FEBRUARY 2022

MALAYSIA

COUNTRY REPORT

PREPARED BY
CSF Global

CSF Global

This report was produced with the help of a grant from the Foundation for a Smoke-Free World, Inc.. The contents, selection and presentation of facts, as well as any opinions expressed herein, are the sole responsibility of the authors and under no circumstances shall be regarded as reflecting the positions of the Foundation for a Smoke-Free World, Inc

Contents

1. Overview of tobacco markets and information about the stakeholders in Malaysia

Malaysia has an active tobacco market comprising multiple products and different stakeholders. Locally produced and imported tobacco products include filtered cigarettes, hand-rolled cigarettes, smokeless tobacco products, smoke-free electronic gadgets (harm reduction products), e-cigarettes and shisha or huqa. Stakeholders include consumers, producers, policy makers and tobacco control policy advocates and activists.

Tobacco consumers as a group are also diverse, including varied professional and demographic groups such as primary and secondary school students, university students and teachers, medical and non-medical students and staff. Some are regular frequent users, while others are quitters. They consume tobacco products for a variety of reasons. However, the legal market for tobacco market has been curbed over the years through a variety of means, both punitive and non-punitive. In the following sections, we will illustrate the overall scenario of the market of tobacco products, the role and extent of the presence of stakeholders in the economy, and the state of policies related to tobacco use and production in Malaysia.

1.1. Economic share of tobacco market (sales volume, employment)

As one of the upper middle-income countries, affordability of tobacco products in Malaysia remains high. As a result, despite gradual increases in price due to tax increases and anti-tobacco awareness campaigns, there were 9.42 billion cigarette sticks produced in Malaysia in 2016. Moreover, in the same year, cigarette imports exceeded total number of exports, hurting the country's trade balance significantly (Tobacco Atlas, 2016). In Malaysia, approximately 22.8% (4,991,458) of the population aged over 15 years were smokers in 2015; among them, 43.0% (4.8 million) smokers were male and only 1.4% (143566) smokers were female. They consumed manufactured, hand-rolled and smokeless cigarettes (NHMS, 2015).

Product-wise, the market share is dominated by cigarettes. Almost 60% of current smokers smoke 15 or more sticks of cigarettes daily. While there is no demand for bidi, demand for hand-rolled raw tobacco is common in different geographical locations. Hand-rolled cigarettes are mostly popular among the 3.5% older aged (65+) people in Malaysia. However, the demand for hand-rolled cigarettes largely prevails in rural areas. In terms of smokeless tobacco market share, only one tenth of the Malaysian population over 15 years of age used smokeless tobacco in 2015.

In Malaysia, cigarette prices increased significantly over the years due to high excise taxes on cigarettes. For example, the price of cigarettes was increased up to RM 17 to 18 at the end of 2015 from RM 7.0 in 2011. The price of branded cigarettes increased exponentially between 2010 and 2015. Given hikes in the excise taxes on tobacco products, the government is earning higher tax revenues from the legal sale of tobacco products. According to the South East Asia Tobacco Control Alliance (SEATCA) (2013), the total tax revenue of the tobacco-related products was USD 0.893 billion1 in 2005, which increased to USD 1.646 billion in 2011. However, in recent years, due to exorbitant price hikes in branded cigarettes, a large portion of the tobacco market has been captured by illicit cigarette trading, which resulted in major tax revenue losses for the government (Liber et al., 2015). On the production side, the main three stakeholders are Philip Morris, BAT and JTI. In 2013, the total economic contribution of BAT and JTI was RM 831 million.

Lastly, the tobacco industry in Malaysia has also contributed to generate direct and indirect employment to thousands of people. For instance, the three big tobacco companies in Malaysia namely, British American

Tobacco Company, Malaysia (BATM), Japan Tobacco International (JTI), Philip Morris (PM- Malaysia) Sdn Bhd, have generated more than 6000 direct and indirect jobs together. However, their share in the total employment is insignificant (less than 1%). Moreover, due to the rise in illegal cigarette trading in local markets, at least two major factories had to close down due to declines in legal sales (BATM 2019).

1.2. Stakeholders

The production and consumption of tobacco comprises four type of stakeholders: consumer, producer, policy makers and tobacco control advocates and activists. In Malaysia, tobacco firms are well-organized. There are three major tobacco companies in Malaysia that total almost 97% of the total tobacco market. However, the size of these tobacco firms is varied. For example, BAT Malaysia holds almost 62% of the total tobacco market in the country. Japan Tobacco International (JTI) and Philip Morris International (PMI) hold 22% and 13% respectively (TIID, 2020). Similarly, consumers or users of tobacco products in the country are widely varied in terms of age, income and socio-economic status. In Malaysia, the government is keen to reduce the prevalence of tobacco use by 2025.

Although the tobacco industry has been generating a significant amount of tax revenue for the government, it is difficult for policy makers to balance between the use of tobacco and the huge earnings from this sector. On the other hand, there are ongoing nationwide campaigns against tobacco consumption tobacco industry such as 'Tak Nak', MQuit, Pendidikan Fatwa Kesihatan IMFree Program, WHO's guidelines and the FCTC's ratification. This opposition is due to the fact that tobacco is the largest source of non-combatant death, killing 20,000 in each year in Malaysia and 8 million globally (WHO Report on the Global Tobacco Epidemic, 2019). At the same time, the FCTC report of 2010 notes that it has caused a 3.83 billion of ringgit loss in health care expenditure for the treatment of tobacco attributable diseases such as heart disease, COPD, lung cancer and more in Malaysia.

1.2.1. Tobacco manufacturers and market structure

The tobacco industry in Malaysia has grown significantly over the years, generating billions in tax revenues for the government. The entire tobacco market has been shared by three big multinational companies in Malaysia for many years. BAT Malaysia, JTI Malaysia and PMI hold almost 97% of the total legal cigarette market in Malaysia. BAT Malaysia has been operating in Malaysia since 1913 and holds almost 62% of the total tobacco market. Meanwhile, JTI and PMI hold 22% and 13% of Malaysian tobacco market share respectively. These three companies produce all branded quality cigarettes. Meanwhile, JTI and BAT Malaysia have already launched burning-free electronic devices for smoking in recent years in Malaysia. However, in Malaysia there is no demand for bidis among smokers, except for a handful of people aged over 65+ who smoke hand rolled cigarettes, particularly in rural areas. In Malaysia, the tobacco industry is very much organized, and there is no record of any household-based cigarette manufacturers in Malaysia.

Malaysia produces several types of tobacco products, including cigarettes of different brands, tobacco used in fire-free electronic devices, e-cigarettes or vaping products that use liquid nicotine, shisha or huqqa, and smokeless or chewable tobacco products. Dunhill is a flagship and leading brand produced by BAT Malaysia. Apart from Dunhill, other brands including Marlboro, Winston, Rothmans, Pall Mall, Menthol, Salem, Benson Hedges, Kent, Camel etc. are popular among smokers in Malaysia. In Malaysia, low priced cigarettes are also imported from neighboring countries to meet the demands of low-income consumers. For example, in 2010 cigarettes exports were 0.09% of total exports, while cigarette imports were 0.05% of total imports (WHO,

2012). In 2012, export earnings of cigarettes in Malaysia totaled USD 220.334 million, while the total payment for the import of low-cost cigarettes was USD 115.077 million.

1.2.2. Prevalence of tobacco use

The WHO Framework Convention on Tobacco Control (FCTC) (2005) treaty came into force on 27 February 2005. It was signed by 168 countries and is legally binding in 181 ratifying countries including Malaysia. But the WHO estimates that 20.2% of global population aged 15 years and older were still smokers in 2015 (WHO global report on trends in prevalence of tobacco smoking 2000-2025, 2018). A recent estimate from 2018 shows that globally there are currently 1.34 billion smokers[2]. The number of smokers between 2007 and 2015 did not change despite all-out efforts such as advertisement bans in the media, smoking bans in public places, higher tobacco taxes up to the recommended margin of 70% and in some cases beyond the tax limit of FCTC recommendations, and pictorial warnings of serious harm on tobacco. Most smokers have not been able to quit for good because of nicotine dependence. Nicotine physically alters the smoker's brain, making quitting difficult. The scenario in Malaysia is not different. In the following paragraphs, prevalence and tobacco demand are illustrated.

There are different forms of tobacco in Malaysia. Quality ranges from people using hand-rolled cigarette to premium-brand tobacco products. Smoked and smokeless tobacco, e-cigarettes or vapes, shisha or huqqa are popular forms in Malaysia. The prevalence rate of tobacco consumption has been reported in several national surveys from time to time. According to the National Health and Morbidity Survey (NHMS) of 2019, the current overall prevalence rate for cigarette is 21.0% whereas the prevalence rate for e-cigarettes is 5% for the same year. In 2011, the Global Adult Tobacco Survey (GATS), reported that the overall prevalence of smokers aged 15 years and older was 23.1%. These smokers included 43.9% of males and only 1% of females. Moreover, 22.7% of total smokers reside in urban areas, whereas 24.3% of them reside in rural areas. In a following survey conducted by NHMS in 2015, the overall prevalence of smokers who were 15 years or above old was 22.8%. According to gender distribution, this included 43.0% of males and only 1.4% of females. Both sexes consumed manufactured cigarettes, hand-rolled and smokeless cigarettes. By residence status, the prevalence rate was 20.9% for the urban population and 27.7% for the rural population. Comparing both surveys (GATS, 2011 and NHMS, 2015), the figures for all categories had decreased in 2015.

In GATS (2011), breaking down the results by types of smoked tobacco products, 22.9% of adults (43.6% of men and only 1.0% of women) were current smokers of cigarettes, including manufactured, hand-rolled or kretek cigarettes. The 25-44 age group had the highest prevalence rate of any smoked tobacco product (29.0%), including any kind of cigarette (28.9%) and manufactured cigarettes (26.2%). By residence, the overall percentage of adults who smoked tobacco products was higher in rural areas (24.3%) compared to their counterparts in urban areas (22.7%).

By education, prevalence (44.2%) was high among adults with a secondary/high school education. Apart from smoking, the prevalence for smokeless tobacco products consumption was overall 0.7% among adults aged 15 and above (0.9% of men and 0.6% of women). Among current users of smokeless tobacco, 0.5% were daily smokers who use both smoking and smokeless tobacco products together. There were also 0.3% of occasional smokers who consume smokeless products. However, in 2015, the highest prevalence (28.0%) of smokers was between the age of 25-44, which declined by 1% from 2011.

1.2.3. Anti-tobacco movement

The anti-tobacco movement in Malaysia began in 2004. After joining the FCTC, the Ministry of Health (MoH) of Malaysia became determined to control smoking issues. As a result, the MoH Malaysia launched the 'Tak Nak Merokok' campaign (meaning 'we don't want to smoke') in 2004, which was broadcast to several kinds of media in Malaysia. The purpose of this campaign was to educate and enhance awareness so that people become willing to quit smoking, and at the same time discourage non-smokers from starting to smoke. Primarily, this campaign aimed to create new social norms that were less supportive of smoking. The International Tobacco Control ITC (2012) project found that the Tak Nak Merokok campaign was highly successful in reaching out to smokers, where 95% of smokers were aware of the campaign. To make the "Tak Nak Merokok" campaign successful, the government took specific measures such as using graphical warning, While only 14% of respondents reported that graphic warnings on cigarette packs were more likely to make them quit smoking, 45% responded that they gave up smoking due to the graphical warning or the photos on the packs (Bakar, 2015). To achieve a smoke free country status in line with its FCTC commitment, the Malaysian government introduced additional anti-smoking campaigns launching in 2010, an anti-smoking television campaign (Assunta, & Chapman, 2004;) and in 2012, introducing mQuit service centers as an integrated quit smoking service encompassing both public and private facilities (Abidin, 2016). In 2019, the MoH launched a five year 'Speak Out' campaign to encourage people to quit smoking.

