicle, fulfil the needs and wants, and avoid themselves from borrowing some money from their employers and also friends. Also, their health condition will improve and they do not need to work more to gain higher salary. The minimum wage is sufficient for them. This policy might increase the quality of life of employees. Thus, the implementation of minimum wage might influence the quality of life of workers. So, this paper will examine the relationship and impact of minimum wage policy on quality of life of rubber estates employees in the state of Kedah.

In summary, this paper explores the relationship and impact of minimum wage policy on the Malaysian rubber estates. This paper also will examine the perception of employees regarding the minimum wage policy that was implemented almost two years in Malaysia. Specifically, this paper will more focus on the hours of work, happiness and quality of life of employees in the rubber estates of Kedah.

1.5 Research Questions

The general research questions are:-

1.5.1 General

What is the impact of minimum wage policy on hours of work, happiness, and quality of life: the perception of employees in the rubber estates of Kedah, Malaysia?

1.5.2 Specific

The specific research questions are:-

i. What is the profile (socio demographic information) of rubber estates in the state of Kedah?
ii. What is the relationship between hours of work, happiness and quality of life with minimum wage policy in the rubber estates of Kedah?
iii. What is the impact of the minimum wage policy on hours of work, happiness and quality of life of employees in the rubber estates of Kedah?

1.6 Research Objectives

There are two types of objectives in this study. There are:-

1.6.1 General Objective

The main objective of this paper is to investigate the impact of minimum wage policy on hours of work, happiness, and quality of life: the perception of employees in the rubber estates of Kedah, Malaysia.

1.6.2 Specific Objective

The specific objectives of this study are:-

i. To profile a socio demographic information of the rubber estates in the state of Kedah;
ii. To examine the relationship between hours of work, happiness and quality of life with Minimum Wage Policy in the rubber estates of Kedah;
iii. To examine the impact of the minimum wage policy on hours of work, happiness and quality of life of employees in the rubber estates of Kedah.

1.7 Significance Of The Study

Firstly, the findings of this study would encourage the employers to manage wisely the employment after the policy implementation. It would assist employers in providing incentives to help cushion the effects of increased targets for employees and boost production. Also, the employees especially the rubber estates workers would be better positioned to put in their best in their jobs. Also, they would organize their household expenditure wisely based on their salary. Thus, the cooperation and contribution of employers and employees would increase the productivity and production of rubber estates.

Secondly, the findings of this study can encourage the government to appreciate the effects of the minimum wage policy and ensure adequate monitoring with the aim of allowing estates adjust and minimize adverse effects on hours of work, happiness, and quality of life of rubber tappers. Moreover, it provides a useful guidance to the policy makers of other developing countries in implementing a new policy for future development especially in rubber industry.

Finally, this paper would contribute an additional economic literature on Malaysian economy, especially in the area of policy implications to economic growth. It also gives significant contribution to already existing literatures on minimum wage policy an across the world.

1.8 Scope Of The Study

This paper is about the impact of minimum wage policy on hours of work, happiness and quality of life. It focuses on perception of rubber estates workers in the state of Kedah that includes foreigners and local people. The rubber estates in state of Kedah that are owned by government, semi-government and private employer, will be the population of this study.

1.9 Organization Of The Study

This study comprises of five chapters. As an introduction, Chapter one discusses the background of the study, problem statement, research questions, research objectives, significant of the study, scope of the study, and the organization of the study.

Chapter two consists of literature review that provides empirical evidences about the relationship between minimum wage policy and the independent variables that have been examined in this study. Chapter three explains the methodology to be adopted in this study. The empirical results of the analysis are presented in the Chapter four. Finally, Chapter five presented the findings and policy implications of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviews various literatures on the effects of minimum wage on macroeconomics variables and microeconomics variables. It discusses empirical studies that have been done and highlights their findings from different countries and different industries. These findings would encourage more research into the effect of minimum wage on hours of work, happiness, quality of life in the Malaysian rubber industry.

2.2 Theoretical Reviews

Theoretical reviews will refer to publicity on impact of minimum wage policy on macroeconomics variables and microeconomics variables. The impact of minimum wage policy on variables is as shown below:-

2.2.1 Minimum Wage, Employment and Production

This section will show the impact of minimum wage policy on employment and production by referring to previous publicity. The result of finding will discuss as below.

Minimum wage is an amount legislated by government as the minimum pay for person working in the country. It is an amount below which an employer is not allowed to exploit on an employee. Minimum wage policy is envisaged to be a positive step towards encouraging a fairer wage structure, and in contributing towards the promotion of higher value-added economic activities and higher-skilled

jobs. It is also expected to encourage greater participation in the labour market and improve the utilization of labour in the economy (Report, 2012).

Employment is an agreement between an employer and an employee that the employee will provide certain services on the job, to facilitate the accomplishment of the employer organization's mission. Normally, it can be verbal, implied, or an official employment contract (Resources, 2014). An employee refers to an individual who spent their physical and mental skills to help the organization to produce the goods and services. There are divided into low-skilled, middle-skilled and higher skilled workers. Production is refers to the quantity and quality of goods and services of the organization. Normally, firms desire to have lower production of cost and higher returns of the profits (CIMB, 2012).

Theoretical prediction reveals that minimum wage reduce employment is simple and general. Economists generally agree that the effect of minimum wage will reduce the demand of low-skilled workers. However, this prediction of worker displacement depends on the assumption that the productivity of firms' labour is not dependent on the wage (Rebitzer & Taylor, 1995).

Based on the theoretical reviews of this study, there are ten countries which have successfully implemented minimum wage in their countries. They are developed countries like United State of America (USA), United Kingdom (UK), France, Australia, Germany, Portugal and very few emerging countries of Asia for example China, Indonesia and Bangladesh. These previous studies showed different effects of minimum wage on employment and production in their countries (Rebitzer & Taylor (1995); Smith, et al. (2003); Schulten (2008); Gavrel, et al. (2012); Mangan & Johnston (1999); Wang & Gunderson (2012); and Ahmed & Peerlings (2009).

For example, Rebitzer and Taylor (1995) found that minimum wage has significant effect on employment. He used conventional efficiency wage model which has a large number of small employers, and simplicity they assumed that are identical and independent. They characterized the labour by the use of dismissal threats and the firms can only imperfectly monitor work performances, and to induce work effort, firms threaten with dismissal those workers found to be providing unsatisfactory work effort.

On the other hand, Card and Krueger (1995) from the same country who used meta-analysis which used quarterly data found that minimum wage is significant but has a negative effect on employment. Kennan (1995) found that minimum wage has no significant effect on employment by using Natural Experiment and regression models using time-series.

Moreover, Smith, Norris and Williams (2003) used qualitative method like semi-structured interview and telephone interview to estimate the effect of minimum wage. They found that there is a significant positive effect of minimum wage on employment. But, there is an inverse finding by Machin & Wilson (2004) who carried out survey from 1992-2001. They found that there is a significant and negative effect of minimum wage on employment.

In the case of Germany, Schulten (2008) found that minimum wage has significant positive effect on employment. On the other hand, previous study in France showed that minimum wage has significant and negative effect on employment (Gavrel, et al. (2012); Ahmed & Peerlings (2009). But, some studies showed that minimum wage has negative effect on employment (Wang & Gunderson (2012); Pratomo (2014); Mangan & Johnston (1999); Martins (2009).

Furthermore, some studies showed that there is a mixed finding in the effect of minimum wage. Also various researchers used different types of methods for analysis and there is no consensus amongst them on the best way to analyse data on minimum wage. Hence, the effect of minimum wage could depend on context. In addition, minimum wage has no significant effect on employment but has a significant positive effect on production (Metcalf, 2002). This result was estimated using coverage data from Labour Force Survey (LFS), New Earning Survey (NES), Low Pay Commission (LPC) evidence and data from office of National Statistics (NS) (Benhayoun (1994); Konig & Moller (2009); Metcalf (2002).

In summary, from all the above citied studies, we found that the findings of effect minimum wage are mixed and inconclusive. Although, several studies have been done in United States America (USA) and United Kingdom (UK), the findings are showing that minimum wage has significant effects, while some are insignificant and others have negative effects. When compared to emerging countries such as Bangladesh, China and Indonesia the effect is negative.

2.2.2 Minimum wage, GDP, Export, and Technology

This section will show the impact of minimum wage policy on Gross Domestic Product (GDP), export, and technology by referring to previous publicity. The result of the findings will be discussed below.

Ahmed and Peerlings (2009) found that minimum wage policy in the textile and apparel industries shows negative impact in the term of GDP. They also found that implementation of minimum wage increase the cost of production and output price. It decreased the production level and also the level of export. Moreover, Metcalf (2003) found that introduction of minimum wage policy stimulated the composition

of employment to capital-intensive purposes. It would lead the industry to use new technology in other to improve the efficiency of production. Also, Stewart and Swaffield (2008) who used differences-in-differences estimators found that in the long run, a decision of firm regarding the workers-hours mixed, depends on the performances of technology after the minimum wage implementation.

2.2.3 Minimum wage, physical working condition, on-the-job training, managerial control

This section will show the impact of minimum wage policy on physical working condition, on-the-job training and managerial control by referring previous publicity. The result of the finding will be discussed below.

According to Morris, Collier, and Wood (2005), who conducted a survey in small enterprises in the United Kingdom, found that natural minimum wage policy will improve working condition and employee standards in the equine industry. Ahmed and Peerlings (2009) also analysed that minimum wage policy will improve physical working condition and increased the productivity of labour.

On the other hands, Metcalf (2003) found that employers reduced workplace training after the implementation of minimum wage policy. It is because this policy increased the cost of training of the industry. Neumark and Wascher (2001) also found that minimum wage policy decreased the net decline in skill information of workers as the on-the-job training reduced. They mentioned that minimum wage affect formal than informal training cost. As the cost of formal training rise for the low-skilled workers, it leads the employers to hire highest-skilled workers. In the long run, it will increase the productivity of higher-ability workers. Gavrel, Lebon and Rebiere

(2012) found that minimum wage policy reduced bad jobs among the unqualified employment by reducing on-the-job intensity.

Smith, Norris, and Williams (2003) found that the managerial control (wage-work bargain, significant influence of product and labour market pressures) in the hospitality industry, benefited the employers by reducing the cost of management and training. This journal article also demonstrated that introduction of the natural minimum wage have benefited the workers in this industry.

2.2.4 Minimum wage, labour union, labour supply, labour demand and leisure

This section will show the impact of minimum wage policy on labour union, labour supply, labour demand and leisure by referring previous publicity. The result of the finding will be discussed below.

According to Martins (2009) who analyses the impact of minimum wage in union duopoly, found that the union will benefits from the policy relative to the interior solution, if the employees are substitutes. Besides that, the union will be worse off than in the interior solution, if the employees are complemented. The Stone-Geary utility function and linear demand schedule showed that the minimum wage policy affect the unions with higher preference for employment relative to wages. Machin and Wilson (2004) who used differences-in-differences estimators to examine the working hours of low-wage workers found that the long run effect of minimum wage would influence the decision of employers regarding hour of work. Their decisions are depended on the presence and effectiveness of union. Thus, the union will improve their productivity after the introduction of minimum wage policy in the industry (Smith, et al. (2003); Schulten (2008); Silberman & Durben (1976).

Neumark, Schweitzer, and Wascher (2004) who focus on household identifiers than individual identifiers, found that minimum wage policy increase the wage of the lowest-paid workers and reduce the labour supply of higher-paid workers. Stewart and Swaffield (2007) who estimated the employer-based New Earnings Surveys (NES) and the Labour Force Survey (LFS) found that the performance of labour supply schedule would influence the employer decision regarding paid working hours as a result of minimum wage policy. Brown (1988) showed that the labour supply of black teenagers is reduced and the elasticity of total unskilled employment with respect to the policy will be smaller than the elasticity of demand.

Bell (1997) who estimated the impact of minimum wage policy on demand for skilled and unskilled workers found that labour demand of Colombia reduce about two until twelve percentages. The greatest impact is on low-skilled workers. On the other hand, the impact of minimum wage on labour demand in Mexico is zero in the manufacturing sector. Sabia, Burkhauser and Hansen (2012) who studied a case of New York State found that minimum wage policy reduced the labour demand of less-skilled and less-educated workers, with the largest effects on those aged 16 to 24. This result was outside previous elasticity estimates, ranging from -0.1 to -0.3.