1.2.4. Tobacco farmers

Tobacco farming is insignificant in Malaysia, as it contributes to only 0.82% of the country's total revenue generated by the agricultural sector. In 2011, there were only 3024 farmers involved in the tobacco farming in Malaysia, which was only 0.11% of the total employment. In the meantime, tobacco farming only represented 0.84% of the total agricultural output in Malaysia. Moreover, the number of farmers continued to decrease over the next two years. The number of tobacco farmers declined to 2585 in 2012, then declined further to 673 in 2013. '=

In the late 1990s, Kelantan was one of the main tobacco growing states, producing an estimated 9 million kg of tobacco, followed by other states like Terengganu (3.2 million kg), Kedah (1.1 million Kg) and Perlis (1 million kg). However, the condition of farmers in these states became worse when the government decided to terminate subsidies on tobacco farming to comply with FTA and the World Health Organization (WHO). Nevertheless, later the National Kenaf and Tobacco Board Act was enacted in 2009 to take care of the tobacco growers in Malaysia. Since then, tobacco growers began to receive subsidies on fertilizer and agro-chemicals given by the cigarette manufacturers, where tobacco growers pay only 25% of the total cost and the remaining 75% is paid by the cigarette manufacturers.

1.2.5. Government's stake and involvement

Malaysia became a party to the WHO FCTC in 2004 and further ratified it in 2005, after being an active party and implementing smoke-free policies to comply with FCTC guidelines. Consequently, the government has taken measures to adjust to the guidelines of the FCTC. It is expected that if policies are properly put in place, the prevalence of smoking or tobacco consumption may decline significantly, resulting in the reduction of morbidity and health care expenditures in the country.

In 2004, the government promulgated the Control of Tobacco Products Regulation of 2004 under the Food Act of 1983 and regulated, among other things, smoke free environments; tobacco advertising, promotion and sponsorship; and tobacco packaging and labeling. The Control of Tobacco Products Regulation has been further amended in 2008 to introduce new and larger health warnings containing graphic images, and a ban on tobacco product packaging, then amended again in 2010 to prohibit smoking in air-conditioned workplaces. This regulation was again amended in 2011 and 2012 to use no smoking signs in smoke-free premises and vehicles. In 2013, the regulation of 2004 was amended to introduce a ban on tobacco advertising, promotion and sponsorship, health warnings, and other features of packaging and labeling. Later in 2014 and 2015, another amendment of the regulation was made to prohibit the sale of tobacco products via the internet. The most recent two amendments, enacted in 2017 and 2018, prohibit smoking in any eating place or air-conditioned shop.

Along with these amendments of the regulation over these years, the government has also declared nonsmoking areas in Malaysia in 2011, 2012, 2014 [P.U. (B) 312; P.U. (B) 313], 2015 etc. Meanwhile, in 2009, the Malaysian government issued The National Kenaf and Tobacco Board Act in 2009 to ensure that all sellers require retail licenses to sell tobacco products. In 2007, excise tax policies of 25% were amended to ensure higher cigarette prices to reduce smoking prevalence. Thus, the government of Malaysia is getting involved to implement smoke-free policies ordained by WHO.

1.2.6. Illicit trade

The geographical positioning of Malaysia is strategic in the East-Asian region, since the country is surrounded by other neighboring countries like Thailand, Singapore and Indonesia. Malaysia is a hotspot for illicit cigarette trading, since prices for legal branded cigarettes Malaysia are exorbitant. Since excise taxes on cigarettes and tobacco products are high, the price of each branded cigarette pack is RM 17 to 18 whereas the price for a pack of illegal cigarettes in Malaysia is only RM 4.50. As a result, low-income consumers prefer illegal cigarettes.

In 2019, the market share of illicit cigarette reached 65% of the total market share, which has become a big threat to implementing tobacco free policies directed by WHO (BATM, 2020). In 2013, the percentage of illicit cigarette trading in Malaysia was 36%, which rose to 59% in 2018. The hike in illicit trading gained momentum when excise taxes were increased to 40% in 2015. A huge amount of tax collection is evaded by the smuggling of illicit cigarettes (Ho et al., 2018). In 2018, the Malaysian government was deprived from earning about RM 4.8 billion in tax revenue (BATM, 2019). The illicit trading of cigarettes in the last few years has become so rampant that every 6 sticks out of 10 cigarettes is illegal in Malaysia. This uncontrolled illicit trade caused two of major cigarette factories to close down, resulting in job losses for 5750 employees and RM 831 million in economic contributions. However, the customs department seized illegal cigarettes with a value of RM 843.89 million in 2018. Nonetheless, perpetrators also use illegal entry points to introduce tobacco products from neighboring countries without customs inspection.

1.3. Discussion and conclusion

The fight against the tobacco epidemic, albeit its many successes, remains pertinent even today. Smoking prevalence and cigarette consumption at a global level have been decreasing since the WHO FCTC became an international law. However, the rate of reduction is lower than anticipated and, in many cases, the absolute number of users and intensity of use are increasing (Cheah et al., 2019). This is also true in Malaysian context. In Malaysia, 28.0% of people between the age of 25-44 are consumers of any smoked tobacco products. 25.2%

of them smoke manufactured cigarette, leading to more than 27200 deaths caused by tobacco-related diseases every year. Further, more than 44,000 children (10-14 years old) and 4,528,000 adults (15+ years old) continue to use tobacco each day. In 2016, more than 23% of deaths were caused by tobacco-related illnesses, and the treatment costs of tobacco related illness total US$ 256,794,194 in Malaysia.

In Malaysia, tobacco farming has decreased sharply. In 2010, the total land cultivated for tobacco was only 3658 ha, compared to 9129 ha in 2000. This is the least among other East Asian countries. Moreover, the total number of farmers declined to only 673 in 2013. For a long time tobacco farmers did not receive any kind of subsidies, however after the formulation of the National Kenaf and Tobacco Control Act of 2009, farmers are entitled under certain subsidies where tobacco manufacturers provide 75% of the costs of fertilizer and other required materials.

The detrimental health effects of tobacco consumption are well documented in Malaysia. Studies revealed that more than a third (34.9%) of the smokers smoked 25 or more cigarettes; 24.2% smoked 14-24 cigarettes; 18.5% smoked 10-14 cigarettes; 16.4% smoked 5-9 cigarettes and 5.9% smoked less than 5 cigarettes a day (NHMS, 2015). The tobacco industry publicly makes the claim that tobacco cultivation generates gainful employment and income for tobacco farmers, while Malaysian evidence suggests otherwise, and the farming sector of tobacco leaf has only experienced decline. Moreover, existing scientific studies have not taken into account the harmful effects of tobacco cultivation on the environment.

Tobacco control regimes mostly involve demand-reducing policies such as price controls through taxation, non-price measures (information and awareness campaigns), nicotine replacement and cessation therapies. However, due to the complex tax policies on diverse product qualities, exorbitant excise tax policies exist towards Malaysian cigarettes producers. On the other hand, demand side policy measures have not paid much attention to harm reduction strategies that help smokers switch to low risk nicotine-based products in Malaysia such as e-cigarette, vaping, or shisha.

In conclusion, rational addiction choice, social inequality and the fiscal concerns of the government have combined to limit the scope for reduction of demand for combustible tobacco. However, there has been a huge success in limiting tobacco cultivation. Any partial measures on demand reduction strategies using taxation might lead to declines in tax revenues and further inequality, inequity and severe health burdens for the poor. Emerging novel products have been treated differently across the globe, including this region. But in case of Malaysia, HRPs have made significant inroads while increases in tax have led to a shift from legal to illicit trade. The remaining chapters elaborate on these contrasting patters further.

2. Demand for tobacco

Over the last two decades, a lot of research has been carried out in Malaysia to understand different aspects of tobacco demand and consumer behaviour (Ross and Al-Sadat, 2007; Cheah et al., 2019 & Atikah et al., 2019). Studies with multiple objectives range from understanding tobacco prevalence and smoking behaviour to studies relating to estimating health costs associated with smoking. In addition, leading international organisations such as the World Health Organization (WHO), International Tobacco Control (ITC) and the American Cancer Society have conducted multiple surveys. Moreover, a series of nationwide surveys have been conducted by the Malaysian government in different time periods to estimate the changing status of tobacco consumption among Malaysians in accordance with the policies undertaken. These national surveys, such as the National Health and Morbidity Surveys, have been conducted by the Ministry of Health. Examples include the 2003 third National Health and Morbidity Survey and a survey on adolescent (13-15 years old) tobacco consumption. Subsequently, in 2015, the MoH conducted another series of survey (NHMS, 2015) that reported detailed smoking related issues among Malaysian of diversified age categories.

The WHO conducted several surveys, of which the most well-known are GATS 2011 and GYTS 2003. GATS 2011 focused on 15+ adult smoking consumption. Each of the surveys was designed to address and understand different aspects of tobacco consumer behaviour. While the GATS study covered individuals over 15 years and older, the GYTS study focused on individuals aged 13 to 15 years. Even though the surveys were done in different years, the differences and changes in consumer behaviour towards tobacco products are comparable across different years. These surveys were conducted to identify the types of tobacco products' utility, their uses, quitting behaviour, and knowledge and perception of tobacco uses over the years. In addition to these surveys, the MoH has published several reports based on these surveys. The main purpose of these surveys and reports are to estimate economic costs of tobacco related illness in Malaysia.

This chapter draws from the results of all the surveys mentioned above in order to provide a comprehensive understanding of what is known on the demand side of tobacco consumption and identify the gaps, where necessary, to address required policies to implement smoke free environment.

2.1. Overview of different types of tobacco products and their prices in Malaysia

Both smoked and smoke-free tobacco products are very popular among tobacco consumers in Malaysia. Cigarettes (locally manufactured and imported), e-cigarettes or vaping devices, and hand-rolled cigarettes are the most common form of smoked tobacco in Malaysia. There is also remains a preference for smoke-free tobacco among Malaysians of varied ages, demography and residence status. Only a small segment of Malaysians consume hand-rolled cigarettes, of whom the highest percentage of consumers aged 65 and over, and who mostly reside in the rural areas. Bidi is not a favoured tobacco product and is rarely found in Malaysia.

In terms of price, there are two pricing tiers of cigarettes in Malaysia. The first price category consists of branded cigarettes and the second is low-cost imported brands (mostly illicit cigarettes). E-cigarettes were introduced in 2009 and gained a great deal of popularity among adults. In addition, many current smokers started to use e-cigarette as a means to quit cigarettes. In 2016, the Malaysian National E-Cigarette Survey (NECS) 2016 revealed the prevalence rate and other aspects of e-cigarette for the first time in Malaysia.

In Malaysia, the legal price of the cigarette is determined, and there is limited variation in the quality of cigarettes and their prices. These prices have changed over the years due to government taxation policies to control the consumption of tobacco. In 2015, Malaysia's tobacco tax was revised with a 42.8% excise tax imposed on cigarettes. This significantly increased the unit price of cigarettes, from RM 13.50 in 2014 to RM 17.50 to 18.00 in 2015.