In the case of leisure, Deltas (2007) who studied the impact of minimum wage policy in a neoclassical perfect information economy found that the minimum wage policy decreases welfare and employment. At the same time, the hours of work for workers who are still in the field do not change. It is means that the hours of leisure also do not changed.

2.2.5 Minimum wage, welfare, poverty, rural household

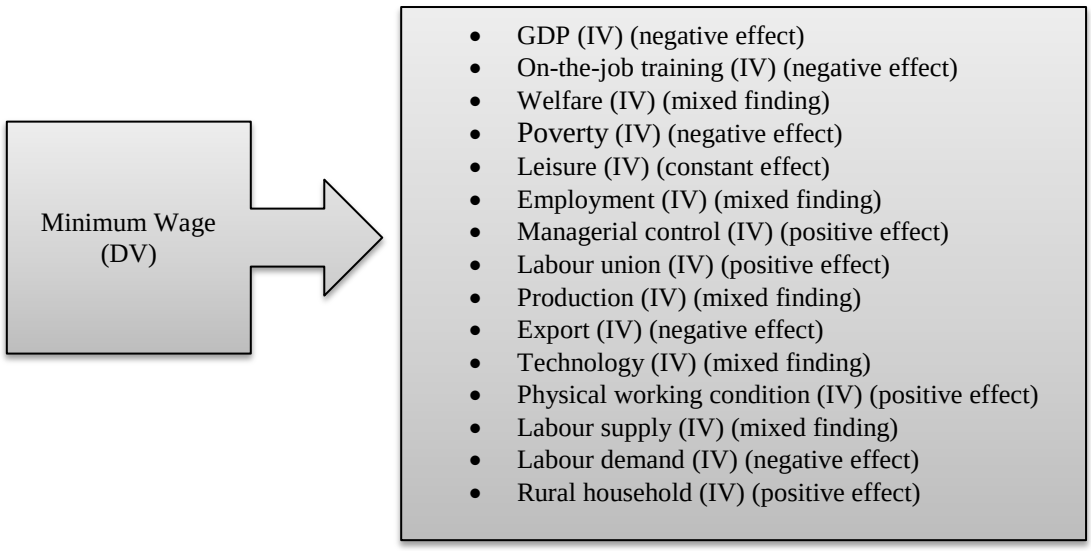
This section will show the impact of minimum wage policy on welfare, poverty and rural household by referring previous publicity. The result of finding will discuss as below.

Ahmed and Peerlings (2009), who studied the impact of minimum wage policy in the Textile and Apparel Industries of Bangladesh, showed negative relationship between welfare and minimum wage policy. They found that it is not a good policy to improve welfare due to unemployment and inflation. Besides that, full employment assumption from this policy would increase employment for female workers and bring positive effect on rural households. According to welfare analysis, if minimum wage increase the employment welfare of workers will reduced. Based on this analysis, Deltas (2007) found that employment of high-skilled will increase but welfare of low-skilled workers reduced. If the welfare increased, the chief beneficiaries are not the affected workers but those with incomes that exceed the minimum wage. On the other hands, Page, Spetz and Millar (2005) concluded that minimum wage legislation will increase the welfare of some low-skilled single mothers.

Metcalf (2003) found that minimum wage policy has had a significant impact on incomes of poor working people and reduced their poverty. Addison and Blackburn (1999) also found that ten percentages increase in the minimum wage policy would decrease five percentages of poverty. It is statistically significant effect of a poverty reducing among the teenagers and older junior high school dropouts (Page, et al. (2005); Sabia (2008); Formby, et al. (2010).

Below is a diagram showing the various variables that have been studied with minimum wage.

Diagram 1: *Theoretical Framework*



Sources: (Ahmed & Peerlings, 2009; Stewart, 2003; Deltas, 2007; Formy, et al. 2010; Pratomo, 2014; Smith, et al. 2003; Silberman & Durden, 1976; Kaun, 1965; Melcalf, 2003; Morris, et al. 2005; Neumark, et al. 2004)

2.3 Empirical Reviews

This section will show the impact of minimum wage policy on hours of work, happiness and quality of life by referring to previous publicity. The result of the findings will be discussed below.

2.3.1 Minimum Wage, Hours of Work, Happiness, and Quality Of Life

i. Minimum wage and hours of work

Minimum wage is an amount legislated by government as the minimum wage for persons working in the country. Besides that, hours of work is the period of time that is spend by workers to complete the production process of an industry. According to Hamermesh (1993), employers might adjust their labour utilization at the intensive margin by changing their workers' hours worked. In the short run, most of the employers like to change their worker's hours worked than to change their number of workers in response to minimum wage.

Pratomo (2014) found that an increase in minimum wage is positively related with the hours of worked. He also found that the effects of the minimum wage on hours worked are higher for female workers than male workers, particularly in urban areas due to the reason that female workers, are mostly employed in industries which contain more low-wage workers. He also mentioned that the minimum wage coefficient in rural areas is slightly higher because of the structural transformation in Indonesia. There is a shifting process in employment from the agriculture sector to the other sectors that require more working hours. Moreover, Page, Spetz and Millar (2005) who used the panel data found that an increase in the minimum wage causes more workers to enter the labour market and increase the hours of work of the workers (Conolly & Gregory (2002); Neumark, et al. (2004); Fraja (1999).

On the other hand, Formby, Bishop, and Kim (2010) who used simulation methods to investigate the cost-effectiveness and poverty-reducing effects of the Fair Minimum Wage Act of 2007 (FMWA) found that there is a reduction in annual hours worked due to the implementation of minimum wage. Sabia (2008) who used cross-sectional data found that 10 percentage increase in the minimum wage was associated with an 8.8 percentage reduction in employment and an 11.8 percentage reduction in annual hours worked (Stewart & Swaffield (2008); Brown (2002); Neumark, et al. (2004).

Based on Becker (1964) theory, an individual was making a choice between labour market work and leisure. Thus, this study will examine the impact of minimum wage policy on hours of work of employees in the rubber estates before and after the policy implementation.

ii. Minimum Wage and Happiness

Happiness is the utilization of workers regarding the goodness that they received from a particular situation. According to Butcher (2012), minimum wage policy will protect the income of low-paid workers without having significant adverse effects on employment. This will increase the happiness of the employees. Pfeifer and Schneck (2012) also found positive relationship between minimum wage and happiness. They analyse the importance of relative wage positions within firms in the context of individual quite decisions and found that low-wage workers are less likely to quit their jobs after the implementation of minimum wage policy. It would increase the worker's happiness (Brown (2002); Morris, et al. (2005).

Besides that, Aaronson, French and MacDonald (2008) found a negative relationship between price and employment after the implementation of minimum wage. If the

price increases, it will increase the cost of production, reduce the production level, and reduce the employment. If the low-skilled workers lose their job, their happiness will reduce due to the minimum wage policy. According to Basu (2000), the suggestion of using minimum wage policy in developing countries as a form of international labour standard has the risk of exacerbating the problem of child labour. He also found that minimum wage policy will lead to higher supply of child labour. The happiness of child as a labour will reduce and the unemployment of adult will increase due to this policy (Neumark & Wascher (1992); Brown, et al. (1982); Betsey & Dunson (1981); Silberman & Durden (1976); Moore (1971).

Based on Seligman (2003), the Authentic Happiness theory holds three kinds of happiness: pleasant life, the good life, meaningful life. Thus, this study will examine the happiness of employees whether they have a good life after receiving the minimum wage.

iii. Minimum Wage and Quality of life

The term of quality of life describe the standard of living or rate of poverty of employees in the certain area. When studying the relationship between minimum wage and quality of life, Sabia, Burkhauser and Hansen (2012) found that an increase in minimum wage will increase the demand for labour, increase the employment and finally it will increase the quality of life. According to Formby, Bishop and Kim (2010), the poverty-reducing effects of raising the federal minimum wage are quite small but not zero. They also suggest that if Congress and the president are prepared to raise the federal minimum wage to $9.50 per hour, then working families and the nation as a whole, will be better off if the nominal minimum wage is held constant (Schulten (2008); Morris, et al. (2005); Page, et al. (2005); Metcalf (2002); Brown (2002); Addison & Blackburn (1999).

On the other hand, Wang and Gunderson (2012) found that the minimum wage increase did not increase the living standard of rural families. According to Deltas (2007), the minimum wage rise reduces overall employment and increase "bad jobs" creation and as a result, the quality of life will reduces. Papps (2012) who used worker-level panel data found that increase in a worker's labour costs arising from a minimum wage rise results in a 0.13% decrease in the probability of that worker remaining employed in the job. The reduction in employment would lead to decrease in quality of life (Ahmed & Peerlings (2009); Deltas (2007); Aaronson, et al. (2008); Sabia (2008); Silberman & Durben (1976).

The quality of life (IQOL) theory explained a good life of human being which include the human development in health, wealth, behaviour, biological information system (balance life style) and fulfilment of needs (Ventegodt, et al. (2003). Thus, this paper will examine the impact of minimum wage policy on quality of life to the employees in the rubber estates of Kedah.

2.4 Hypothesis Development

Based on the empirical review and the objective of study, the hypothesis will be as following:

i. According to Page, Spetz and Millar (2005) who used the panel data found that an increase in the minimum wage causes more workers to enter the labour market and increase the hours of work of the workers. It showed that there is a positive relationship between minimum wage and hours of work. Based on Formby, Bishop, and Kim (2010) who used simulation methods to investigate the cost-effectiveness and poverty-reducing effects of the Fair Minimum Wage Act of 2007 (FMWA) found that there is a reduction in annual hours worked due to

the implementation of minimum wage. It showed that there is a negative relationship between the minimum wage and hours of work.

Since the above empirical finding shows a mixed relationship and this study have not been done in Malaysian environment especially state of Kedah, we are unable predict whether the relationship is going to be positive or not. Therefore, this study shall assume that a relationship existed between minimum wage and hours of work, but the actual direction shall be confirmed after testing the hypothesis. Based on this statement, we put forward the following hypotheses:

H1: There is a relationship between minimum wage and hours of work in the rubber estates of state of Kedah.

ii. According to Butcher (2012), minimum wage policy will protect the income of low-paid workers without having significant adverse effects on employment. This will increase the happiness of the employees. Aaronson, French and MacDonald (2008), found a negative relationship between price and employment after the implementation of minimum wage. If the price increases, it will increase the cost of production, reduce the production level, and reduce the employment. If the low-skilled workers lost their job, their happiness will reduce due to the minimum wage policy.

Since the above empirical finding shows a mixed relationship and this study have not been done in Malaysian environment especially state of Kedah, we are unable to predict whether the relationship is going to be positive or not. Therefore, this study shall assume that a relationship exited between minimum wage and

happiness but the actual direction shall be confirmed after testing the hypothesis. Based on this statement, we put forward the following hypotheses:

H2: There is a relationship between minimum wage and happiness in the rubber estates of State of Kedah.

iii. According to Formby, Bishop, and Kim (2010) found that the implementation of minimum wage policy will bring better off to the working families in a country. In the long run, it will reduce the poverty rate of a particular country. In addition, Schulten (2008) showed that minimum wage policy will increased the living standard of European community. On the other hand, Ahmed and Peerlings (2009) found that minimum wage policy will increase the living cost of household due to price increase. It will reduce the quality of life especially the low-skilled workers. Deltas (2007) also found that the minimum wage policy will bring worse off to the all the workers. The welfare and employment will decrease and finally it due to decrease in quality of life.

Since the above empirical finding shows a mixed relationship and this study have not been done in Malaysian environment especially state of Kedah, we are unable to predict whether the relationship is going to be positive or not. Therefore, this study shall assume that a relationship exited between minimum wage and quality of life but the actual direction shall be confirmed after testing the hypothesis. Based on this statement, we put forward the following hypotheses:

H3: There is a relationship between minimum wage and quality of life in the rubber estates of state of Kedah.