Table 1 (2.1.1) Cigarette prices (RM per pack of 20 cigarettes), 2002-2015

Year	Branded Price (RM)	Low Price (RM)
2002	5.00	4.10
2010	10.00	-
2011	10.10	-
2013	12.50	-
2014	13.50	-
2015	17.50	-

Source: SEATCA, 2015; World Bank, 2015; BAT, Malaysia, 2019

2.2. Prevalence of tobacco use by consumer characteristics

Prevalence rates of tobacco use have been on the decline in Malaysia over the years. Prevalence rates from multiple studies are reported in Table 2.2.1. This downward trend has been observed for both males and females as well as among urban and rural inhabitants. Prevalence rates vary across studies due to methodological differences (sampling as well as estimation methods). Several stakeholders (such as the MoH of Malaysia and WHO) have conducted surveys in different points in time to determine tobacco use patterns and track these changes over time. For example, according to GYTS, smoking prevalence in 2003 was 20.2%. However, this corresponds to adolescents (13-15 years old). For adults, the earliest figure is 21.5% in 2006 according to NHMS (15+ years old) (national current user). Based on another estimate, the overall prevalence was 23.1% in 2011 according to GATS (15+ years old) and 22.80% in 2015 according to NHMS (2015). Taking all available estimates into account, the rate of smoking prevalence has remained broadly unchanged over the years.

Table 2 (2.2.1): Prevalence of tobacco use by gender and geographic location, 2003-2019

		GYTS 2003 (13-15 yrs) (%)	NHMS 2006 (18+ yrs) (%)	GATS 2011 (%)	NHMS 2012 (%)	NHMS 2015 (%)	NHMS 2018 (%)	NHMS 2019 (%)
Overall		25.8	21.5	23.1	11.5[a]	22.8	21.8	21.0%[b] /5.0% [c]
Gender	Male	40.0	46,4	43.9	20.9	43.00	32.2	
	Female	11.5	1.6	1.0	2.1	1.4	1.0	
Residence	Urban	-	19.0	22.4	-	21.2		

Rural	-	26.2	24.2	-	27.9		

Source: GYTS (2003) NHMS (2006), GATS (2011), NHMS (2012), NHMS (2015), NHMS (2018), NHMS (2019), Lim et al., (2018).
Notes: (a) relates to student population. (b) Cig (c) E-cig.

The lack of change in smoking prevalence over time is puzzling given the target of "smoke free country" status as per FCTC guidelines. Since Malaysia has set a timeline to reduce the rate of smoking prevalence to 15% by 2025, more effort is required to achieve this target.

Different age groups show different rates of smoking prevalence. Since most surveys were conducted among the 15 years and above age ranges, the rate of smoking prevalence was found to be higher among higher age groups. Table 2.2.2 shows the distribution of age groups and rates of smoking prevalence.

Table 3 (2.2.2): Prevalence of tobacco use by age groups, 2006-2019

	GATS		NHMS								
Age Group	**2011**	**Age Group**	**2006**	**Age Group**	**2010**	**Age Group**	**2015**	**Age Group**	**2018**	**Age Group**	**2019**
15- 24	16.70	<20	23.76	18-19	22.10	15-24	39.2	1-24	27.7	18-24	50.1
25-44	29.00	30-39	23.95	20-24	27.0	25-44	36.6	25-44	41.5	25-58	49.9
45-64	22.70	40-49	20.78	25-29	25.50	45-59	37.6	45-64	23.7		
65+	15.0	50-59	18.97	30-34	26.60	65+	30.3	65+	7.1		
		60+	17.82	35-39	24.0						
				40-44	22.5						
				45-49	21.0						
				50-54	19.80						
				55-59	20.1						
				60-64	20.7						
				65-69	17.8						
				70-74	18.4						
				75-79	12.5						
				80+	17.70						

Source: NHMS (2006), (2015); GATS (2011); Ministry of Health, Malaysia.

2.3. Prevalence of tobacco use (over time) by type of tobacco products

Tobacco consumption is mainly in two forms, smoked tobacco and the second one is smokeless tobacco product (such as lozenges, sticks, strips, orbs etc.). Cigarettes both manufactured and hand-rolled are the main sources of smoked tobacco products in Malaysia (Table 2.3.1).

Table 4 (2.3.1): Prevalence of different types of tobacco users

Types of tobacco Users	GATS 2011	NHMS 2015	TECMA 2016
Any forms of tobacco users	23.1	22.6	14.2
Cigarettes	22.9	20.1	11.7
Hand-Rolled Cigarettes	4.0	2.3	3.6
Kretek	4.4		
Other Smoked Tobacco	1.0		
Smokeless	0.7	10.9	11.0
E-Cigarettes	0.8	10.9[a]	13.0[b]

Source: GATS (2011); NHMS (2015); TECMA (2016). Notes: (a) e-cigarettes included (b) aged 16-19 years.

It is apparent in Table 2.3.1 that the rate of overall prevalence for any form of tobacco products is declining over the years, although the pace of decline remains slow. In the case of cigarettes and hand-rolled cigarettes, smoking prevalence is also declining. Surprisingly, however, the rate of prevalence is on the rise when it comes to consuming smokeless tobacco products.

In Malaysia, the overall prevalence for the current smokers surveyed by GATS was 23.1% in 2011, while the survey conducted by NHMS in 2015 showed a slightly lower rate of prevalence. Males showed a higher prevalence rate (43.9%) compared with female prevalence (1.0%) in the 2011 GATS survey. Four years later in the 2015 NHMS survey, the prevalence rate for males only decreased slightly in 4 years to 42.5%. However, the usage and prevalence of smokeless tobacco increased alarmingly from 2011 to 2015, changing significantly from 0.7% to 10.9% within just 4 years. More surprisingly, the prevalence rate of smokeless products among males has increased tremendously, from 0.9% in 2011 to 20.4% in 2015. In terms of age groups, the highest rate of prevalence of all tobacco products was among those 25 to 44 years old.

Table 5 (2.3.2): Prevalence Rates in Malaysia, 2011-2015

Demographic Characteristics		Any types of tobacco		Smoked Tobacco		Smokeless Tobacco	
		GATS 2011	NHMS 2015	GATS 2011	NHMS 2015	GATS 2011	NHMS 2015
Overall		23.1	22.6	22.9	22.5	0.7	10.9
Sex	Male	43.9	42.5	38.3	42.4	0.9	20.4
	Female	1.0	1.3	1.0	1.2	0.6	0.8
Residence	Urban	22.7	20.9	22.4	20.8		
	Rural	24.3	27.7	24.2	27.6		
Age Group	15-24	16.7	19.3	16.6	19.2		
	25-44	29.0	28.0	28.9	28.0		
	45-64	22.7	20.0	22.5	19.9		
	65+	15.0	11.1	13.9	10.9		

Source: GATS, 2011; NHMS, 2015

In both surveys, the rate of tobacco use prevalence was reported to be higher among men and older age groups (25-44 years old). Table 2.3.2 shows a downward prevalence rate of tobacco use from 2011 to 2015. However, tobacco use prevalence among certain age groups (15-24) has been increased significantly over the years. Moreover, the use of smokeless tobacco among the men has been increased sharply from 2011 to 2015.

Harm reduction products in Malaysia are not widely used. E-cigarettes and vaping devices have been available in Malaysia since 2009 (Electronic cigarettes are battery-operated devices that vaporize a nicotine solution into a form of inhalable aerosol, and also offer a variety of flavorings). In 2016, the National E-Cigarette survey was conducted to understand the prevalence, patterns, perception and uses of e-cigarettes or vaping devices among 4288 Malaysian adults aged 18 and over. This nationwide survey showed that among Malaysian adults, 11.9% of them are ever users who have tried e-cigarettes at least once. 3.2% are current users who have been using this product continuously for last 30 days, while 8.6% were former users. Among adults, 2.3% are dual users of e-cigarettes and combustible cigarettes. Prevalence rates were 3.3% and 2.9% in urban and rural areas respectively, and 4.5% started to use e-cigarettes before age 18. The rate of prevalence was highest (46.3%) among the 25-39 years old age group. For 47% of adults, the main reason to start using e-cigarette was simply to try the product, while 16.2% of adults switched to e-cigarette use to quit tobacco smoking. In terms of duration of use, 57.4% of adults consumed e-cigarettes for 1 year or less. In the meantime, 48.4% of current users tried quitting in the last 12 months.

There are factors that are linked to sole, dual, and poly tobacco use and are often influenced by demographic variables such as age, gender, ethnicity, income, and smoking intensity (Lim et al., 2017). For example, early adolescents are at less risk of smoking compared to older adolescents. In the meantime, the Malay bumiputra experiences higher prevalence compared to other races. Among the different age groups, the highest prevalence of smoking was between the ages of 25-44 (42.7%) followed by the 45-64 age group (34.6%). Higher prevalence levels were also found among lower income groups. In terms of educational attainment, the highest prevalence of smoking persists among those who have completed a secondary level of education. Residential status has a major impact on prevalence, where the highest prevalence is found in urban areas (75.8%) compared to those who live in rural areas (24.2%) in Malaysia.

2.4. Distribution of tobacco use by age of initiation, frequency of use, switching & quitting

2.4.1. Age of initiation

A comparison of the NHMS II (1996) and NHMS III (2006) surveys shows a lowering in the mean age of smoking initiation for both men and women over a 10-year period. The overall mean age of initiation dropped from 19.9 to 18.6 years; among men from 19.5 to 18.3 years and among women from 24.7 to 22.6 years. According to GATS, 2011 report, the overall mean age at initiation was 17.2 years. However, 12.7% started smoking daily before the age of 15, 39.1% at age 15–17, 28.6% at age 18–19, and 19.6% at 20 or older. For men, the mean age at initiation was 17.2 years. More than one-third (36.9%) of smokers in rural areas started daily smoking before the age of 18, versus 56.2% of urban smokers. In the case of e-cigarette use, 39.9% of the adolescents started

using e-cigarettes or vaping devices at the age of 14-15 years, followed by 25.2% at the ages of 12-13.

2.4.2. Frequency of use

In GATS (2011), the distribution of population by frequency of use was broadly categorized by "current tobacco smoker" and "non-smokers". Current tobacco smokers were then subcategorized by "daily smokers" and "occasional smokers" and non-smokers were subcategorized as "former daily smokers" and "never daily smokers".

According to GATS survey of 2011, among current tobacco users, 20.9% of them were daily smokers. Among the daily users, 39.9% were male and 0.7% were women; 2.3% of the total smokers were occasional smokers. Among this percentage of occasional tobacco users, 4.1% were men and 0.4% were women. In the case of smokeless tobacco product users, 0.7% of them were current users, including 0.9% of men and 0.6% of women, while 0.5% of respondents were daily users, 0.3% were occasional users of smokeless tobacco, and 99.3% were non-users. Table 2.4.2.1 summarizes the use of current, daily, occasional, and nonsmokers of smoked and smokeless tobacco products.