2.5 Conclusion

In the summary, the purpose of this chapter is to review some previous studies about specific macroeconomics and microeconomics variables that influence by minimum wage policy. According to the findings of the empirical reviews, there is a mixed relationship between minimum wage policy and hours of work, happiness, and quality of life in the various areas. For example, minimum wage policy will increase the hours of work, happiness and quality of life, or this policy will lead to decrease in the hours of work, happiness and quality of life. These mixed findings would encourage this paper to examine the impact of minimum wage policy on these three variables in the Malaysian rubber industry. It also helps to achieve the general and specific objective of this study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

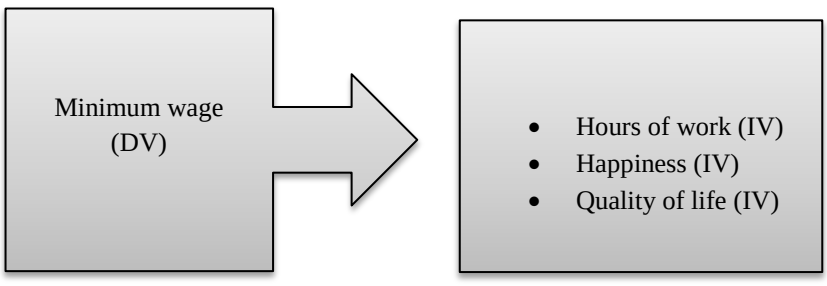
The objective of this research is to examine the impact of minimum wage policy on hours of work, happiness and quality of life of employees in the rubber estates of Kedah. This chapter outlines the research framework, sampling, operational definition, measurement of variables, data collection, population and sampling, data collection procedures and finally the technique of data analysis.

3.2 Research Framework

Based on the literature review and research problem mentioned, the research framework focuses on the impact of the minimum wage on hours of work, happiness, and quality of life in the rubber estates of Kedah.

Below is the research framework for this study.

Diagram 2: *Research Framework*



Sources: (Pratomo, 2014; Sabia, 2008; Pfeifer & Schneck, 2012; Aaronson, et al. 2008; Sabia, et al. 2012; Wang & Gunderson, 2012)

3.3 Sampling

According to Hair, Babin, Money and Samouel (2003) as citied by Zainuddin (2012), "the researcher ought to make a choice on a design" that will provide appropriate information on the research question and can help to do most efficiently. Based on Bryman and Bell (2008), research design is a procedure for the data collection and data analysis of a research work.

This paper used an exploratory research design to explain the relationship between the dependent variable and independent variables especially to examine the relationship between minimum wage policy and hours of work, happiness and quality of life. This survey was designed in the principle of cross-sectional design, where questionnaire was used to collect the data.

3.4 Operational Definition

The academic research paper will define variables in terms of the specific process or set of validation tests used to determines its presence and quantity. It also defines something in terms of the operation that count as measuring it. For this study, the researcher measuring the hours of work of rubber estates workers and decides to use twenty questions to measure their leisure, day of work and also period of work before and after the policy implementation. In other words, the operational definition of hours of work is the time consumed for the work and also leisure.

Furthermore, the researcher used thirty-one question and different scale to measuring the happiness of rubber estates workers. The happiness scale will measure their reaction before and after the policy implementation. It includes their feeling regarding the changes of life style, health and wealth. In the other words, the

operational definition of happiness is the life satisfaction of the rubber estates workers when received the minimum wage.

Moreover, the researcher measuring the quality of life of rubber estates workers decides to use twenty-one questions to measure their property, living cost, facilities and health condition before and after the policy implementation. In the other words, the operational definition of quality of life is the living standard of the rubber estates workers who receive the minimum wage.

3.5 Measurement of Variables / Instrumentation

This study used research instrument structure which consists of 86 questions in the questionnaires and has been categorized into four sections. The questions were filled by the respondent without the presence of researcher. For example, the section C.1 and C.2 (Appendix A) from the questionnaires will use the five point Likert Scales to measure the level of agreement. Below is the example of Likert Scales that was used to measure the perception of employees regarding the impact of minimum wage policy on hours of work and quality of life.

Table 3.5.1: *Example of Likert scale*

Likert scale /*Skala Likert*	Strongly disagree / *Sangat tidak bersetuju*	Disagree / *Tidak bersetuju*	Neutral / *Tidak pasti*	Agree / *Bersetuju*	Strongly agree/ *Sangat bersetuju*
	1	2	3	4	5

For the section C.3 in the questionnaires (Appendix A), the descriptive scale was used to examine the perception of employees regarding the impact of minimum wage policy on happiness. The example scale is shown below:

Table 3.5.2: *Example of descriptive scale*

Desriptive scale / *Skala desriptif*	Very happy / *Sangat gembira*	Happy / *Gembira*	Unhappy / *Tidak gembira*	Very unhappy / *Sangat tidak gembira*
	1	2	3	4

Each section consists of question pertaining to:

Section A: Demographic Information - This part of the questionnaire is to find out the gender, education level, age group, and family background.

Section B: Occupation Information - This part of the questionnaire is to gather information about the respondent's current job details. It includes their salary, skill and status of work, facilities and financial support and so on.

Section C: Perception of rubber estates employees of minimum wage policy - This part of the questionnaire is to get the perception of the respondents of this study. It part also divided into three section which describe the response of employees regarding the minimum wage policy

Section D: Open question - This part of the questionnaire is to get their opinion of respondents regarding the study. It will examine the satisfaction of the respondents of the implication of the minimum wage policy on hours of work, happiness and quality of life.

Moreover, the index of impact measurement of minimum wage on independent variables such as hours of work, happiness and quality of life will be shown below.

Table 3.5.3: *Index of impact measurement*

Index of impact measurement	**Conclusion**
1. Less than 0.01 (< 0.01)	Low impact
2. Between 0.01 and 0.05 (0.01 < I < 0.05)	Moderate impact
3. More than 0.05 (> 0.05)	High impact

The Table 3.5.3 is describe the index of impact measurement of minimum wage on hours of work, happiness and quality of life. The mean value for each question will be used to examine the impact of minimum wage policy on hours of work, happiness and quality of life. There are two type of mean value for each question. There are mean value of before policy implementation and mean value of after policy implementation. These differences mean value will be used to measure the impact. For example, the mean value of before policy implementation is 2.8030 and the mean value of after policy implementation is 2.7273. The difference of mean value is -0.0757 (2.7273-2.8030). Thus, -0.0757 is less than 0.01 (-0.0757<0.01). So, the particular question shows that there is a low impact of minimum wage policy on that question. After finding out the differences of mean for all questions for an independent variable, the average mean will be calculated. These average mean will show the impact of minimum wage policy on that particular independent variables. For example, the average mean value of hours of work is -0.02876. Based on the Table 3.5.3, -0.02876 is less than 0.01 (-0.02876<0.01). Thus, it can be concluded that the minimum wage policy has low impact on hours of work in the rubber estates of Kedah.

3.6 Data Collection

Based on Sekaran (2000) statement, primary data is the information that is first obtained by researcher from respondents. Thus, this study will use primary data approach by distributing questionnaire to respondents to examine their perception on minimum wage implementation.

3.7 Population and Sampling

A population study means any set of all possible measurements of a phenomenon that is used to achieve the objective of the study (Saidu, 2006). For this study, the population covered all the rubber estates workers who received the minimum wage in the state of Kedah. The population was identified through the teleconference with the manager of each rubber estates in the Kedah. Meanwhile, the current indicates that the local rubber estates workers are 642 people and the foreigners are 412 people. So, the total population of rubber estates workers who received minimum wage are 1,280 people. Therefore, this numbers represent the population of this study.

Furthermore, there are quite a number of sampling techniques used in the academic research field. They are simple random sampling, systematic sampling, stratified sampling and cluster sampling. Thus, this paper applied simple random sampling which ensure that all elements in the population were given equal opportunity of being in the study. Also, the rubber estates workers who received minimum wage in Kedah will randomly be selected to achieve the objective of this paper. Sekaran, Robert and Brain (2001) found the way to determine the actual sample size. They suggested that a sample of 275 should be when the population is above 1000. However, the study should increase the sample size to 300 to avoid the problem of

non-response bias. But, this paper used the sample about 111 respondents although the population of rubber estates workers who received minimum wage is above the 1000 people.

3.8 Data Collection Procedures

Based on the Table 1.3.2, the listed rubber estates will be chosen randomly to achieve the objectives of this paper. This study will use questionnaire to find the information from the respondents. Then 111 set of questionnaire will be distributed to the respondents. Firstly, the pre-test study was conducted to determine the reliability of the instruments that is used to measure the questionnaire before performing the real data collection. A total of 10 respondents of rubber tappers were selected randomly to determine the consistency of the instrument. During the pilot test, the comments and criticize were noted by the researcher to make changes and development in the questionnaire before the real data collection. Finally, the modified questionnaire will distributed to the respondents excluded the respondent are used in the pilot test.

3.9 Techniques of Data Analysis

The paper used Statistical Package for Social Science (SPSS) software to analysis the quantitative approach. In this study, several analysis techniques were applied in the data that are collected from the respondents. Some of the analysis as below:

3.9.1 Descriptive analysis

This analysis will describe the characteristic of the sample in the method part. It will check the variables for any violation of the assumptions underlying the statistical techniques and address specific research questions. According to Pallant (2007) this

analysis is used to describe the demography and profile of the respondents. It is a useful method to collect information on the number of people or cases in the sample, the number of and percentage of males and females in the sample, the range and mean of ages, education level, and any other relevant background information. It include the mean, standard deviation, frequencies were used to summaries the demographic information of the respondent in this study. Thus, this analysis will used to describe the demographic information of rubber tappers who received minimum wage policy in the state of Kedah.

3.9.2 Correlation analysis

This analysis is used to determine the strength of the relationship among the variables. According to Ogbonnaya and Osiki (2007) this technique will identify the direction of the relationship between independent variables (IV) and dependent variable (DV). SPSS will calculate two types of correlation. Firstly, it will show simple bivariate correlation or zero-order correlation which explained the mean between two variables. Secondly, it will show partial correlation which the relationship between two variables while controlling for another variable.

According to Davies (1971), a few magnitudes are used to describe the relationship between dependent variable and independent variable. They are 0.7 and above (very strong relationship), 0.50 to 0.69 (strong relationship), 0.30 to 0.49 (moderate relationship), 0.10 to 0.29 (low relationship) and finally 0.01 to 0.09 (very low relationship). So, this study will use the correlation analysis to calculate the significant relationship between dependent variable and independent variables.

3.9.3 Pilot test

This study will conduct pilot test to ensure the questionnaire was reliable. The purpose was to avoid the process of redesigned and restructured. After the test, the researcher got some idea to develop or change some questions to make it clear. It was very helpful test to conduct the quantitative approach. Thus, this study will conduct this test before proceed to the real finding.

3.9.4 Reliability test

This test is very important for a research where to find scales that are reliable for each question. It is therefore necessary to check that each of the scales is reliable with the particular sample. One of the main issues concerns the scale's internal consistency. The most commonly used indicators on internal consistency are Cronbach's alpha coefficient. However, Cronbach alpha values are quite sensitive to the number of items in the scale. According to Sekaran (2003) a study obtains higher consistency reliability if the value of Cronbach alpha is closer to 1. On the other hand, if the value is 0.6 it was accepted for the study also (Nunnally, 1978). Thus, this paper will use this test to check the scale used for each variable.

3.9.5 Index on Impact of Measurement

The Table 3.5.3 describe the index of impact measurement of minimum wage on hours of work, happiness and quality of life. The mean value for each question will be used to examine the impact of minimum wage policy on hours of work, happiness and quality of life. There are two type of mean value for each question. There are mean value of before policy implementation and mean value of after policy implementation. These differences mean value will be used to measure the impact. For example, the mean value of before policy implementation is 2.8030 and the mean

value of after policy implementation is 2.7273. The difference of mean value is -0.0757 (2.7273-2.8030). Thus, -0.0757 is less than 0.01 (-0.0757<0.01). So, the particular question shows that there is a low impact of minimum wage policy on that question. After finding out the differences of mean for all questions for an independent variable, the average mean will be calculated. These average mean will show the impact of minimum wage policy on that particular independent variables. For example, the average mean value of hours of work is -0.02876. Based on the Table 3.5.3, -0.02876 is less than 0.01 (-0.02876<0.01). Thus, it can be concluded that the minimum wage policy has low impact on hours of work in the rubber estates of Kedah.

4.0 Conclusion

As a summary, all these method and approach will be conducted to achieve the objective of this study. It is also very helpful to proceed to the next chapter.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter shows the results and findings of the analysis conducted on the data obtained from the respondents. It further discuss the results and findings to accomplish the objectives of the research presented and at the same time to provide answers to the research question as well as proving the research hypotheses developed. Data gathered from the primary source, which is the questionnaire were analysed through frequency and descriptive analysis.

4.2 Pilot Test

Pilot study was carried out on a group of 10 respondents from one of the rubber estates that applied minimum wage policy in their payment system. The estate named as ALMA Produce Bagan Sena Plantation from Kulim. The group of respondents were briefed on the objective of the survey and also informed that all details were considered confidential.

The questionnaires were distributed to the particular estate by courier and they assisted by giving their employees. The questionnaires were completed and returned back to the researcher within three weeks. The collected data were analysed using Statistical Package for Social Science (SPSS) software version 20.0. For the reliability analysis conducted, the Cronbach Alpha value for the pilot survey is as shown in Table 4.2.1. The data reliability is considered good once Cronbach Alpha value is more than 0.750 (Sekaran, 1992).

Table 4.2.1: *Result of Reliability Statistics for Pilot Survey*

Independent Variable	**Cronbach's Alpha**	**Number of questions**
Hours of work	0.749	20
Quality of life	0.759	21
happiness	0.761	31

4.3 Overview of Data Collected

A total of 111 sets of questionnaires were distributed by courier to respondents including the 10 set of questionnaires for the pilot test. These 10 set of questionnaires are include in the real test because there was no changes. In total, 66 sets of questionnaires were returned. There are 6 rubber estates that choose for this study. Table below show the details of questionnaires distribution.

Table 4.3.1: *Information of questionnaires distribution*

Name of rubber estates	**Number of questionnaires distributed (sets)**	**Number of questionnaires returned (sets)**
1. ALMA produce Bagan Sena Plantation (Kulim)	10	10
2. Ladang Bukit Nguan (PKNK) (Kuala Nerang)	20	20
3. Ladang FELDA Laka Temin (Kubang Pasu)	21	20
4. Ladang Bukit Perak Selatan (PKNK) (Pendang)	20	16
5. Ladang Sungai Tekai (Naka)	20	Not returned
6. Ladang Aman Jaya (PKNK) (Baling)	20	Returned but not filled up
Total	**111**	**66**

4.4 Reliability Analysis

The reliability of the instrument was conducted again for all 66 respondents after the questionnaire was collected. Table 4.4.1 shows the reliability analysis of the related variables by using the Cronbach's Alpha Model.

Table 4.4.1: *Result of the Reliability Test*

Independent variables	**Cronbach's Alpha**	**Number of questions**
Hours of work	0.752	20
Happiness	0.775	31
Quality of life	0.764	21

For component one, hours of work, the number of question are 20 and based on the reliability of the instrument (as in the Table 4.4.1), the Cronbach's Alpha reliability coefficient is 0.752. The data reliability is good if Cronbach Alpha value is more than 0.750 (Sekaran, 2003). This confirms that the instrument is reliable, good and no point in deleting of any item which is similar to the component two, happiness. The number of question are 31 and based on the reliability of the instrument, the Cronbach's Alpha coefficient is 0.775. In the same manner, reliability for component three "quality of life" with 21 questions revealed 0.764 as Cronbach's Alpha value. Thus, proved that the instrument is reliable, good and no item is left out.

4.5 Descriptive Analysis

This section will be divided into three parts. First part will discuss about demographic information and occupation information secondly. The third part will be on perception of employees regarding the impact of minimum wage policy on hours of work, happiness and quality of life.

4.5.1 Demographic Information

This section will discuss about the demographic background of the respondents. Altogether 66 respondents participated in this study where males dominate female respondents. Table 4.5.1 depicts the demographic background of the respondents of this study.

Table 4.5.1: *Demographic Information*

Aspect	**Frequency**	**Percent %**
Gender		
1. Male	38	57.6
2. Female	28	42.4
Age		
1. 20-29 years	19	28.8
2. 30-39 years	9	13.6
3. 40-49 years	17	25.8
4. 50-59 years	15	22.7
5. 60-69 years	6	9.1
Ethnicity		
1. Malay	59	89.4
2. Indian	7	10.6
Religion		
1. Islam	59	89.4
2. Hinduism	7	10.6
Education		
1. Never attended school	3	4.5
2. Kindergarden	2	3.0
3. Primary school	23	34.8
4. Secondary school	35	53.0
5. Others	3	4.5
Certificate		
1. UPSR/UPSRA	18	27.3
2. PMR/SRP/LCE/SRA	9	13.6

3. SPM	27	40.9
4. Certificate	1	1.5
5. Degree/Master/Phd	2	3.0
6. Others	9	13.6
Marital		
1. Never Married	15	22.7
2. Married	47	71.2
3. Widowed	2	3.0
4. Divorced	2	3.0
Children		
1. No children	16	24.2
2. 1-3 people	28	42.4
3. 4-6 people	20	30.3
4. 7-9 people	2	3.0
Schooling		
1. No children	26	39.4
2. 1-3 people	37	56.1
3. 4-6 people	1	1.5
4. More than 7 people	2	3.0
Dependent		
1. No dependent	12	18.2
2. 1-3 people	40	60.6
3. 4-6 people	11	16.7
4. 7-9 people	3	4.5
House		
1. Rent house	9	13.6
2. Own house	19	28.8
3. Estates house	33	50.0
4. Living with parents	5	7.6
Facilities		
1. Electric	21	31.8
2. Water supply	6	9.1
3. Television	14	21.2
4. ASTRO	7	10.6
5. Video play	1	1.5
6. Air condition	1	1.5
7. Washing machine	14	21.2
8. Blender	1	1.5
9. Microwave	1	1.5
Distance		
1. Walking distance (less than 1 km)	2	3.0
2. 1-5 km	29	43.9
3. 6-10 km	23	34.8
4. 11-15km	4	6.1
5. 16-20km	7	10.6
6. Others (more than 20 km)	1	1.5
Transpotation		
1. Bicycle	1	1.5
2. Motorbike	58	87.9
3. Car	2	3.0
4. Tractor (estate vehicle)	5	7.6

Based on the Table 4.5.1, social demographic characteristics of the sample data for the study were obtained from rubber estates employees who responded to the questionnaire designed to evaluate the elements that contribute to the success of minimum wage implementation in agriculture sector. In this study, descriptive analysis consists of information about demography such as gender, age, ethnicity, religion, education level, highly certificate obtained, marital status, number of children, number of children who are still schooling, dependent in the house, dwelling house, facilities in the house, resident distance from the house and the transportation to estate. Hence, the descriptive statistic is used in order to find the frequencies and percentages of the socio-demographic of the respondents.

Table 4.5.1 shows that 38 (57.6%) out of 66 of the respondents were male respondents and 28 (42.4%) were female respondents. The result indicates that the involvement of male respondents more than the female respondents. One of the reasons is that the hardship of the plantation work. It is also indicates the age group of the total respondents where 19 (28.8%) of the respondents were of the age group between 20-29 years old, 9 (13.6%) of the respondents were in the age group of 30-39 years old and 40-49 years old with 17 (25.8%) respondents. This is followed by the groups of 50-59 years old of about 15 (22.7%) respondents and 6 (9.1%) of the respondents were in the age group of 60-69 years old. The young age group such as 20-29 years old are respondents who may not be able to further their study or likely took over their parent job. The age group of people such as 60-69, are involved plantation work for a long time and did not shifted to another industry. They have more experience and knowledge in the plantation area rather than other industry.

Referring to their ethnicity and religion, a total of 59 (89.4%) of the respondents were Malay called as Muslim, and 7 (10.6%) were Indian respondents. Both groups

of people have been living in villages since days back. They are more familiar in the plantation work. Most of the respondents came from primary and secondary school with about 23 (34.8%) respondents and 35 (53.0%) respondents respectively. Only 3 (4.5%) respondents never attended school, or attain any other education level and 2 (3.0%) respondents are from kindergarden. The lack of financial support and encouragement made these people not to further their studies and lead them to involve in the plantation work.

Moreover, the data also shows that most of the respondents have SPM as the highest certificate with about 27 (40.9%) respondents. The UPSR/UPSRA holders were about 18 (27.3%) respondents. The PMR/SRP/LCE/SRA and others with certificate were 9 respondents which contributed about 13.6% of the sampling equally. The rest figure shows that 1.5% respondents have certificate and 3.0% has Degree education background. The respondents with high certificate involve in plantation and pursue their studies based on using agricultural as a part time job in the past days. They are still in plantation due to the full of knowledge and experience.

In marital status, Table 4.5.1 demonstrated that 47 (71.2%) respondents are married, 15 (22.7%) are not married and followed by 2 (3.0%) are widowed and divorced respondents. About 28 (42.4%) respondents have 1-3 children, 4-6 children are owned by 20 (30.3%) respondents and 16 respondents did not have children but only 2 (3.0%) respondents gave 7-9 children. These respondents have good family planning. There are about 1-3 children of respondents that are still schooling (56.1%) and about 39.4% of respondents did not have children who are still schooling. In addition, about 40 (60.6%) respondents have 1-3 people as their dependents, 11 respondents have 4-6 people, 3 (4.5%) respondents have 7-9 dependents and followed by 18.2% respondents did not have any dependent. These respondents gave

important to education by guiding their children to pursue their study. In the future, their children will contribute their knowledge and experience for the growth of agricultural sector especially in rubber plantation.

Furthermore, there are 33 (50.0%) respondents who lived in estates house that provided by employers. The rest data shows that 19 respondents (28.8%) lived in own house, 9 (13.6%) lived in rent house and followed by respondents who lived with parents are 5 (7.6%). Most of these respondents have basic facilities in their houses such electric (31.8%) and water supply (9.1%), followed by their wants such as television (21.2%), ASTRO (10.6%), and washing machine (21.2%). The rest shows that video play, air condition, blender and microwave stated about 1.5% respondents equally. These result shows that these respondents have the basic needs and wants to survive which improve their standard of living and increase their welfare.

In addition, about 29 (43.9%) respondents have 1-5 km distance from their dwelling houses area and 23 (34.8%) respondents have 6-10 km from their house. The rest of the respondents are less than 1 km (3.0%), 11-15 km (6.1%) respondents, 16-20 km (10.6%) and more than 20 km are about 1.5% respondents. Around 58 (87.9%) respondents travel by motorbike to their working place, 5 (7.6%) are travel by tractor (estate vehicle), car were 2 respondents (3.0%) and followed by bicycle travel by only one respondents about 1.5%. This result shows that most of the respondents have their own vehicle to go to their work place. It will help them to reach their destination safely and punctually. Besides, movement to other tapping area are quite easier for them without waiting for others.

In summary, these respondents have good demographic background. There is an improvement and achievement in their life although they are rubber estates workers.

4.5.2 Occupation Information

This section will discuss about the occupation information of the respondents. There are four types of farm ownership in this study whereas private estates dominate other. Table 4.5.2 depicts the occupation information of the respondents in the study.

Table 4.5.2: *Occupation Information*

Aspect	**Frequency**	**Percent %**
Farm		
1. Government	13	19.7
2. Private	47	71.2
3. Ownership	4	6.1
4. Others	2	3.0
Status		
1. Full time	54	81.8
2. Part time	3	4.5
3. Contract	6	9.1
4. Others	3	4.5
Job		
1. Tappers	50	75.8
2. Rubber liquid collector	1	1.5
3. Others	15	22.7
Skill		
1. No skill	8	12.1
2. Low skill	38	57.6
3. Middle skill	11	16.7
4. High skill	6	9.1
5. Others	3	4.5
Time		
1. 1-2 hours	5	7.6
2. 3-4 hours	9	13.6
3. 5-6 hours	41	62.1
4. Others (more than 6 hours)	11	16.7
Work		
1. No fixed day	1	1.5
2. 5-6 days	55	83.3
3. 7 days	10	15.2
Way		
1. Every day payment	20	30.3
2. Every 15 days	7	10.6
3. Monthly payment	34	51.5
4. Contract payment	4	6.1

5. Others	1	1.5
Amount		
1. RM0-RM200	1	1.5
2. RM201-RM400	3	4.5
3. RM401-RM600	4	6.1
4. RM601-RM800	24	36.4
5. RM801-RM1000	28	42.4
6. RM1001-RM1200	6	9.1
Facilities and financial support (before Minimum Wage Policy)		
1. No facilities and financial support	5	7.6
2. Helped preschool children	1	1.5
3. Clean water and electric supply	3	4.5
4. KWSP/SOCSO		
5. Community hall	42	63.6
6. Medical service	1	1.5
7. Transpotation children to school	3 5	4.5 7.6
8. Residence complete with basic furniture	2	3.0
9. Others	4	6.1
Facilities and financial support (after Minimum Wage Policy)		
1. No facilities and financial support	8	12.1
2. Helped preschool children	3	4.5
3. Clean water and electric supply	5	7.6
4. KWSP/SOCSO		
5. Community hall	38	57.6
6. Medical service	1	1.5
7. Transpotation children to school	5 4	7.6 6.1
8. Others	2	3.0

Based on the Table 4.5.2, occupation information of the sample data for the study were obtained from rubber estates employees who responded to the questionnaire designed to evaluate the elements that contributed to the success of minimum wage implementation in agriculture sector especially in the rubber plantation. The occupation's information includes the type of farm ownership, status of workers, job categories, skill level that needed to complete the job, time needed to complete the

job, day of worked, salary scheme before the minimum wage, the amount of payment before the minimum wage policy, the facilities and financial support that were received before and after the minimum wage policy. Hence, the descriptive statistic is used in order to find the frequencies and percentages of occupation information of the respondents.