Table 6 (2.4.2.1): Shares of current tobacco users, daily users, occasional users and never users, 2011-2015

	Current Tobacco Users GATS 2011	Current Tobacco Users NHMS 2015	Daily Smokers GATS 2011	Daily Smokers NHMS 2015	Occasional Smokers GATS 2011	Occasional Smokers NHMS 2015	Non-Smokers GATS 2011	Non-Smokers NHMS 2015	Never Smokers GATS 2011	Nevers moker NHMS 2015	Current Smokeless GATS 2011	Current Smokeless NHMS 2015	Daily Smokeless GATS 2011	Daily Smokeless NHMS 2015	Occasional Smokeless GATS 2011	Occasional Smokeless NHMS 2015	Non-User Smokeless GATS 2011	Non User Smokeless NHMS 2015
Overall	23.1	22.8	20.9	20.5	2.3	2.3	76.9	77.2	72.9	74.8	0.7	10.9	0.5	9.8	0.3	1.1	99.3	89.1
Male	43.9	43.0	39.9	38.8	4.1	4.2	56.1	57	49.1	52.8	0.9	20.4	0.4	18.4	0.5	2.0	99.1	79.6
Female	1.0	1.4	0.7	1.1	0.4	0.3	99.0	98.6	98.1	98.2	0.6	0.8	0.5	0.7	0.1	0.2	99.4	99.2

Source: GATS (2011)

2.4.3. Switching behaviour

In Malaysia, the prices of the cigarette brands do not vary significantly. From the year 2015, the prices of the legal branded cigarettes have been between RM 17 to 18. These prices are relatively higher compared to the cigarette prices of any neighboring countries. The reason for such premium prices in Malaysia is due to the imposition of higher excise taxes (42.3%) on tobacco products. As a result, switching has occurred from premium price legal cigarettes to low-cost illegal cigarettes and e-cigarettes. According to BAT Malaysia, illegal cigarette trade has increased by 65%, while total legal industry volume has declined 11% at the same time. Hence, it can be inferred that legal cigarette consumers in Malaysia have switched over to illicit cigarettes. Moreover, the National E-cigarette Survey (NECS), 2016 shows that 16.2% of e-cigarette consumers started using e-cigarettes to quit their smoking habits.

2.4.4. Quitting behaviour

The quitting behaviour of the tobacco consumers in Malaysia has been reported in the following major categories: those who are interested in quitting smoking by the next month, those who have been thinking

about quitting within the next 12 months, those who may quit eventually but not within 12 months, those who will quit when they want, those who don't want to quit, and finally those who do not know. Quitting behaviour in Malaysia has been surveyed in two major categories. Smoked (burned) tobacco which is covered by surveys such as GATS (2011) and NHMS (2015), and another category of quitting behaviour is e-cigarette or vaping, surveyed in the NECS survey, which was conducted in 2016.

In the case of smoked (burned) tobacco, 52.3% of current smokers have attempted to quit smoking in 12 months in 2015, versus 48.6% in 2011. However, quitting behaviour was highest (71.6%) among e-cigarette users in 2016. The percentage of respondents visiting quitting centers and becoming interested in quitting cigarettes was 56.4% in 2011. The percentage of interested e-cigarette users was relatively higher (67.5%) in 2016 versus other surveyed years. However, the percentage of those receiving help or advice from the harm care center was the highest in 2015 (75.4%) versus 52.6% in 2011 and only 24.2% in 2016. It is apparent that over the years the percentage of quit smoking attempts has been increasing significantly. But unfortunately, information about smokeless tobacco quitting is not available in the previous surveys.

Table 7 (2.4.4.1): Percentage of smokers who made a quit attempt and received help, 2011-2016

	Smoked (burned) Tobacco		E-Cigarette
	GATS 2011	NHMS 2015	NECS 2016
Attempted to quit in 12 months	48.6	52.3	71.6
Visited quit center and interested to quit	56.4	9.7	67.5
Received help or advice to stop smoking	52.6	75.4	24.2

Source: GATS 2011, NHMS, 2015, NECS 2016

The GATS, 2011 survey reported the percentage of smokers aged 15 years and over who tried to quit smoking using available cessation methods including counselling and other supports from quitting centers in Malaysia, as well as the distribution of demographic characteristics and the percentages of quitting attempts. This survey showed an overall percentage of quitting attempts of 9.0% (including 9% of men) where 4.4% of them resort to counselling support from the quitting centers and 7.6% of them used other forms of quitting supports. By age comparison, quitting attempts were higher (14.0%) among the adults who were 15-24 years old compared to other age groups. However, those adults who were 45-64 years old took a higher percentage of counselling (7.4%) and other quitting supports (11.1%) from the centers. The quitting percentage was marginally higher in urban areas (9.3%) versus the rural areas (8.0%). Interestingly, the percentage of quitting efforts was higher in the rural areas versus the urban areas.

By education, the highest percentage of overall quit attempts was found among college or university students. Among them more than 24% of adults used other quitting services. The lowest overall percentage of quitting attempts was made by adults who had only a primary school or less than primary school education. Therefore, it is apparent that higher education results in a higher percentage of quitting attempts among Malaysian adults. Moreover, primary school educated adults take less counselling support from the quitting centers. By race, quitting attempts have been found higher among the Malay adults in Malaysia compared to Chinese, Indian and others. A majority of adults from different races use other forms of quitting supports than counselling from the quitting centers in Malaysia. For example, more than 17% of Indian adults use other forms of quitting support to stop smoking. However, finally, if we compare both the available form of quitting supports, it is apparent that the percentage of other forms of quitting support is more popular than the counselling support offered by clinics and quitting centers among the Malaysians regardless to their age,

residence, education and ethnicity. Therefore, it is suggested that Malaysian policy makers put more effort in place to make counselling support more popular, to facilitate quitting smoking for good without using any other form of tobacco.

Table 8 (2.4.4.2): Percentage of smokers ≥15 years old who attempted to quit smoking in the past 12 months, by cessation methods used and selected demographic characteristics, 2011

Demographic Characteristics		Quit Attempt	Use of cessation Method	
			Counseling/ Advice	Others
Overall		9.0	4.4	7.6
Gender	Male	9.2	4.4	7.6
	Female	--	--	--
	15-24	14.0	3.6	1.2
	25-44	9.5	3.2	8.9
	45-64	3.2	7.4	11.1
	65+	--	--	--
Residence	Urban	9.3	3.7	6.9
	Rural	8.0	6.5	9.6
Education	Less than primary	1.1	6.2	7.0
	Primary	0.0	2.8	10.1
	Highschool/ Secondary	8.2	6.0	7.2
	College/ Above	34.6	4.0	24.2
Race/ Ethnicity	Malay	11.7	5.0	5.9
	Chinese	0.9	2.4	5.4
	Indian	4.7	0.0	17.2
	Other	5.4	6.2	10.1

Source: GATS, 2011

2.5. Consumer knowledge and awareness about different forms of tobacco use

Using warning labels on packs, media and awareness programs, both government and non-government local/ international agencies are trying to inform the mass population regarding the harmful effects of tobacco use. Findings from GATS 2011 and NHMS 2015 reveal that more adults are aware of anti-smoking information in 2011 versus 2015. In 2011, non-smokers noticed a higher percentage of anti-tobacco information versus tobacco information on television or radio. However, current smokers noticed more information via television or radio, but in 2015 current smokers received more information at any location and on television or radio (Table 2.5.1).

Table 9 (2.5.1): Percentage of adults who noticed anti-smoking information during the last 30 days

			Adults who noticed anti-tobacco information at any location	Adults who noticed tobacco information on the television or radio
GATS 2011	Smoking Tobacco	Overall	90%	87.1%
		Current Smokers	93.6%	87.7%
		Non-smokers	94.6%	86.9
NHMS 2015	Smoking Tobacco	Overall	70.0	76.3
		Current Smokers	73.2	78.4
		Non-smokers	68.5	75.6

Source: GATS, 2011; NHMS, 2015

Table 2.5.2 shows the demographic characteristics of the adults who noticed anti-smoking information during the last 30 days. The data contained in this table was collected from two nationwide surveys, GATS (2011) and NHMS (2015). From this data it is apparent that the adults have noticed more anti-tobacco related information at any location or on television in the last 30 days in 2011 versus 2015. Adults of the 15-24 age group have received more information at any location than via television in 2011. Moreover, in 2011 awareness among adults from both the urban and rural areas was almost equal, although adults in rural areas were more informed when it comes to noticing anti-tobacco related information at any location and on television or radio. However, in 2011 urban adults became more aware regarding anti-smoking information. In both age groups, adults noticed anti-tobacco information with almost the same percentage. In 2011, more adults had noticed anti-tobacco information via any location and on radio or television versus 2015 in Malaysia.

Table 10 (2.5.2): Percentage of adults who noticed anti-smoking information during the last 30 days by selected demographic characteristics, 2011-2015

Demographic Characteristic		Adults who noticed anti-tobacco information at any location	Adults who noticed tobacco information on the television or radio
GATS 2011			
Overall		90%	87.1
Gender	Male	93.5	86.0
	Female	94.5	88.3
Age	15-24	96.2	87.0
	> 25	93.1	87.1
Residence	Urban	93.7	86.0
	Rural	94.8	89.8
NHMS 2015			
Overall		69.6	76.3
Gender	Male	70.6	75.9
	Female	68.5	76.8

Age	15-24	69.5	76.5
	> 25	69.7	76.3
Residence	Urban	70.3	76.0
	Rural	67.4	77.2

Source: GATS, 2011; NHMS, 2015

2.6. Public perception about different forms of tobacco use

Public perception regarding smoking tobacco and its impact on physical health has been documented in the GATS (2011) nationwide survey. 93.7% of Malaysians believe that tobacco causes lung cancer, while a large majority of Malaysians think that tobacco consumption may cause heart attack (88.8%) and strokes (80.7%). Moreover, 85.8% of Malaysians believe that tobacco consumption causes many serious illnesses. By gender, women's perceptions regarding the likely health casualties are marginally higher than those of males (Table 2.6.1)

Table 11 (2.6.1): Percentage of adults (15+) believe that smoking tobacco and smokeless tobacco can cause diseases, 2011

		Serious illness	Stroke	Heart Attack	Lung Cancer	Throat cancer	Oral Cancer
Smoking Tobacco	Overall	92.2	80.7	88.8	93.7	82.9	86.0
	Male	90.7	79.2	86.9	92.7	82.7	84.2
	Female	93.9	82.3	90.8	94.8	83.2	88.0

Source: GATS, 2011

Table 2.6.2 shows the demographic characteristics of adults who believe that smoking causes several health hazards. Smoking is believed to be a prominent reason for many health casualties by all age groups. However, the majority of adult age groups adult believe that smoking causes serious illness, including lung and oral cancer. However, a smaller percentage among those 65 years of age or older believe that smoking may cause health problem compared with other adult age groups. In terms of education, adults with secondary and college or university education backgrounds have a higher belief that smoking is a prominent reason for serious illness, stroke, heart attack, lung cancer, throat cancer and oral cancer compared with those who are less educated (i.e. only a primary level education). By race, the differences are not large. More than 90% of adults among all races believe that smoking is a potential cause of lung cancer. Therefore, it can be inferred that the majority of adults of different demographic backgrounds in Malaysia believe that smoking causes significant health related casualties.