From the Table 4.5.2, 47 (71.2%) respondents out of 66 are work in rubber estates that are owned by private ownership, about 13 (19.7%) respondents are by the government, about 4 (6.1%) are by ownership and 2 (3.0%) respondents operates on other type of farm. Most of the respondents are full time workers which are about 54 (81.8%). Part time workers of 3 (4.5%) in the respondents, 6 (9.1%) worked as contract, and others status are 3 (4.5%) respondents. There are 50 (75.8%) respondents which are rubber tappers, 15 (22.7%) respondents with other job categories and one rubber liquid collector. The skill level that were needed to complete the job by respondents were low skill with (57.6%), middle skill (16.7%), high skill (9.1%) and others skill of about 4.5%. The respondents without skill were 8 (12.1%). Although these respondents are from different ownership, but the requirement of skill level is the same. The full time workers are in the large population. Probably, they are old people who have more experience. Besides that, there is a few part time and contract workers. They are appointed to achieve the current production level.

Moreover, there are 41 (62.1%) respondents who needed 5-6 hours and 11 (16.7%) respondents needed more than 6 hours to complete their job. 9 (13.6%) respondents needed 3-4 hours and 5 (7.6%) respondents needed 1-2 hours to completed the task given by their employers. It is shows that the respondents who have working experience will finished their work earlier than other respondents. Based on their

tasks, difficult task shows an increase in time taken for completion. On the other hand, easy tasks depict reduction in time taken for completion. Most of the respondents worked for 5-6 days per week which are 55 (83.3%) respondents. The respondents who worked for 7 days are 10 (15.2%) and only one respondent without fixed day. 34 (51.5%) respondents received their salary based on monthly payment before the minimum wage policy. 20 (30.3%) respondents received their salary based on every day and 7 (10.6%) respondents received payment based every 15 days. Moreover, 4 (6.1%) respondents received based on contract payments. The type of payment depends on their working days. The monthly payment is more suitable if the respondents work more than 5 days. The contract payment depends on the agreement and days of work.

Furthermore, there are 28 (42.4%) respondents receiving between RM801-RM1000 amount and 24 (36.4%) respondents receiving RM601-RM800 amount before the minimum wage policy implementation. The rest received below RM600 as their payment before the minimum wage policy. These respondents received their salary based on their production level, labour participation and hardship of the task. Besides that, there are 42 (63.6%) respondents received KWSP/SOCSO. About 5 (7.6%) respondents have transportation for children to school, 3 (4.5%) respondents have clean water and electric supply and 3 (4.5%) respondents have medical service but 5 (7.6%) of the respondents claimed that they are without facilities and financial support before the policy implementation. On the other hands, 38 (57.6%) respondents have KWSP/SOCSO. About 4 (6.1%) respondents have transportation for children to school, 5 (7.6%) respondents have clean water and electric supply and 5 (7.6%) respondents have medical service but 8 (12.1%) respondents with no facilities and financial support after the policy implementation. After the minimum

wage policy, the number of respondents who received KWSP/SOCSO was reduced; while the respondents who claimed that they did not received any facilities and financial support increased. It shows that this policy influence the facilities and financial support of respondents. Thus, there is a small impact of minimum wage on the facilities and financial support that is being received by employees of rubber estates in Kedah.

In summary, the occupation information of respondents is clear. It shows that the minimum wage policy might influence the hours of work and day of work of respondents as an influence on the facilities and financial support.

4.5.3 Perception of Employees

This section will discuss about the perception of employees regarding the Minimum Wage Policy. All the questions were selected to examine the impact of minimum wage policy on hours of work. Table 4.5.3 depicts the perception of employees before and after the policy implementation based on hours of work.

Table 4.5.3: *Result of perception of employees on hours of work*

Hours of work	**Mean**	**Frequency (%) (strongly disagree + disagree)**	**Frequency (%) (neutral)**	**Frequency (%) (strongly agree + agree)**
Work early morning until evening				
Before MWP **C.1A1**	2.8030	27 (40.9%)	12 (18.2%)	27 (40.9%)
After MWP **C.1B1**	2.7273	31 (46.9%)	9 (13.6%)	26 (39.4%)
Work only for the morning shift				
Before MWP **C.1A2**	3.6818	11 (16.7%)	12 (18.2%)	43 (65.1%)
After MWP **C.1B2**	3.5909	13 (19.7%)	11 (16.7%)	42 (63.7%)
Work only for the evening shift				
Before MWP **C.1A3**	2.4545	36 (54.6%)	15 (22.7%)	15 (22.7%)

After MWP **C.1B3**	2.3485	38 (57.5%)	18 (27.3%)	10 (15.1%)
Work more than 5 hours per day				
Before MWP **C.1A4**	3.1515	19 (28.8%)	15 (22.7%)	32 (48.5%)
After MWP **C.1B4**	3.2273	16 (24.2%)	18 (27.3%)	32 (48.5%)
Work less than 5 hours per day				
Before MWP **C.1A5**	2.7424	25 (37.9%)	29 (43.9%)	12 (18.2%)
After MWP **C.1B5**	2.8333	27 (40.9%)	22 (33.3%)	17 (25.8%)
Work for 7 days per week				
Before MWP **C.1A6**	2.7727	33 (50%)	10 (15.2%)	23 (34.8%)
After MWP **C.1B6**	2.5606	37 (56%)	13 (19.7%)	16 (24.2%)
Work for 5 days per week				
Before MWP **C.1A7**	3.1970	20 (30.3%)	17 (25.8%)	29 (44%)
After MWP **C.1B7**	3.2879	21 (31.8%)	7 (10.6%)	38 (57.6%)
Work on public holidays				
Before MWP **C.1A8**	2.9242	29 (43.9%)	12 (18.2%)	25 (37.9%)
After MWP **C.1B8**	2.9091	28 (42.4%)	8 (12.1%)	30 (45.5%)
Less than 2 hours for leisure per day				
Before MWP **C.1A9**	2.9242	28 (42.4%)	12 (18.2%)	26 (39.3%)
After MWP **C.1B9**	2.8788	24 (36.4%)	22 (33.3%)	20 (30.3%)
More than 2 hours for leisure per day				
Before MWP **C.1A10**	3.1667	22 (33.3%)	13 (19.7%)	31 (46.9%)
After MWP **C.1B10**	3.1667	21 (31.8%)	13 (19.7%)	32 (48.5%)

Based on the Table 4.5.3, for the case of workers that works from morning to evening, the respondents (40.9%) are equal to those that agree and disagree to work for the same duration of time before the minimum wage policy implementation. After, the policy implemented there are more respondents (46.9%) who are disagree

to they still work from early morning until evening. So, it shows that the policy did not influence their working day period within these two years.

For the fourth aspect, 32 respondents (48.5%) agree that they worked more than 5 hours per day before the minimum wage policy. After the policy implementation, 32 respondents (48.5%) still agreed that they will be working for more than 5 hours per day. So, it shows that the policy did not influence their hours of work within these two year process.

However, for those that work for seven days per week, there are 33 respondents (50%) disagree to work before the Minimum Wage Policy. After the policy implementation, there are 37 respondents (56%) who disagree that they are working for 7 days per week. So, it shows that the policy did not influence their day of work per week. In the aspect work in the public holidays, there are 29 respondents (43.9%) which disagree that they worked on public holidays. After the policy implementation, there are 30 respondents (45.5%) agree that they are working on public holiday. It shows that day of work increases after the policy implementation.

Furthermore, for the aspect work for less than 2 hours leisure, there are 28 respondents (42.4%) disagreed that they have less than 2 hours for leisure before the policy implementation. On the other hands, 26 respondents (39.3%) are agreed that they have less than 2 hours for leisure. After the policy implementation, 24 respondents disagreed that they still on have less than 2 hours leisure per day. As conclusion, the finding is insignificant regarding the hours of leisure and also insignificant to the hours of work.

In summary, the minimum wage policy does not have clear influences on the hours of work based on the respondent perception.

Table 4.5.4 depicts the perception of employees before and after the policy implementation based on happiness. All the questions were selected to examine the impact of minimum wage policy on happiness.

Table 4.5.4: *Result of perception of employees on happiness*

Happiness	**Mean**	**Frequency (very happy + happy)**	**Frequency (unhappy + very unhappy)**
When receiving salary based on contract			
Before MWP **C.3A1**	2.4848	36 (54.6 %)	30 (45.4%)
After MWP **C.3B2**	2.1818	50 (75.8%)	16 (24.3%)
Receiving facilities and financial support			
Before MWP **C.3A2**	1.9394	52 (78.8%)	14 (21.2%)
After MWP **C.3B3**	1.955	56 (84.9%)	10 (15.2%)
Health condition			
Before MWP **C.3A3**	2.7879	21 (31.8%)	45 (68.2%)
After MWP **C.3B5**	2.8182	22 (33.3%)	44 (66.7%)
Work from early morning until evening			
Before MWP **C.3A4**	2.8030	29 (43.9%)	37 (56.1%)
After MWP **C.3B6**	2.7576	31 (47%)	35 (53%)
Work for only one shift whether morning or evening			
Before MWP **C.3A5**	2.3788	47(71.2%)	19 (28.8%)
After MWP **C.3B7**	2.5000	37 (56.1%)	29 (43.9%)
Work for 7 days per week			
Before MWP **C.3A6**	2.9545	15 (22.7%)	51 (77.2%)
After MWP **C.3B8**	2.9394	17 (25.7%)	49 (74.2%)
Work for 5 days per week			
Before MWP **C.3A7**	2.0606	54 (81.8%)	12 (18.2%)
After MWP **C.3B9**	2.2273	46 (69.7%)	20 (30.3%)

Work on public holidays Before MWP **C.3A8** After MWP **C.3B10**	 2.8030 2.7727	 28 (42.4%) 29 (43.9%)	 38 (57.6%) 37 (56%)
Outstation with family members / working colleagues Before MWP **C.3A9** After MWP **C.3B11**	 2.0303 2.1970	 50 (75.8%) 43 (65.2%)	 16 (24.3%) 23 (34.8%)
Given less than 2 hours leisure Before MWP **C.3A10** After MWP **C.3B12**	 2.4848 2.8939	 37 (56.1%) 24 (36.3%)	 29 (43.9%) 42 (63.7%)
Rest within 2 hours Before MWP **C.3A11** After MWP **C.3B14**	 2.3485 2.4848	 43 (65.2%) 38 (57.5%)	 23 (34.9%) 28 (42.4%)
Living cost more than salary Before MWP **C.3A12** After MWP **C.3B15**	 3.1818 3.1061	 11 (16.7%) 15 (22.7%)	 55 (83.3%) 51 (77.2%)
Fulfil own needs and wants Before MWP **C.3A13** After MWP **C.3B16**	 2.2121 2.4091	 45 (68.2%) 41 (62.2%)	 21 (31.8%) 25 (37.9%)
Family needs and wants increase but salary unchanged Before MWP **C.3A14** After MWP **C.3B17**	 3.1667 2.9697	 12 (18.2%) 22 (33.3%)	 54 (81.9%) 44 66.6%)

Based on the Table 4.5.4, 54.6% of the respondents are happy when they received their salary based on contract or natural rubber production before the minimum wage policy implementation. After the policy implementation, there are more respondents (75.8%) who are happy when receiving the minimum wage. So, it shows that the policy influence their level of happiness within these two years. The level of

happiness is more when receiving minimum wage compare to previous salary system.