Table 12 (2.6.2): Percentage of adults believe that smoking tobacco can cause diseases, 2011

		Serious illness	Stroke	Heart Attack	Lung Cancer	Throat cancer	Oral Cancer
Smoking Tobacco	Overall	92.2	80.7	88.8	93.7	82.9	86.0
	Male	90.7	79.2	86.9	92.7	82.7	84.2

	Female	93.9	82.3	90.8	94.8	83.2	88.0
Age	15-24	93.6	84.1	89.8	96.2	86.5	90.0
	25-44	93.7	81.1	89.7	95.1	84.0	88.6
	45-64	90.3	79.0	88.2	91.3	81.3	80.8
	65+	85.0	70.8	81.0	84.0	67.7	73.0
Residence	Urban	92.8	81.7	89.3	94.0	84.1	87.2
	Rural	80.1	68.2	77.7	81.0	79.9	83.1
Education	Less than primary	80.1	68.2	77.7	81.0	60.3	67.1
	Primary	90.1	78.4	87.1	91.9	79.6	83.0
	Secondary/ High school	95.6	83.7	92.7	96.6	87.5	89.5
	College/ University	94.2	78.2	87.8	94.4	88.1	89.0
Race	Malay	93.5	84.2	91.7	95.3	86.6	88.7
	Chinese	89.6	75.0	83.8	92.0	81.1	80.4
	Indian	92.3	81.0	85.1	90.0	80.0	83.1
	Other	90.2	72.9	85.2	91.4	71.0	84.0

Source: GATS, 2011

2.7 Comparison of perception of harmfulness between different tobacco products in Malaysia

For Malaysia, data on the perceived harmfulness of different tobacco products is not available in existing surveys, reports and scholarly articles.

3. Supply side of tobacco

In 2016, there were 9.42 billion cigarettes produced in Malaysia (Tobacco Atlas, 2016). By 2018, this declined to 8.3 billion cigarettes (417 million legitimate packs equivalent) (The confederation of Malaysian tobacco manufacturer, 2018). Even then, Malaysia imported a large number of cigarettes from different countries. According to the Department of Statistics Malaysia (DOSM) (2019), a total sum of 118,198,390 kg of cigarettes were imported from the United States, Hong Kong, Japan, Singapore, United Kingdom and other countries during the period of 2010 to 2019. The total value of such imports was RM 7.34 billion (1.75 approximately) (DOSM, 2017). A total of RM 831 million was added to GDP in 2017. The market structure of tobacco manufacturing can be understood by studying the contribution of various tobacco manufacturing activities to total manufacturing activity in terms of gross output, fixed assets, and employment. In this chapter, we also comment on tobacco farming and alternative crops as well as tobacco trade (including illicit trade).

3.1. Tobacco market structure

3.1.1. Market share

Malaysia mainly produces different brands of cigarettes by BAT Malaysia, Japan Tobacco, and Philip Morris International. After the establishment of BATM in 1912, it dominated Malaysian market over the years. At present, BATM's market share accounts for more than 60% of the Malaysian tobacco market. The majority of tobacco industry employment is also created by BATM. Japan Tobacco International has a total share of 20% of the Malaysian tobacco market. Philip Morris (PM-Malaysia) Sdn. Bhd. operates as a subsidiary of Philip Morris International (PMI), and holds 16% of the total tobacco market in Malaysia (TIID, 2020). Cigarette manufacturing accounts for the highest share overwhelmingly in terms of the value of gross output and fixed assets.

In terms of cigarette brands, Dunhill produced by BAT Malaysia is leading brand and enjoyed 36.4% of the market share in 2019. Another aspirational premium brand, Peter Stuyvesant, held 6.8% of the branded cigarette market share in 2019. Since more than 60% of the total cigarette market is dominated by BAT Malaysia, its brands are very popular. Data on market share of three years of branded cigarettes produced by BAT Malaysia is presented in Table 3.1.1.1. The market share for brands such as Dunhill, Peter Stuyvesant and Pall Mall have experienced a decline from 2017 to 2019, whereas the brand Rothman's market share has significantly increased over the years. For example, in 2017, the market share for Rothman was merely 0.5%, which increased to 3.5% in 2018 and rose further to 5.5% in 2019. In the meantime, reduced risk products like Glo received reasonable popularity over other branded smoked cigarettes. In 2019, it received 7.1% of total market share, which is higher than all of the branded cigarettes except Dunhill in 2019. Moreover, other brands like Winston and Marlboro are also popular to some extent among smokers in Malaysia.

Table 13 (3.1.1.1): BAT Malaysia's brand-wise market share of cigarettes in Malaysia

Year	DUNHILL	PETER STUYVESANT	PALL MALL	ROTHMAN	REDUCED RISK PRODUCTS
2017	39.9	7.8	4.2	0.5	--
2018	39.0	7.4	3.3	3.5	--
2019	36.4	6.8	2.8	5.5	7.1

Source: BAT Malaysia annual report, 2017, 2018, 2019

3.1.2. Production

In Malaysia the total production of cigarettes has decreased significantly from 2013 to 2019. In 2016, the total number of cigarettes produced in Malaysia was 9.42 billion. According to Euromonitor market research, cigarettes in Malaysia started to decline in both volume and current value term, although the overall decline was slower. The legal tobacco market declined by 4.6% in 2018 in Malaysia (BATM, 2019). Table 3.1.2.1 shows the production of cigarettes by BAT Malaysia in 2018 and 2019. Both of these years have been divided into 4 quarters. It is apparent in the following table that BAT Malaysia's total production in 2019 has decreased across all quarters compared to the year 2018.

Table 14 (3.1.2.1): Cigarette production by BAT Malaysia (million stick) in Malaysia

Year	Quarter 1	Quarter 2	Quarter 3	Quarter 4
2018	577	590	596	590
2019	544	528	508	548

Source: BATM annual report, 2019

3.1.3. Employment

The tobacco industry also generates employment. However, compared to other sectors, the total number of formal workers employed in this sector is not significant. BATM employs people in two ways: direct employees and indirect employees via external distributors (BATM, 2020). Phillip Morris has 500 employees in Malaysia. Japan Tobacco International also has more than 300 employees working in Malaysia (JTI, 2020). According to annual reports of BAT Malaysia, in 2017 the total number of direct employees was 497, with 481 employees in 2018 and 451 in 2019. Indirect employee totals were 1576, 1512 and 1657 respectively in the years 2017, 2018 and 2019, most of whom were employed as external distributors. It is notable that the biggest market share holder BATM has experienced a decline of direct employees over the last three years, a decline that is attributed to adjustments to operating expenses of the company.

3.2. Tobacco farming

Tobacco farming is insignificant in Malaysia when assessed in terms of employment and tobacco farming in the agricultural sector. For example, according to SEATCA (2013), tobacco farming only contributed 0.11% to total employment, which means that there are only a very few people employed in tobacco farming activity. Moreover, tobacco farming contributes only 0.84% of the total agricultural sector. In 2010, there were only 3623 farmers who produced Virginia and barley tobacco in different states of Malaysia (DOSM, 2017), and the total number of registered farmers has significantly reduced over the years.

Table 3.2.1 shows unmanufactured (raw) tobacco production in Malaysia from 2000 to 2013. This table presents total harvested hectares of areas for tobacco production and total production of tobacco in Malaysia. It is evident from the table that the total harvested area has declined over the years and in 2013, it declined to 538 hectors from 9129 hectares in 2000. However, the reduction in the total amount of harvesting land for tobacco since the year 2010 was particularly significant.

Malaysia has experienced a declining trend of total amount of production of tobacco leaf from 2010 to 2013.

For example, in 2000 the total amount of tobacco production was 7172 tons of tobacco leaf, which declined significantly to 453 tons of tobacco in 2013. However, the highest amount of tobacco leaf produced in Malaysia was in the year 2004. Hence, it is apparent that the production of tobacco leaf has decreased significantly over the years. In the meantime, this reduction in the production of tobacco accelerated when the Malaysian government introduced alternative crop production in lieu of tobacco leaf since 2005, when the government initiated a restructuring plan to phase out the tobacco farming sector. This response was motivated by the WHO Framework Convention on Tobacco Control (FCTC) Article 17 and was aimed at promoting economically viable alternative livelihoods to tobacco workers and growers. This is discussed further in section 3.3.

Table 15 (3.2.1): Unmanufactured tobacco production in Malaysia

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Tobacco growers														
Area harvested (ha)	9129	8863	10000	13000	12100	13000	10650	7726	7720	8207	2855	2636	2526	538
Total Production (Ton)	7172	9000	12404	13526	13850	11400	8900	6453	6278	2473	3143	2916	1972	453

Sources: National Kenaf and Tobacco Board; FAOSTAT

There is not that much data available on tobacco prices in Malaysia. The Department of Statistics contains only three years of data on annual average prices of graded tobacco leaves (Malaysian full-cured tobacco) for the period 2010-2012 only. Table 3.2.2 shows raw Malaysian full-cured tobacco prices from 2010 to 2012. In 2010, the total price for full-cured tobacco in Malaysia was only 14.44, while in 2011 the price rose to 14.50 and in 2012, the price increased to 14.64.

Table 16 (3.2.2): Raw tobacco prices of Malaysian full-cured tobacco

Year	Price/Kg
2010	14.44
2011	14.50
2012	14.64

Source: DOSM, 2017

There is no data on demographic characteristics of farmers in Malaysia as well as data on family child labour employed and the cost of labour for cultivation per household farmer.

3.3. Tobacco farming and alternative crops

Historically (i.e., in the 1960s) tobacco was considered as one of the key socio-economic crops in the Malaysian provinces of Kelantan, Terengganu, Kedah and Perlis. In 1973, the Ministry of Primary Industries established National Tobacco Board (disaggregated state-wise time series on tobacco cultivation in Malaysia

vs KENAF is unavailable). Between 1970 and 2000, tobacco cultivation nearly tripled, yet tobacco was not a key contributor to the Malaysian economy. In 2005, the Malaysian government developed kenaf as an alternative crop through an industrial plan, although Kenaf was first introduced in 2000. In 2010, the former tobacco board was converted and establish as the National Kenaf and Tobacco Board (NKTB). In 2011, the Malaysian government included kenaf in their 2011-2020 national commodity policy. This was partly in anticipation of the ASEAN Free Trade Area (AFTA) agreement, which was fully implemented in 2010. Following AFTA, imported tobacco leaves from Thailand, Indonesia, Vietnam and the Philippines became much cheaper than locally produced leaves, and growing tobacco was no longer a viable option for farmers. In 2013, a master plan was prepared for the development of the kenaf industry in Malaysia. By 2020, kenaf became a commodity crop (UN Tobacco Control, 2012).

Kenaf is a fibre plant which is mostly used to produce eco-friendly materials like paper, furniture, biofuel and textile. This plant takes only four to five months to harvest. One good thing about kenaf cultivation is that it does not require as much chemicals and fertilizer compared to tobacco cultivation (Yusuf et al., 2019). However, kenaf also involves similar risks as those of most mono crops (The Asean Post, 2019). Nevertheless, kenaf cultivation has certain positive impacts on farming communities. There is a growing global demand for natural fibers such as kenaf, with demand increased at 10 to 15 per cent annually. After first being introduced in 2010 as an alternative to tobacco, kenaf today is the Malaysia's third industrial crop after palm oil and rubber. Realizing its potential, the National Kenaf and Tobacco Board of Malaysia has allocated 2,000 hectares for smallholders to cultivate kenaf as the global market for Kenaf is expected to reach US$854 million by 2025. (The Asean Post, 2019).