Before the Minimum Wage Policy implementation, there are 52 respondents (78.8%) which are happy with the received facilities and other financial support from the employer. After the policy implementation, there are 56 respondents (84.9%) that are happy when they are still receiving the facilities and other financial support from the employer. So, it shows that the policy did not influence the provision of employees such as facilities and financial support within this two year. But, the level of happiness was increased because there are four respondents who started to receive the facilities and financial support from their employers.

Moreover, there are 45 unhappy respondents (68.2%) due to their health condition changed to get higher payment. After the policy implementation, there are 44 respondents (66.7%) who are unhappy because their health condition changed again. Although they received minimum wage, the hardship of respondents increased to achieve the target production that fixed by employers. So, it shows that the policy influence their health condition within these two years.

Furthermore, there are 54 (81.8%) respondents that are happy when worked for 5 days per week. After the policy implementation, there are 46 (69.7%) respondents who are happy when they are still working for 5 days per week. It shows that the working days did not change after the policy implementation. It makes them happy although they are receiving minimum wage. Before the policy implementation, there are 43 respondents (65.2%) who are happy due to their rest within the 2 hours leisure. After the policy implementation, there are 38 (57.5%) respondents who are happy when are still resting or sleeping within the 2 hours. As a conclusion, the

minimum wage policy did not influence their leisure period. So, the level of happiness is almost the same before and after the policy implementation.

In addition, there are 55 (83.3%) respondents who are unhappy because their living cost is more than the salary received before the policy implementation. After the policy implementation, there are 51 (77.2%) respondents who are unhappy when their living cost are still more than the salary that they receiving. It shows that minimum wage did not cover the living cost of respondents. Also, it concluded that minimum wage is not enough for nowadays living cost.

Before the policy implementation, there are 54 (81.9%) respondents who are unhappy when their family needs and wants increase every time though their salary unchanged. After the policy implementation, there are 44 (66.6%) respondents who are still unhappy when their family needs and wants increase every time though they receiving minimum wage. It also can be concluded that minimum wage is not enough for living cost nowadays.

In summary, the impact of minimum wage on happiness is not clear and it is depends on the situation. If their health condition changed, the level of happiness will reduced. If they have enough leisure, the level of happiness will increased. On the other hand, if they still receive facilities and financial support from their employers the level of happiness is constant.

Table 4.5.5 depicts the perception of employees before and after the policy implementation based on quality of life. All the questions were selected to examine the impact of minimum wage policy on quality of life.

Table 4.5.5: *Result of perception of employees on quality of life*

Quality of life	**Mean**	**Frequency (strongly disagree + disagree)**	**Frequency (neutral)**	**Frequency (strongly agree + agree)**
Few facilities in house				
Before MWP **C.2A1**	3.6061	5 (7.5%)	16 (24.2%)	45 (68.1%)
After MWP **C.2B1**	3.5303	14 (21.2%)	6 (9.1%)	46 (69.7%)
House made of wooden and need to repaired				
Before MWP **C.2A2**	3.1212	31 (47%)	5(7.6%)	30 (45.4%)
After MWP **C.2B3**	2.5152	36 (54.5%)	14 (21.2%)	16 (24.2%)
Buying house				
Before MWP **C.2A3**	3.4545	16 (24.3%)	10 (15.2%)	40 (60.6%)
After MWP **C.2B4**	2.5303	36 (54.6%)	14 (21.2%)	16 (24.2%)
New vehicle for working purpose				
Before MWP **C.2A4**	3.6364	14 (21.2%)	5 (7.6%)	47 (71.3%)
After MWP **C.2B5**	2.7424	29 (44%)	15 (22.7%)	22 (33.3%)
Transportation				
Before MWP **C.2A5**	2.3939	45 (68.2%)	6 (9.1%)	15 (22.7%)
After MWP **C.2B6**	3.0152	25 (37.9%)	11 (16.7%)	30 (45.5%)
Basic needs purchases				
Before MWP **C.2A6**	3.4848	17 (25.7%)	7 (10.6%)	42 (63.6%)
After MWP **C.2B7**	2.9848	28 (42.4%)	9 (13.6%)	29 (44%)
Fast food restaurant				
Before MWP **C.2A7**	2.8182	28 (42.4%)	19 (28.8%)	19 (28.7%)
After MWP **C.2B8**	2.5758	38 (57.6%)	10 (15.2%)	18 (27.2%)
Saving in the bank				
Before MWP **C.2A8**	3.8788	9 (13.6%)	6 (9.1%)	51 (77.2%)

After MWP **C.2B9**	2.3939	37 (56.1%)	21 (31.8%)	8 (12.1%)
Borrowing money from friend and employer Before MWP **C.2A9** After MWP **C.2B10**	3.5152 3.4091	15 (22.7%) 14 (21.2%)	9 (13.6%) 12 (18.2%)	42 (63.7%) 40 (60.6%)
Health condition Before MWP **C.2A10** After MWP **C.2B11**	3.3636 3.3939	21 (31.8%) 11 (16.7%)	7(10.6%) 17 (25.8%)	38 (57.6%) 38 (57.5%)

Based on the Table 4.5.5, for the aspect few facilities in the house, the respondents (68.1%) are equally agreed that they have few facilities were available in their house before the minimum wage policy implementation. After the policy implementation, there are more respondents (69.7%) who are agreed that few facilities where still available in their house. So, it shows that the policy did not influence their housing facilities within these two years.

Before the Minimum Wage Policy, there are 40 respondents (60.6%) who agree that they are in the estates house and they could not earn enough to buy an own house. After the policy implementation, there are 36 respondents (54.6%) who disagree that they are planning to buy a new house and the process is going on. So, it shows that the policy did not influence their decision of buying a new house within these two year process.

Moreover, before the Minimum Wage Policy there are 45 respondents (68.2%) who are disagree that they are depend on public transportation for travelling. After the policy implementation, there are 30 respondents (45.5%) who agree that they are planning to buy a car for travelling. So, it shows that the policy influence their decision to buy a new vehicle within these two years. 42 respondents (43.9%) are

agree that they found it difficulties to buy the basic needs in the large quantity for a month. After the policy implementation, 29 respondents (44%) who are agree that they are buying the basic things in the large amounts for a month. It shows that the amount of basic needs purchase increases after the policy implementation.

Furthermore, before the policy implementation, there are 28 respondents (42.4%) disagreed that they went to fast food restaurant once a while for every 6 months. After the policy implementation, there are 38 (57.6%) respondents disagreed on their going to fast restaurant for 2 or 3 times in every 6 months. Thus, the minimum wage policy did not influence the respondent preferences to go to the fast food restaurant.

Before the policy implementation, 42 respondents (63.7%) are agreed they borrowed some money from their employers and also friends if their salary is not enough to live. After the policy implementation, 40 respondents (60.6%) who are agreed to avoid themselves from borrowing some money from their employers and also friends. It shows that the respondents get the ability to manage their expenditure and also saving after the policy implementation.

In summary, the impact of minimum wage on quality of life is not clear and it depends on the situation. The policy did not influence their decision to buy a new house but it influenced in buying of a new vehicle within these two years. Within the ten years, may be the respondents have the ability to buy a new house. On the other hands, the policy did not influence the respondent preferences to go to the fast food restaurant but it gave the ability to manage their expenditure and saving.

4.6 Correlation Analysis

A bivariate Pearson's product-moment correlation coefficient was computed to assess the relationship between the independent variables (hours of work, happiness and quality of life) and dependent variable (minimum wage).

Table 4.6.1: *Analysis result of correlations between dependent variable and independent variables.*

		Hours of work	**Happiness**	**Quality of life**	**Minimum wage**
Hours of work	Pearson Correlation	1	-0.021	0.431**	0.523
	Sig. (2-tailed)		0.869	0.000	0.000
	N	66	66	66	66
Happiness	Pearson Correlation	-0.021	1	-0.237	0.366**
	Sig. (2-tailed)	0.869		0.055	0.000
	N	66	66	66	66
Quality of life	Pearson Correlation	0.431**	-0.237	1	0.458**
	Sig. (2-tailed)	0.000	0.055		0.000
	N	66	66	66	66
Minimum wage	Pearson Correlation	0.523**	0.366**	0.458**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	66	66	66	66

Note: ** Correlation is significant at the 0.01 level (2-tailed)

a) Hours of work and Minimum wage

H1: There is a relationship between minimum wage and hours of work in the rubber estates of state of Kedah.

Table 4.6.1 illustrated that there is a positive correlation between hours of work and minimum wage where $r = 0.523$, $n = 66$, $p < 0.01$. Thus, alternate hypothesis was accepted. Overall, there was a moderate positive relationship between hours of work and minimum wage (52.3%). So, minimum wage implementation correlated with hours of work in the rubber estates.

b) Happiness and Minimum wage

H2: There is a relationship between minimum wage and happiness in the rubber estates of State of Kedah.

There is a positive correlation between happiness and minimum wage, where $r = 0.366$, $n = 66$, $p < 0.01$. Thus, alternative hypothesis was accepted. Overall, there was a lower positive relationship between happiness and minimum wage (36.6%). So, minimum wage implementation correlated with happiness in the rubber estates.

c) Quality of life and Minimum wage

H3: There is a relationship between minimum wage and quality of life in the rubber estates of state of Kedah.

There is a positive correlation between quality of life and minimum wage, where $r = 0.458$, $n = 66$, $p < 0.01$. Thus, alternative hypothesis was accepted. Overall, there was a medium positive relationship between quality of life and minimum wage (45.85%). So, minimum wage implementation correlated with quality of life in the rubber estates.

4.7 An Index of Impact Measurement

This section will describe the index of impact measurement of Minimum Wage Policy on independent variables such as hours of work, happiness and quality of life.

Table 4.7.1: *Index of impact measurement*

Index of impact measurement	Conclusion
Less than 0.01 (< 0.01)	Low impact
Between 0.01 and 0.05 (0.01 < I < 0.05)	Moderate impact
More than 0.05 (> 0.05)	High impact

The Table 4.7.1 describes the index of impact measurement of minimum wage on hours of work, happiness and quality of life. The mean value for each question will be used to examine the impact of minimum wage policy on hours of work, happiness and quality of life. There are two type of mean value for each question. There are mean value of before and after policy implementation. The different mean values will be used to measure the impact. For example, the mean value before policy implementation is 2.8030 and the mean value after policy implementation is 2.7273. The difference of mean value is -0.0757 (2.7273-2.8030). Thus, -0.0757 is less than 0.01 (-0.0757<0.01). So, the particular question shows that there is a low impact of minimum wage policy on that question. After finding out the differences of mean for all questions of the independent variable, the average mean will be calculated. These average mean will show the impact of minimum wage policy on that particular independent variables. For example, the average mean value of hours of work is -0.02876. Based on the Table 4.7.1, -0.02876 is less than 0.01 (-0.02876<0.01). Thus, it can be concluded that the minimum wage policy has low impact on hours of work in the rubber estates of Kedah.

4.7.2 Index of Impact Measurement on Hours of Work

This section will describe the index of impact measurement on hours of work. All the questions were selected to examine the impact of minimum wage policy on hours of work. Table 4.7.2 depicts the perception of employees before and after the policy implementation based on hours of work.