From Table 3.3.1 is quite clear that cultivation of the alternative crop kenaf has been increased significantly over the years, due to increases in the number of producers and amount of land cultivated for this crop. For example, in 2004, there was only a single grower who cultivated only 0.4 hectare of land. However, in 2011 the total number of growers increased to 687 who altogether cultivated 1140 hectares of land for the kenaf cultivation in different states of Malaysia. On the other hand, the total number of tobacco leaf producers and their total amount of land used for the cultivation have been decreased significantly over the years. For example, in the year 2000, a total of 23020 growers managed to cultivate 15764 hectares of land for growing tobacco in Malaysia. However, the total number of growers has significantly reduced to only 3024, who altogether managed to cultivate only 4242 hectors of land for tobacco growing. (Note: There is no available data regarding comparative analyses of input costs, labour costs, health costs, and environmental costs between tobacco and alternative crop production in Malaysia)

Table 17 (3.3.1): Progress of kenaf cultivation and decrease of tobacco farming in Malaysia, 2004-2012

Year	Avg. land	No. of kenaf farmers	Year	Avg. land	No. of tobacco growers
2004	0.4 ha.	1	2000	15764 ha.	23020
2005	42 ha.	25	2005	8,520 ha.	11431
2006	112 ha.	13	2006	--	--
2007	285 ha.	92	2007	--	--
2008	464 ha.	167	2008	--	--
2009	343 ha.	50	2009	--	--
2010	1,693 ha	409	2010	3,698	3,377
2011	1,140 ha	687	2011	4,242	3,024

2012 (Oct. 12)	870.1 ha	604	2012 (Oct. 12)	2,354	2,428

Source: UN TOBACCO CONTROL (2013)

3.4. Exports and imports by type of products and volume/value

Tobacco trade is one of the big businesses that involves in both the import and export of unmanufactured (tobacco leaf) and finished products like cigarettes. According to a report by WHO (2013), the trade value of total exports of cigarettes (manufactured) in Malaysia was USD 141.469 million in 2000. In 2005, the total value increased to USD 162.287 million, further rising in 2012 to USD 220.334 million. In addition, in the case of tobacco leaf export, Malaysia earned USD 2.091 million in 2000 and in 2005, USD 1.524 million. In 2010, the total tobacco leaf export value was USD 18.764 million. However, in 2012, the value of tobacco leaf has increased significantly and ended the year earning USD 71.361 million WHO (2013).

The Malaysian tobacco industry has also imported manufactured and unmanufactured tobacco. For example, the total value of unmanufactured tobacco increased from USD 96.063 million in 2000 to USD 353.825 million in 2012. While the total value of manufactured cigarettes imported was USD 23.137 million in 2000, later the import value of cigarettes also further increased to USD 115.281 million in 2005. Furthermore, the value of cigarette imports declined to 84.584 million in 2010. However, in 2012 the total import value increased again to USD 115.077 million. Hence, it is noticeable in the data presented by the WHO (2013) that the total value of imports of manufactured and unmanufactured tobacco has increased over the years.

Table 3.4.1 presents the export and import trade flow of unmanufactured and manufactured tobacco products in Malaysia in 2005 and 2012. It is apparent from this table that both the import and export volume of tobacco leaf and finished cigarette have increased in 2012 compared to the year 2005, except for the total volume of imports of manufactured cigarettes in 2012.

Table 18 (3.4.1): Trade flow of cigarettes and unmanufactured tobacco products in Malaysia, 2007 and 2011

Trade flow	Commodity	Trade Value (USD)	
		2005	**2012**
Export (mil.)	Unmanufactured	1.524	71.361
	Manufactured	162.287	220.334
Import (mil.)	Unmanufactured	94.475	353.825
	Manufactured	115.281	115.077

Source: WHO (2013)

3.5. Illicit trade

The illegal cigarette market share in Malaysia is one of the biggest of all the world's top 100 tobacco markets (BATM, 2019). The size of the illegal trade market is even bigger than the legal cigarette market share in Malaysia. Out of every ten cigarette packets sold, six are smuggled. The price difference between legal and illegal cigarettes is very large. For example, the price of a legal cigarette packet is USD 4, whereas the price of

an illegal cigarette packet is only USD 0.7, which has influenced many consumers to use contrabanded cigarettes in Malaysia (BATM, 2019).

Illicit trade in cigarettes has increased sharply. According to BAT Malaysia, the total share of illicit cigarettes was 36.9% in 2015 but soared to 63.2% in 2019 (BATM, 2020). Such illicit trade consists of smuggled kreteks, smuggled white cigarettes and products with fake tax stamps. According to recording of illicit trade of cigarettes in fourteen states, 45.2% of smuggling involved white cigarettes, 11.2% involved smuggling kreteks, and only 7.4% involved fake tax stamping (BATM, 2019). It is estimated that 598 million packets (of 20 cigarettes in each pack) were illegal in 2018, smuggled from neighboring ASEAN countries like Vietnam, Indonesia and the Philippines. Large price differential was the main reason (BATM, 2019) For example, the price of cigarette in Vietnam was USD 1.70 in 2014, in Indonesia it was USD 1.40 in 2014 and USD 1.0 in the Philippines in 2013, while the price was USD 3.30 in Malaysia in 2014.

The illicit trade of cigarettes has an adverse impact on tax revenues for the government of Malaysia. According to BAT Malaysia (2019), a total of RM 4.8 billion in taxes has been evaded by the illicit trade in cigarettes in 2018. However, the total estimated revenues lost since the 2015 excise duty increase was RM 13.5. The implication is not just limited to the loss of government excise tax. Rather the impact of illicit cigarette trading is far beyond. It reflects the weak rule of law and governance and badly impacts Malaysia's global standing as a major attraction for international investment Since 2015, total cigarette consumption (both legal and illicit) has increased by seven percent. Yet legal sales of cigarettes have dropped by nearly a third (BAT, 2019).

From the producers' perspectives, the two big global producers of cigarettes in Malaysia – BAT Malaysia and Japan Tobacco International – have announced plans to shut down their Malaysian cigarette factories in 2016, blaming the surge in illicit trade. Subsequently both cigarette producers decided to import cigarettes into Malaysia rather than manufacture finished cigarettes. The decision to shut down factories and concentrate more on imports has had huge economic implications for Malaysia in the form of job losses, unemployment and revenue generation.

4. Health consequences of tobacco use

Tobacco use is associated with many diseases in Malaysia. This section discusses the nature of available data and the evidence gap on the health burden of tobacco use and its impact on health care costs in Malaysia.

4.1. Overview of health burden

The overall burden of tobacco consumption takes two forms. Tobacco consumption causes immense health related casualties with deadly diseases that ultimately become the reason for mortality and morbidity of the smokers. It also causes one-third of the total years of life lost and one-fifth of the disability adjusted life years in Malaysia (GATS, 2011). However, half of the health burden is associated with the top cancers (like cancers of the trachea, bronchus and lung) among men. Direct impacts of tobacco consumption on health aside, there are also indirect health burden of tobacco consumption. In Malaysia, the tobacco attributable health costs incurred for treating tobacco-attributable diseases such as cancer of the lung, ischemic heart disease (IHD), and chronic obstructive pulmonary disease (COPD). Moreover, tobacco related health costs also include the costs of personnel, investigations, drugs, and procedures in specialist clinics, admission, and follow-up.

4.1.1. Prevalence of tobacco-attributable diseases

Smoking causes serious health related casualties in Malaysia. According to NHMS (2015), it accounted for 15% of hospitalizations and 35% of inpatient hospital deaths in Malaysia. Moreover, smoking kills 20,000 Malaysians every year. Prominent tobacco-attributable diseases in Malaysia include respiratory illness, tuberculosis, oncological disease, breast cancer, oral and other forms of cancer, cardiovascular disease and diabetes, hypertension, endocrine, psychiatric and gastroenterological disorders, and more. School children are often exposed to secondhand smoking by parents or elders at home, increasing their health risks, and they often develop cough, nasal and throat problems, wheezing and asthma. According to one study, in 2003, an estimated one-fifth of disability adjusted life years (DALYs) and one-third of years of life lost (YLL) for Malaysians were due to smoking-related diseases (NHMS, 2015).

Beyond health burdens, smoking also causes a major amount of spending to treat tobacco-related chronic diseases such as chronic obstructive pulmonary disease, ischemic heart disease, lung cancer and others. According to Kan and Chan (2016), tobacco-attributable diseases such as cancers of the trachea, bronchus, and lung are the most common cancers among males, and accounted for 24.6% of all cancer morbidity among males in 2014. Among females, while lung cancer is the second most common cancer leading to death after breast cancer (estimates based on an age-standardized incidence of 7.6% in 2006), (Kan and Chan, 2016; Omar et al., 2006) it is not known whether this is owing to smoking. Moreover, as discussed in section 3.2.6, 85.8% of Malaysians believe that tobacco consumption is responsible for many serious illnesses.

4.1.2. Mortality and morbidity

It is an established fact that smoking causes harm to health and treasure. According to the Tobacco Atlas (2016), 27200 people die in Malaysia annually from tobacco-related diseases. Despite having such a high number of deaths in Malaysia, more than 44000 children aged 10 to 14 and 4.528 million adults aged 15 years and over smoke every day. Complacency in the face of the tobacco epidemic insulates the tobacco industry in

Malaysia and ensures that tobacco's death toll will grow every year.

The Tobacco Atlas (2016) further reported that 38.8% of men aged 15 years and over consume tobacco products daily. Meanwhile, 3.06% of boys aged 10 to 14 years use tobacco products regularly. Interestingly, 23.06% of men died from tobacco-related diseases in Malaysia, but while these death rates are comparatively less than those on average in high-HDI countries, tobacco kills 403 men every week, which is a matter of concern for Malaysian health care departments. Among women and girls, 1.1% of the Malaysian women who are aged 15 years and over consume tobacco products in Malaysia. Although the percentage of women is smaller compared to other high HDI countries, there are still more than 127,100 women who smoke cigarettes each day, making it an ongoing and dire public health threat. In addition, 0.42% of the girls 10 to 14 years of age consume tobacco products every day. Among these female smokers, the percentage of tobacco-related deaths is 10.35% in Malaysia. While this percentage is smaller compared with other high HDI countries in the world, tobacco kills 119 women every week, necessitating action from policymakers.

4.2. Inequality in health burden

Tobacco consumption is the only legal item that is highly addictive and causes severe health issues such as respiratory illness, cancer and heart disease among its current users as well as those who are passively affected by smokers. Smoking-related health burdens are not equal across all ages and genders, and depend on the use and rate of prevalence of tobacco products. Moreover, ill health can also result from direct and indirect reasons for tobacco consumption. There can be inequality based on the residence status of smokers, and there is a large gender difference in the rates of prevalence (38.8% for males vs. 1.1% for females) among those aged 15 years and above. Death rates are also unequal by gender -- 23.06% among males and 10.35% among females (Tobacco Atlas, 2016). According to the WHO global report (2012) on mortality attributable to tobacco, there are 154 deaths attributable to tobacco among 100,000 people aged 30 years and over, representing 15% of all deaths. It is highly likely that the risk of premature death is higher among regular smokers, while the non-smokers tend to live into old age. Moreover, elderly people who smoke tend to have more health problems (WHO, 2017).

Smoking not only causes health casualties, but also causes people to incur major expenditures. A study conducted by SEATCA (2007) shows that in 2006, the total cost of treatment for diseases such as lung cancer, chronic pulmonary airway disease and ischemic heart disease was USD 790 million, which was almost equal to 16.5% of the total national health expenditure or 0.74% of the GDP of Malaysia. Although Malaysia has implemented many measures to control tobacco consumption in the country, such as banning advertisements and (quoting their guidelines) “sponsorship in sports, mandating the display of health warnings on cigarette packaging, banning of cigarettes sale to minors, banning of packages of cigarettes less than 12 sticks, as well as prohibition of tobacco-smoking in public areas and dining establishments,” the prevalence of smoking is not decreasing significantly, which is persistently increasing healthcare expenditures in the country. According to SEATCA (2007), from the patients’ perspective, treatment costs for tobacco-related diseases totaled USD 256.794 million, which was almost 32.47 % of the total health care cost in Malaysia in 2007. Table 4.2.1 shows required expenditures for the treatment of ischemic heart disease (IHD), lung cancer, and chronic obstructive pulmonary disease (COPD). Hospital fees were divided into ward charges, consultation fees, diagnostic tests, medications and procedures.

Table 19 (4.2.1): Household expenditures on tobacco-related illnesses (charges for present admission)

	IHD	CA Lung	COPD	Total
Number of Patients Exempted from Fees	25	17	23	65
Total Charges Collected (RM)	6,083	3,117.00	2,632.00	11,832.00
Minimum Charges (RM)	5.00	6.00	7.50	5.00
Maximum Charges (RM)	589.50	278.00	500.00	589.50
Mean Charges (RM)	110.60	69.27	71.14	87.64

Source: SEATCA (2007)

According to GATS (2011), "The annual cost per patient for each disease (borne by the patient) was RM 7,758 for lung cancer, RM 1,362 for IHD, and RM 12,757 for COPD. The annual cost to the provider per patient for each disease was RM 34,529 for lung cancer, RM 20,314 for IHD, and RM 19, 415 for COPD. The total cost (taking into account the number of patients) for each disease was RM 132.7 million for lung cancer, RM 544.5 million for IHD, and RM 2247.6 million for COPD to make a grand total of RM 2.92 billion. This amount is equivalent to 0.7% of the Malaysia's gross domestic product (GDP) and 26.1% of the MOH budget."

4.3. Health impact of HRPs

As tobacco products pose serious health risks, policy makers in Malaysia have been taking measures to cease tobacco consumption in Malaysia. However, tobacco companies are also aware of this fact, and are giving priority to working towards harm reduction products in Malaysia with less risky tobacco and nicotine-based alternatives. BAT Malaysia has promoted 'snus,' which is a type of less toxicant oral tobacco proven to be less harmful, however consumer demand for this product is relatively low globally. Nevertheless, e-cigarettes have received a great deal of popularity as harm reduction products. Often, regular smokers who are unable to stop smoking tobacco switch over to harm reduction products. Tobacco companies operating in Malaysia have been investing in research to develop harm reduction products in Malaysia. However, there is no published data on the health impacts of HRPs.

4.4. Health care services and costs

The first smoking clinic was launched by the National Cancer Society of Malaysia. In 2010, the Ministry of Health introduced 326 quit-smoking clinics and 32 hospital programs. These clinics also promote 'quit smoking' campaigns. The total treatment cost for the main three smoking-related diseases in Malaysia is estimated at RM 2.92 billion (USD 0.70 billion). Meanwhile, the national health expenditure was estimated at 4.5% of GDP by the Ministry of Health in their national health account study in 2004. Smoking-related health costs account for 16.49% of the national health expenditure of Malaysia, which is almost 0.74% of the national GDP. The burden of these three diseases falls mainly on providers, at 67.53% of total healthcare costs, while for patients total treatment costs are estimated at 32.47% of total health costs. The total health budget for the Ministry of Health was RM 7.556 billion, while costs for the three principal smoking-related diseases was

estimated at 26.14% of the total MoH budget.

Table 20 (4.4.1): Total treatment costs for three smoking-related diseases in Malaysia

	Mean (RM)	Min (RM)	Max (RM)
Total Treatment Costs (Patient) (bil.)	0.950	0.682	1.731
Total Treatment Cost (Providers) (bil.)	1.975	0.925	3.258
TOTAL treatment Costs (bil.)	2.925	1.607	4.989
Percentage of GDP	0.74 %	0.41 %	1.27 %
Percentage of National Health Expenditure	16.49 %	9.06 %	28.12 %
Percentage of MOH Budget	26.14 %	12.24 %	43.11 %

Source: SEATCA (2007)

4.5. Health insurance

There is no nationally representative data on health insurance coverage for diseases attributable to tobacco and HRPs. Moreover, there is no nationally representative data on the existing health insurance system and government subsidies considering cessation drugs.

5. Policy measures related to tobacco use, production and trade

5.1. Policy measures

In Malaysia, tobacco production and consumption is regulated under the Food Act of 1983 and the Control of Tobacco Products Regulation of 2004 (issued under the same Food Act of 1983). Malaysia became a party to the WHO Framework Convention on Tobacco Control (FCTC) on 15th December 2005. To implement these anti-tobacco policies, the Malaysian government has established the Tobacco Control Unit and FCTC Secretariat within the Ministry of Health (MoH). The Royal Malaysian Custom Department (RMCD) is the lead law enforcement agency against illicit cigarette smuggling in Malaysia. Prior to becoming a party to the WHO FCTC, Malaysia's anti-tobacco policies were guided by the gazette of Malaysia's Control of Tobacco Product Regulation (CTPR), which was prepared in 1993 and subsequently, revised in 2004. CTPR has become a milestone for preventing smoking initiation among young people and protecting the general population from the adverse impact of second-hand smoke. Malaysia has also adopted WHO's MPOWER strategy in the Malaysian National Strategic Plan. After becoming an active party to the WHO FCTC, Malaysia has taken a series of measures to implement anti-tobacco policies in Malaysia. These adopted policy frameworks are presented in the following Table 5.1.1.

Table 21 (5.1.1): Tobacco control policies in Malaysia, 2001-2018

Year	Policy	Policy Type
2001	Launching of the quit smoking clinic under the Malaysian Ministry of Health	Anti-tobacco
2004 (February)	'Tak Nak Merokok' was launched by the prime minister	Anti-tobacco
2004 (September)	-CTPR 1993 revoked and CTPR 2004 gazetted -Smoke-free public places policy include air-conditioned shops, government premises, places of public assembly, educational institutions, nurseries, school buses, floor with service counters, shopping complexes, petrol stations, religious institutions, libraries and internet cafes. Partial ban declared for public transport terminals, airports, stadiums, sports complexes, and fitness centres or gymnasiums. -Prohibition of smoking for any person below 18 years old, selling loose cigarettes, vending machine for cigarettes, giving out free samples or as gifts, and all forms of tobacco advertising, promotions or sponsorship. -Tobacco packaging and labelling - requirement for a combined picture and text health warnings occupying 50% of front and 60% of back of the package. A cigarette pack should not contain < 20 cigarettes per pack.	Anti-tobacco and Non-tax
2005 (September)	Malaysia ratified the WHO Framework Convention on Tobacco Control (FCTC).	Other
2008 (September)	-CTRP (2008) was amended -Introduce new and larger health warnings containing graphic images. -Ban on tobacco product packaging misleading terms suggesting one brand is less harmful than another. -Maximum allowable level for nicotine is 1.5 mg per cigarette, tar 20 mg per cigarette -Smoke free areas included all previously mentioned places with the addition of national service training centers.	Anti-tobacco and non-tax related

2010 (January)	CTPR 2009 amended -Prohibition of selling cigarettes below minimum cigarette price. Minimum cigarette price is RM6.40 for a packet of 20 cigarettes. Prohibition of selling tobacco products below retail selling price or giving promotion. -Tightening rules on tobacco advertising, promotion and sponsorship.	Tax related And non-tax related.
2010 (July)	CTPR 2010 amendment -Prohibition of smoking in air-conditioned workplace	Non-tax related
2011 (March)	CTPR 2011 amendment -Manufacturer or importer must increase retail selling prices to a rate of at least similar to retail selling price prior to an increment and then add increased total excise duty and sales tax.	Tax related
2011 (June)	-Declaration of non-smoking areas -Include World Heritage Melaka City as a non-smoking area	Non-tax related
2012 (February)	CTPR 2012 amendment -Ministry may prohibit smoking in buildings, premises or places.	Anti-smoking/ non-tax related
2012 (October)	-Declaration of non-smoking areas 2012 -To include more places in Johor and Penang as non-smoking areas	Anti-smoking/ non-tax related
2013 (June)	CTPR 2013 amendment -Declaring minimum price of RM7 for a pack of 20 cigarettes -Prohibiting the promotion of any tobacco products, the use of any words such as 'light', 'ultra-light', etc. giving the impression that cigarettes are less harmful. Printing the text set and health warning images. Declaring maximum allowable level for nicotine as 1mg/cigarette, tar 10mg/cigarette and carbon monoxide 10mg/cigarette.	
2014 (June)	-Declaration of non-smoking areas 2014 To include recreational park and taman negara in Johor	Non-tax related
2014 (November)	CTPR 2014 (Amendment) -To include any building, playground or garden in R&R provided by the Malaysian Highway Authority, Department of Public Works, and local authorities as a non-smoking area	Non-tax related
2015 (July)	CTPR 2015 amendment -Prohibiting the sale of tobacco products via internet or displaying a clear price label approved by the director for each packet of cigarettes and cartoon. -Declaration of non-smoking area to include Georgetown World Heritage site.	Anti-smoking/ Non-tax
2015 (August)	CTPR 2015 amendment -Minimum price RM9 for pack of 20 for any type of cigarettes.	Anti-smoking /Tax-related
2015 (November)	Launching of program M Quite service.	Anti-smoking/ non-tax
2016 (August)	CTPR 2015 amendment -Minimum price of RM10 for pack of 20 cigarettes	Tax-related
2017 (February)	CTPR 2017 (Amendment) -Expanding the number of outdoor public places where smoking is prohibited	Anti-smoking/ non-tax
2018	CTPR 2018 (Amendment) The Control of Tobacco Product (Amendment) Regulations 2018 contain amendments prohibiting smoking in any eating place or air-conditioned shop.	Anti-smoking/ non-tax

Source: adapted from (Tobacco Control Laws) & Juni (2019)

Tobacco cultivation policy guidelines are also given by WHO FCTC for reducing the supply of tobacco raw product to ultimately reduce the prevalence of tobacco consumption. According to Article 17 of WHO FCTC,

member countries must promote alternatives for tobacco workers and growers to make them economically viable. Moreover, Article 18 further stresses that member countries should protect the environment and the health of people in respect to tobacco cultivation and manufacture within their countries. However, there is no data on tobacco control laws regarding cultivation.

5.2.1. Progress with implementation of policies

The degree of implementation and corresponding success rates of some anti-tobacco policies implemented by the government of Malaysia is discussed below.

i. Ban on Smoking in Public Places

Of the many anti-tobacco policies to reduce tobacco consumption, one is the ban on smoking in public places (locations specified in WHO FCTC Article 8). These include any area of a building or public place used for religious purposes, internet café, any area of a place of national service training, buildings of rest and recreation facilities, school buses, and specific places as non-smoking areas, pursuant to the authority granted to the Minister under Regulation 22 of the principal regulations.

CTRP has frequently included new places and imposed prohibitions on smoking openly from time to time over the years. In some cases, CTRP has imposed 100% smoke-free areas, while some places are left with partial restrictions. For example, according to tobacco control laws (2019) some places are imposed with 100% smoking restriction, while some facilities are kept with partial smoking restrictions. Places include all workplaces, private offices, shops, hotels/lodgings, some of the transport facilities, etc., while some places are not restricted at all, such as bars/pubs/ nightclubs, casinos, hotels/lodgings/guest rooms, etc.