Table 4.7.2: *Index result of perception of employees on hours of work*

Hours of work	**Mean**	**Difference of mean**	**Index**	**Conclusion**
Work early morning until evening Before MWP **C.1A1** After MWP **C.1B1**	2.8030 2.7273	- 0.0757	Less than 0.01	Low impact
Work only for the morning shift Before MWP **C.1A2** After MWP **C.1B2**	3.6818 3.5909	- 0.0909	Less than 0.01	Low impact
Work only for the evening shift Before MWP **C.1A3** After MWP **C.1B3**	2.4545 2.3485	- 0.106	Less than 0.01	Low impact
Work more than 5 hours Before MWP **C.1A4** After MWP **C.1B4**	3.1515 3.2273	0.0758	More than 0.05	High impact
Work less than 5 hours per day Before MWP **C.1A5** After MWP **C.1B5**	2.7424 2.8333	0.0909	More than 0.05	High impact
Work for 7 days Before MWP **C.1A6** After MWP **C.1B6**	2.7727 2.5606	- 0.2121	Less than 0.01	Low impact
Work for 5 days per week Before MWP	3.1970	0.0909	More than 0.05	High impact

C.1A7 After MWP **C.1B7**	3.2879			
Work on public holidays Before MWP **C.1A8** After MWP **C.1B8**	2.9242 2.9091	- 0.0151	Less than 0.01	Low impact
Less than 2 hours for leisure Before MWP **C.1A9** After MWP **C.1B9**	2.9242 2.8788	- 0.0454	Less than 0.01	Low impact
More than 2 hours for leisure per day Before MWP **C.1A10** After MWP **C.1B10**	3.1667 3.1667	0	Less than 0.01	Low impact

From the Table 4.7.2, the mean value for the first aspect working early morning until evening is 2.8030 before the minimum wage policy implementation. After the policy implementation, the mean value reduce to 2.7273 about 2.70 percentages. The changes within these mean value is -0.0757. Based on the index of impact, this statement shows that there is a lower impact on the above aspect.

Moreover, the mean value for the second aspect working more than 5 hours is 3.1515 before the policy implementation. After the policy implementation, the mean value increased to 3.2273 with 2.41 percentages. The changes within these mean value is 0.0758. Based on the index of impact, this statement shows that there is a higher impact on the above aspect.

Furthermore, the mean value for the third aspect working for 7 days is 2.7727 before the policy implementation. After the policy implementation, the mean value reduce to 2.5606 with 7.65 percentages. The changes within these mean value is -0.2121.

Based on the index of impact, this statement shows that there is a lower impact on the above aspect.

In addition, the mean value for the aspect work on public holiday is 2.9242 before the policy implementation. After the policy implementation, the mean value reduce to 2.9091 with 0.5164 percentages. The changes within these mean value is -0.0151. Based on the index of impact, this statement shows that there is a lower impact on the above aspect.

Besides that, the mean value for those having less than 2 hours for leisure is 2.9242 before the policy implementation. After the policy implementation, the mean value reduce to 2.8788 with about 1.5526 percentages. The changes within these mean value is -0.0454. Based on the index of impact, this statement shows that there is a lower impact on the above aspect.

As a conclusion, the average mean value for this independent variable (hours of work) is -0.02876. This average mean value computed by adding all the mean value then divided by the total number of questions (-0.2876/10 =-0.02876). Based on the table 4.7.1, this value is less than 0.01 (-0.02876 < 0.01). Thus, the minimum wage policy has low impact on hours of work within these two years implementation. It also can be concluded that there is a small shock effect of minimum wage policy on hours of work.

4.7.3 Index of Impact Measurement on Happiness

This section will describe the index of impact measurement on happiness. All the questions were selected to examine the impact of minimum wage policy on happiness. Table 4.7.3 depicts the perception of employees before and after the policy implementation based on happiness.

Table 4.7.3: *Result of perception of employees on happiness*

Happiness	**Mean**	**Difference of mean**	**Index and conclusion**
When receiving salary based on contract Before MWP **C.3A1** After MWP **C.3B2**	2.4848 2.1818	-0.303	Less than 0.01 (low impact)
Receiving facilities and financial support Before MWP **C.3A2** After MWP **C.3B3**	1.9394 1.955	0.0156	More than 0.01 (moderate impact)
Health condition Before MWP **C.3A3** After MWP **C.3B5**	2.7879 2.8182	0.0303	More than 0.01 (moderate impact)
Work from early morning until evening Before MWP **C.3A4** After MWP **C.3B6**	2.8030 2.7576	-0.0454	Less than 0.01 (low impact)
Work for only one shift whether morning or evening Before MWP **C.3A5** After MWP **C.3B7**	2.3788 2.5000	0.1212	More than 0.05 (high impact)
Work for 7 days per week Before MWP **C.3A6** After MWP **C.3B8**	2.9545 2.9394	-0.0151	Less than 0.01 (lower impact)

Work for 5 days per week Before MWP **C.3A7** After MWP **C.3B9**	2.0606 2.2273	0.1667	More than 0.05 (higher impact)
Work on public holidays Before MWP **C.3A8** After MWP **C.3B10**	2.8030 2.7727	-0.0303	Less than 0.01 (lower impact)
Outstation with family members / working colleagues Before MWP **C.3A9** After MWP **C.3B11**	2.0303 2.1970	0.1667	More than 0.05 (higher impact)
Given less than 2 hours leisure Before MWP **C.3A10** After MWP **C.3B12**	2.4848 2.8939	0.4091	More than 0.05 (higher impact)
Rest within 2 hours Before MWP **C.3A11** After MWP **C.3B14**	2.3485 2.4848	0.1363	More than 0.05 (higher impact)
Living cost more than salary Before MWP **C.3A12** After MWP **C.3B15**	3.1818 3.1061	-0.0757	Less than 0.01 (lower impact)
Fulfil own needs and wants Before MWP **C.3A13** After MWP **C.3B16**	2.2121 2.4091	0.197	More than 0.05 (higher impact)
Family needs and wants increase but salary unchanged Before MWP **C.3A14** After MWP **C.3B17**	3.1667 2.9697	-0.197	Less than 0.01 (lower impact)

From the Table 4.7.3, the mean value for the first group which are receiving salary based on contract is 2.4848 before the minimum wage policy implementation. After

the policy implementation, the mean value reduce to 2.1818 with 12.19 percentages. The changes within these mean value is -0.303. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-0.303<0.01). The happiness level of respondents reduced when they did not receive salary based on contract. The contract salary may be more than the minimum wage. It is sufficient for their expenditure when compared to minimum wage.

Moreover, the mean value for the second aspect receiving facilities and financial support is 1.9394 before the policy implementation. After the policy implementation, the mean value increased to 1.955 with 0.80 percentages. The changes within these mean value is 0.0156. Based on the index of impact, this statement shows that there is a moderate impact on the above aspect (0.01<0.0156<0.05). The happiness level increased because the respondents are still receiving the facilities and financial support.

Furthermore, the mean value for the third aspect named health condition is 2.7879 before the policy implementation. After the policy implementation, the mean value increased to 2.8182 with 1.09 percentages. The changes within these mean value is 0.0303. Based on the index of impact, this statement shows that there is a moderate impact on the above aspect (0.01<0.033<0.05). Although, they received minimum wage but the respondents need to work hard to achieve the production level and it will changed their health condition.

In addition, the mean value for the aspect working for 5 days is 2.0606 before the policy implementation. After the policy implementation the mean value increased to 2.2273 about 8.09 percentages. The changes within these mean value is 0.1667. Based on the index of impact, this statement shows that there is a higher impact on

the above aspect (0.1667>0.05). After the policy implementation, the respondents work only for five days per week. The day of working reduced and their leisure was increased. It will lead to a good fellowship among their family members. And, finally their level of happiness will increased.

Besides that, the mean value for the aspect of rest within 2 hours is 2.3485 before the policy implementation. After the policy implementation the mean value increased to 2.4848 about 5.80 percentages. The changes within these mean value is 0.1363. Based on the index of impact, this statement shows that there is a higher impact on the above aspect (0.1363>0.05). The higher impact shows that respondents utilize completely the two hours rest. The complete rest gave them strength and energy to continue their work happily.

Before the policy implementation, the mean value for the aspect of living cost is 3.1818. After the policy implementation, the mean value reduce to 3.1061 about 2.38 percentages. The changes within these mean value is -0.0757. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-0.0757<0.01). The lower impact shows that the living cost of respondents is more than the salary they received. The minimum wage is still not enough for them to overcome their expenditure. So, the level of happiness is reduced among the respondents.

Also, before the policy implementation the mean value for the aspect of family needs and wants is 3.1667. After the policy implementation, the mean value reduce to 2.9697 with about 6.22 percentages. The changes within these mean value is -0.197. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-0.197<0.01). The result shows that the needs and wants of the

family always increase although they receive minimum wage. The amount of expenditure is more than the salary that they received. They fulfil their needs and wants beyond their capabilities. In the end of the year, their saving will be reduced and expenditure will increased. So, the level of happiness will reduced.

As a conclusion, the average mean value for this independent variable (happiness) is 0.0920. Based on the table 4.7.1, this value is more than 0.05 (0.05< 0.0920). Thus, the minimum wage policy has high impact on happiness within these two years implementation. It can also be concluded that there is a big shock effect of minimum wage policy on happiness.

4.7.4 Index of Impact Measurement on Quality of life

This section will describe the index of impact measurement on quality of life. All the questions were selected to examine the impact of minimum wage policy on quality of life. Table 4.7.4 depicts the perception of employees before and after the policy implementation based on quality of life.

Table 4.7.4: *Index result of perception of employees on quality of life*

Quality of life	**Mean**	**Difference of mean**	**Index**	**Conclusion**
Facilities in house Before MWP **C.2A1** After MWP **C.2B1**	3.6061 3.5303	-0.0758	Less than 0.01	Low impact
House made of wooden and need to repaired Before MWP **C.2A2** After MWP **C.2B3**	3.1212 2.5152	-0.606	Less than 0.01	Low impact
Buying house Before MWP **C.2A3** After MWP	3.4545 2.5303	-0.9242	Less than 0.01	Low impact

C.2B4				
New vehicle for working purpose Before MWP **C.2A4** After MWP **C.2B5**	3.6364 2.7424	-0.894	Less than 0.01	Low impact
Transportation Before MWP **C.2A5** After MWP **C.2B6**	2.3939 3.0152	0.6213	More than 0.05	High impact
Basic needs purchases Before MWP **C.2A6** After MWP **C.2B7**	3.4848 2.9848	-0.5	Less than 0.01	Low impact
Fast food restaurant Before MWP **C.2A7** After MWP **C.2B8**	2.8182 2.5758	-0.2424	Less than 0.01	Low impact
Saving in the bank Before MWP **C.2A8** After MWP **C.2B9**	3.8788 2.3939	-0.4849	Less than 0.01	Low impact
Borrowing money from friend and employer Before MWP **C.2A9** After MWP **C.2B10**	3.5152 3.4091	-0.1061	Less than 0.01	Low impact
Health condition Before MWP **C.2A10** After MWP **C.2B11**	3.3636 3.3939	0.0303	0.01 < I < 0.05	Moderate impact

From the Table 4.7.4, the mean value for the first aspect named as facilities in house is 3.6061 before the minimum wage policy implementation. After the policy implementation, the mean value reduce to 3.5303 with about 2.10 percentages. The changes within these mean value is -0.0758. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-0.0758<0.01). This result shows that, the respondents still have few facilities in their house

although they receive minimum wage. The minimum wage is not sufficient enough for them to prepare new facilities in the large contents. If their saving increased after this policy, likely their amount of facilities might increase in their house in future.

Moreover, the mean value for the second aspect named buying house is 3.4545 before the policy implementation. After the policy implementation, the mean value decreased to 2.5303 about 26.75 percentages. The changes within these mean value is -0.9242. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-0.9242<0.01). The result shows that the minimum wage is not sufficient for them to build a new house. Nowadays, the price of house increased. It brings difficulties for the low income people to buy an house. Most of them will stay in estates houses to reduce their cost of living. Normally, the estates houses provide the basic facilities like water and electric supply.

Furthermore, the mean value for the third aspect named as transportation is 2.3939 before the policy implementation. After the policy implementation, the mean value increased to 3.0152 with about 25.95 percentages. The changes within these mean value is 0.6213. Based on the index of impact, this statement shows that there is a higher impact on the above aspect (0.6213>0.05). The results shows that the respondents plan to buy a vehicle for their family which makes it easy for their travelling. So, the quality of life based on buying new vehicle is increased.

In addition, the mean value for the aspect of basic needs purchases is 3.4848 before the policy implementation. After the policy implementation, the mean value reduce to 2.9848 with about 14.35 percentages. The changes within these mean value is -0.5. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-05<0.01). Before the policy implementation, the respondents

found it difficulties to buy basic needs in the large amount for a month. After the policy implementation, the respondents have the ability to purchase the basic needs in a large quantity. It shows that the quality of life increased based on purchasing their basic needs.

Besides that, the mean value for the aspect of fast food restaurant is 2.8182 before the policy implementation. After the policy implementation, the mean value reduce to 2.5758 about 8.60 percentages. The changes within these mean value is -0.2424. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-0.2424<0.01). The minimum wage does not influence their decision regarding the fast food restaurant. They cook the health food and have a good a fellowship in their house.

Before the policy implementation, the mean value for the aspect of borrowing money from friends and employer is 3.5152. After the policy implementation, the mean value reduce to 3.4091 with about 3.02 percentages. The changes within these mean value is -0.1061. Based on the index of impact, this statement shows that there is a lower impact on the above aspect (-01061<0.01). After the policy implementation, the respondents avoid borrowing some money from their employer and friends. This policy influenced their decision and improved their quality of life.

As a conclusion, the average mean value for this independent variable (quality of life) is -0.31818. Based on the table 4.7.1, this value is less than 0.01 (-0.31818 < 0.01). Thus, the minimum wage policy has low impact on quality of life within these two years implementation. It also can be concluded that there is a small shock effect of minimum wage policy on quality of life.

4.8 Open Ended Question

The section will discuss about the personal opinion of respondents regarding the impact of Minimum Wage Policy on hours of work, happiness and quality of life. Table 4.8.1 depicts the perception of employees before and after the policy implementation based on their opinion.

Table 4.8.1: *Result of open question*

Aspect	**Frequency**	**Percent %**
1. Satify	30	45.5
2. Not satify	22	33.3
3. No comman	14	21.2
Total	**66**	**100.00**

Based on the Table 4.8.1, there are 30 (45.5%) respondents that are satisfied with the minimum wage policy implementation. Some of them gave opinion that this policy will improve the living life style of employees especially to the plantation workers. Below is the some opinion that gave by respondents:

Respondents 1:

"Upah minimum dapat meningkatkan taraf hidup pekerja ladang"

Respondents 2:

"Upah minimum ini sangat menguntungkan kepada pekerja kerana kos sara hidup mencukupi dan perubahan meningkatkan pendapatan mencukupi"

Respondents 3:

"Pada pendapat saya, baik pelaksananya kerana ia dapat menampung kos sara hidup terutamanya di sektor peladangan"

Respondents 4:

"Sebenarnya, pelaksanaan polisi upah minimum sememangnya baik bagi pekerja ladang getah tetapi dengan kos sara hidup pada masa kini ianya masih tidak mencukupi. Lebih–lebih lagi kepada pekerja yang mempunyai tanggunggan seperti perbelajaan sekolah dan barang keperluan bayi. Gaji minimum perlu dinaikan lagi"

On the other hand, there are 22 (33.3%) respondents that are not satisfied with the minimum wage policy. Some of them said that nowadays living cost is very high and it is not sufficient to fulfil their needs and wants. Below are some opinions that given by respondents:

Respondents 1:

"Gaji minimum memang tidak mencukupi dalam kehidupan sekarang kerana kos sara hidup sangat tinggi"

Respondents 2:

"Gaji RM900 yang diberikan pada masa kini tidak mencukupi bagi menampung kos sara hidup yang tinggi pada hari ini. Gaji perlu lebih daripada RM900 untuk penoreh getah yang sememangnya menggunakan keringat ketika menoreh. Jadi, gaji mestilah setimpal dengan kerja atau tugas dan perlu mengambil kira kos sara hidup masa kini. Harap lebih perihatin"

Respondents 3:

"Gaji RM900 yang diberikan pada masa kini tidak mencukupi bagi masa kini bagi menampung kos hidup yang tinggi. Gaji perlu lebih daripada RM900 kerana kerja mereka sangat bahaya dan menpunyai risiko yang tinggi. Oleh kerana itu, gaji mestilah setimpal dengan kerja dan perlu mengambil kira kos sara hidup pada masa kini. Tolong pertimbangkan…. Apa pihak berkenaan?"

Besides that, there are 14 (21.2%) respondents which are not given opinion regarding the minimum wage policy.

4.9 Conclusion

The demographic information of respondents is very good. Most of them are educated with wonderful family and have basic needs such house, facilities and transportation. Based on the occupation information, the respondents are mostly rubber tappers with particular skill to achieve the production level. The result shows that the estates have a good management system regarding the hour of work, salary

payment scheme, and provision of facilities and financial support to their rubber estates workers.

Based on the perception of respondents, the minimum wage has low impact on the hours of work and quality of life. There is a small shock effect of minimum wage policy on hours of work and quality of life. On the other hands, the minimum wage has higher impact on happiness. There is a big shock effect of minimum wage policy on happiness.

In summary, the result of the three independent variables showed a significant relationship between dependent variable. Thus, all hypotheses are accepted and concluded there is a relationship between minimum wage and hours of work, happiness and quality of life. So, this study will discuss more about the conclusion and policy implication in the next chapter.

CHAPTER FIVE

CONCLUSION AND POLICY IMPLICATION

5.1 Introduction

In this chapter, the results of the findings are discussed related to the hypotheses in relation to the objectives of the study. The significance to the study and its implication is highlighted. Conclusion, limitation of the study and recommendations for future research will be discussed at the end.

5.2 Discussions on Hypotheses Testing

The chapter four illustrated the overall findings of the study regarding the dependent variable (minimum wage) and independent variables (hours of work, happiness and quality of life). The correlations between all independent variables and dependent variable are significant, proving the rejection of the null hypotheses.

It can be observed that minimum wage is positively correlated with hours of work. The significant value indicates correlation that depicts rejecting of the null hypothesis. With the Pearson Correlation value as 0.523, it can be concluded that there is significant and moderate connection between minimum wage and hours of work.

Moreover, there is positive correlation between minimum wage and happiness. Significant value specifies the correlation hence the null hypothesis can be rejected. With the Pearson Correlation value of 0.366, it can be concluded that there is significant but lower connection between minimum wage and happiness.

Furthermore, minimum wage is also positively correlated with quality of life. Significant value indicates the correlation; therefore, the null hypothesis can be rejected. With the value of Pearson Correlation is 0.458, it can be concluded that there is significant but medium connection between minimum wage and quality of life.

5.3 Discussion on the Research Objectives

From Chapter 1, the research objectives are a listed below:

i. To profile a socio demographic information of the rubber estates in the state of Kedah;
ii. To examine the relationship between hours of work, happiness and quality of life with Minimum Wage Policy in the rubber estates of Kedah;
iii. To examine the impact of the minimum wage policy on hours of work, happiness and quality of life of employees in the rubber estates of Kedah.

5.3.1 Study on Objective

This section will discuss about the finding to achieve the objective of the study.

Objective 1:

This objective was to profile the demographic information of the rubber estates in the state of Kedah. The demographic information of respondents is very good. Most of them are educated people, with wonderful family and have basic needs such house, facilities and transportation. Based on the occupation information, most of the respondents are rubber tappers and have particular skill to achieve the production level. The result shows that the estates have a good management system regarding

the hour of work, salary payment system, provision of facilities and financial support to their rubber estates workers. Thus, the objective one is achieved.

Objective 2:

This objective was to examine the relationship between hours of work, happiness and quality of life with Minimum Wage Policy in the rubber estates of Kedah.

Table 4.6.1 illustrated that there is a positive correlation between hours of work and minimum wage where $r = 0.523$, $n = 66$, $p < 0.01$. Thus, alternate hypothesis was accepted. Overall, there was a moderate positive relationship between hours of work and minimum wage (52.3%). So, minimum wage implementation correlated with hours of work in the rubber estates.

Moreover, there is a positive correlation between happiness and minimum wage, where $r = 0.366$, $n = 66$, $p < 0.01$. Thus, alternative hypothesis was accepted. Overall, there was a lower positive relationship between happiness and minimum wage (36.6%). So, minimum wage implementation correlated with happiness in the rubber estates.

Furthermore, there is a positive correlation between quality of life and minimum wage, where $r = 0.458$, $n = 66$, $p < 0.01$. Thus, alternative hypothesis was accepted. Overall, there was a medium positive relationship between quality of life and minimum wage (45.85%). So, minimum wage implementation correlated with quality of life in the rubber estates.

In summary, the objective two was achieved whereby minimum wage policy revealing relationship or correlated with hours of work, happiness and quality of life.

Objective 3:

This objective was to examine the impact of the minimum wage policy on hours of work, happiness and quality of life in the rubber estates of Kedah.

The average mean value for this independent variable (hours of work) is -0.0545. Based on the table 4.7.1, this value is less than 0.01 (-0.0545 < 0.01). Thus, the minimum wage policy has low impact on hours of work within these two years implementation. It also can be concluded that there is a small shock effect of minimum wage policy on hours of work.

The average mean value for this independent variable (happiness) is -0.0324. Based on the table 4.7.1, this value is less than 0.01 (-0.2045 < 0.01). Thus, the minimum wage policy has higher impact on happiness within these two years implementation. It also can be concluded that there is a big shock effect of minimum wage policy on happiness.

The average mean value for this independent variable (quality of life) is -0.2045. Based on the table 4.7.1, this value is less than 0.01 (-0.2045 < 0.01). Thus, the minimum wage policy has low impact on quality of life within these two years implementation. It also can be concluded that there is a small shock effect of minimum wage policy on quality of life.

In summary, the minimum wage policy has low impact on the hours of work and quality of life within these two years. There is a small shock effect of minimum wage on hours of work and quality of life. Besides that, the minimum wage policy has higher impact on happiness within these two years. There is a big shock effect of minimum wage on happiness.

5.4 Limitation of Study

One of the limitations of study is the distribution of questionnaires. Before the process of distribution, the researcher got the list of the rubber plantation area from Malaysian Rubber Board of Kedah. Unfortunately, they did not have the list of estates that implement the minimum wage policy. Besides that, the information such as contact number and address was incorrect. So, the researcher have to find out the correct information and then contact the estates owner to confirm whether they all implementing this policy or not. After the confirmation, the questionnaire was distributed to the selected estates by courier service. The collection of questionnaires took almost two and half months indicating time factor as a limitation. Lack of information is another limitation of this study.

Moreover, the minimum wage policy was implemented completely for two years. So, the period of the impact of minimum wage policy among the rubber estates employees especially on hours of work, quality of life and happiness is not clear. So, this study concluded that there is a shock effect regarding the minimum wage policy among the respondents.

5.5 Suggestion for Future Research

The research conducted proved that hours of work, happiness and quality of life have relationship with minimum wage. To have a better and clearer view of the impact of minimum wage policy on hours of work, happiness and quality of life, the study can be expanded to a larger population in the rubber estates. It can include the whole rubber estates that implementing minimum wage policy in this country. Thus, this future research will show the efficiency of government policy and will encourage the

policy maker to increase the amount of minimum wage towards the living cost and economic growth.

5.6 Policy Implication

The result of this study would encourage the employers to manage wisely the hours of work and production level after the policy implementation. It would assist employers in providing incentives to help cushion the effects of increased targets for employees and boost production. Also, the employees especially the rubber tappers would be better positioned to put in their in the jobs. Also, they would organize their household expenditure wisely based on their salary. Thus, the cooperation and contribution of employers and employees would increase the productivity and production of rubber estates.

Secondly, the findings of this study can encourage the government to appreciate the effects of the minimum wage policy and ensure adequate monitoring with the aim of allowing estates adjust and minimize adverse effects on hours of work, happiness, and quality of life of rubber tappers. Moreover, it provides a useful guidance to the policy makers of other developing countries in implementation a new policy for future development especially in rubber industry.

Finally, this paper would contribute an additional economic literature on Malaysian economy, especially in the area of policy implications to economic growth. It also gives significant contribution to existing literatures on minimum wage policy across the world.

5.7 Conclusion

The finding of this study proved that there is a relationship between minimum wage and hours of work, happiness and quality of life. It can be observed that minimum wage is positively correlated with hours of work, happiness and quality of life. It can also be concluded that there is a small shock effect of minimum wage policy on hours of work and quality of life and big shock effect on happiness. Moreover, the findings of this study can encourage the government to appreciate the effects of the minimum wage policy. Likewise, ensure adequate monitoring with the aim of allowing estates adjust and minimize adverse effects on hours of work, happiness and quality of life of employees. Moreover, it will provide useful guidance to the policy makers of other developing countries in implementation of a new policy for future development especially in the agricultural sector.

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