The CPTR 2004 includes FCTC and MPOWER elements such as the prohibition of smoking in smoke free places (NHMS, 2015). Moreover, in 2014, the MoH has formulated a national strategic plan for tobacco control from 2015 to 2019. The main purpose of this policy is to make Malaysia a tobacco free country by instilling a smoke-free lifestyle among youth and empowering society against smoking habits, to provide complete protection from smoking in public places (NHMS, 2015).

According to GATS (2011), 83.5% of respondents in Malaysia want all public places to be 100% smoke free, because these respondents believe that many people are being affected by secondhand smoke due to smoking being allowed openly in the public places.

Table 22 (5.2.1.1): Places with complete and partial bans, and smoking not restricted

Places	100% Ban	Partial Restriction	Not Restricted
All workplaces		x	
Government facilities	x		
Private offices		X	
Hospitals	X		
Residential healthcare facilities - public areas	X		
Non-residential healthcare facilities	X		
Childcare facilities/preschools	X		

Primary and secondary schools	X		
Universities/vocational facilities	X		
Shops		X	
Cultural facilities	X		
Indoor stadium/arenas	X		
Restaurants	X		
Bars/pubs/nightclubs			x
Casinos			x
Hotels/lodging - public areas		x	
Hotels/lodgings - guest rooms			x
Prisons/detention facilities - public areas	X		
Trains, buses and other shared ground transportation	X		
Taxis	X		
Aircraft	X		
Watercraft	X		
Transport facilities		x	

Source: Tobacco Control Law (2019)

ii. Warning Labels and Advertisement

Showing health warning labels on cigarettes packets and bans on advertisements in direct and indirect media are potential measures to implement WHO's FCTC guidelines towards a tobacco-free Malaysia. According to the Tobacco Atlas (2016), there are a number of possible direct and indirect advertisement bans that can be best practices to achieve the reduction of tobacco consumption (Assunta & Chapman, 2004). The direct ban on advertising is for media such as national television and radio, international television and radio, local magazines and newspaper, international magazines and newspapers, billboard and outdoor advertising, advertising at the point of sale, and advertising on the internet. In addition, some of the indirect bans such as free distribution in mail or through other means, promotional discounts, appearances in television and/or films (especially tobacco brands), bans on the publicity of financial or other sponsorship or support by the tobacco industry of events, activities, individuals, etc. can be potential measures to achieve reduction of tobacco consumption.

Table 23 (5.2.1.2): Bans on tobacco advertising

	Banned	Some Restriction	Allowed	Uncertain
Domestic TV and radio	X			
Domestic newspapers and magazines	X			
Other domestic print media	X			
International TV and radio				X

International newspapers and magazines				X
Internet communications				X
Internet sales	X			
Outdoor advertising	X			
Point of sale advertising	X			
Point of sale product display			x	
Vending machines	X			
Conventional mail	X			
Telephone and cellular phone	X			
Brand marking	X			
Free distribution of tobacco products	X			
Promotional gifts in conjunction with product purchase	X			
Competitions associated with products	X			
Direct targeting of individuals	X			
Brand stretching	X			
Reverse brand stretching			X	
Toys resembling tobacco products			X	
Candy resembling tobacco products			X	
Retailer incentive programs	x			

Source: Tobacco Control Law (2019)

Advertising in direct media is forbidden. Advertising is only allowed for point of sale, reverse brand stretching, toys resembling tobacco products and candy resembling tobacco products. NHMS (2015) reported that overall, 29.6% respondents in Malaysia have noticed advertisements in stores, including 28.8% of males and 30.4% of female, among whom (both male and female)29.7% are 15 to 24 years old and 29.5% are 25 years and older. Among these respondents, 29.6% reside in urban areas and 29.6% live in rural areas. Overall, 1.6% of the respondents have noticed advertisements with free samples in last 30 days. 0.5% have noticed advertisements with free gifts, 3.6% have noticed advertisements with clothing with brand name logos, and 0.5% of the overall respondents has received mails that promote cigarettes in Malaysia.

Health warnings are another measure to control tobacco consumption and implement anti-smoking policies. These health warning is indicated via pictures, text warnings or messages on combustible and smokeless tobacco product packages. These tobacco products must carry health warnings according to WHO's FCTC guidelines, including specific types of warnings on the front and back of packages, covering display areas, rotation and the number of messages. Moreover, there should be warning contents on health impacts, advice on cessation, the addictive nature of tobacco, adverse economic and social impacts, the impact of tobacco use on friends and family, and a quit line phone number.

Table 5.2.1.3 contains the Article 11 Guidelines provided by the FCTC regarding health warnings on packages. It also illustrates which of these guidelines were met (until 2011).

Table 24 (5.2.1.3): FCTC Guidelines on health warnings on tobacco packages and their implementation in Malaysia

Smoked Tobacco Products	Present Status of FCTC Article 11	Smokeless Tobacco Products	Present Status of FCTC Article 11
Type of Warnings	Pictures (Photos), Text Warnings/Messages	Type of Warnings	Not Required
On front and back of packages	Yes	On front and back of packages	N/A
% of principal display areas covered	55	% of principal display areas covered	0
Rotation required?	Yes	Rotation required?	No
Number of messages	6	Number of messages	0

Source: Tobacco Control Laws (2019)

The National Health and Morbidity Survey of 2015 has identified the demographic characteristics of respondents who have noticed health warning on cigarette packages in the last 30 days. For instance, an overall 86.0% of the respondents, including 86.0% of males and 84.9% of females, have come across health warnings on cigarette packages. Among overall respondents, 59.5% have thought about quitting due to these warnings on packages of cigarettes. From Table 5.2.1.3, it is clear that there are no guidelines for warnings on smokeless tobacco. Hence, it is important to align with FCTC Article 11 and the FCTC Article 11 Guidelines, and laws should require health warnings on all tobacco products, including smokeless tobacco products.

iii. Taxation

Taxation policy has been revised from time to time to control tobacco consumption in Malaysia. In 2015, Malaysia's tobacco tax policy was revised and tobacco excise duties were increased up to 42.5%. These percentages of tax imposition on tobacco products have augmented the price of the cigarettes in Malaysia (World Bank Group, 2019). Moreover, the introduction of the Goods and Services Tax (GST) has further hiked the price of cigarettes in Malaysia. All tobacco products are subject to excise tax and import duties. Previously, tobacco taxes were imposed regarding the weight of the products. However, from 2004 onwards, all duties and taxes on cigarettes have been imposed based on the number of sticks rather than on weight. Table 5.2.1.4 shows the tax rate and retail price of cigarettes from 2000 to 2015. In 2005, imported cigarettes from non-ASEAN countries were subjected to an import tax of RM 0.20 per stick (World Bank, 2016) whereas those from ASEAN countries were taxed at RM 0.10 per stick. According to SEATCA (2008), in July 2007 the government increased cigarette excise duties by 25%, from 12 sen (US$0.03) to 15 sen (US$0.04) per stick. This caused the price of premium brands to increase to RM8.20 (US$2.38) from RM7.40 (US$2.15).

Table 25 (5.2.1.4): Retail prices and tax rates of cigarettes over the years

Year	Specific Excise duty (RM/Kg or RM/Stick)	Sales Tax (%)	AD Valorem (%)	Price of Cigarette (RM)
2000	40.0/Kg	15	--	--
2001	40.0/Kg	25	--	--
2002	48.0/Kg	25	--	5.0

2003	58.0 /kg	25	--	--
2004	0.081 /stick	25	--	--
2005	0.22 /stick	5	20	--
2006	0.12 /stick	5	20	7.40
2007	0.15 /stick	5	20	8.20
2008	0.17 /stick	5	20	--
2009	0.18 /stick	5	20	--
2010	0.21 /stick	5	20	10.00
2011	0.21 /stick	5	20	10.10
2012	0.21 /stick	5	20	--
2013	0.26 /stick	5	20	12.50
2014	0.28 /stick	5	20	13.50
2015	0.40 /stick	6	0	17.50

Source: World Bank (2016); SEATCA, 2015; BAT, Malaysia, 2019

In South East Asia, only four countries -- Brunei Darussalam, the Philippines, Malaysia and Singapore -- impose tax on all tobacco products (cigarettes, cigars, pipes and other tobacco products) in a comparable manner, reducing the price difference between various types of tobacco products (SEATCA, 2019). According to WHO (2018), Malaysia imposes a total tax of 58.6% of the retail price of tobacco products. This total tax includes 47.1% of specific excise, 5.7% of value added tax (VAT) or sales tax and 5.9% of import duty. Hence, there is no different tax rate imposition on smokeless tobacco products in Malaysia (ref TBA).

iv. Impact of taxation

Taxation policy is one of the potential measures to control tobacco consumption in Malaysia; gradual increases in the tax rate have forced increases in the price of the cigarettes. Branded cigarettes in Malaysia are priced between RM 17 to 18 (BATM, 2019). High taxes on cigarettes have reduced legal turnover of cigarettes in Malaysia significantly, causing the shutdown of two cigarette factories. BAT Malaysia has witnessed another year of declining revenue (BATM, 2020). The total industry has contracted by 10% against the same period last year. At the same time, illegal trade of cigarettes has reached a record high -- 63% in 2020 -- almost double in size compared with figures from five years ago. This exorbitant rise in illegal cigarettes has been attributed to higher relative retail prices of cigarettes in Malaysia. Further increases in the price of cigarette may decrease annual per capita consumption and cigarette tax revenue, and may decrease the number of smokers and the number of smoking-attributable deaths (Ho et al., 2018) . The rise of illicit trade in Malaysia may change such predictions in the long run.

Ho et al. (2018) have conducted a simulation analysis on the effects of cigarette prices on tobacco consumption, tax revenue, and smoking-related deaths. Their results are presented in Table 5.2.1.5, noting “To determine the effects of tax-induced cigarette price increases on cigarette consumption, cigarette prices and consumption levels of 2015 were set as the baseline for this study. The maximum and mean annual

increments in cigarette prices during 1999–2015 were used to simulate changes in future cigarette consumption based on price elasticity estimated in this study. In both scenarios, increases in cigarette prices (mean and maximum) reduced cigarette consumption the most in Malaysia (price mean and max: 7.68% and 17.04%; consumption mean and max: 10.01% and 22.22%)." The simulation table demonstrates that consumption would be reduced significantly in Malaysia due to higher excise tax policies. Moreover, excise taxation would not only reduce cigarette consumption, but would also lead to additional tax revenues, which could be utilized to enforce existing anti-smoking policies as well as to finance future policy instruments (Ho et al., 2018).

Table 26 (5.2.1.5): Raising cigarette excise tax to reduce consumption in Malaysia: a simulation of the anticipated health and taxation revenue income

Simulation attributes	Maximum	Minimum
Annual increase in real retail cigarette price	17.04	7.68
Annual decrease in per capita consumption	-22.22	-10.01
Annual increase in cigarette tax revenue	3.97	3.64
Reduction of number of smokers due to cigarette price increase	-1,152,312	-519,352
Smoking-attributable Deaths (SADs)	-357, 217	-160,999

Source: Li-Ming Ho et al. (2018);
Note: Reduction in SADs = Reduction in no. of smokers multiplied by the corresponding mortality adjustment factor

v. Problems of taxation system

Previously, no ad valorem tax was imposed on tobacco products, and according to the World Bank (2016), only 15% in sales taxes were levied until the year 2000. Later, in 2001, the sales tax was increased to 25% on tobacco products. This sales tax of 25% was imposed as a flat rate until 2004. In 2005, sales taxes were reduced to only 5% and a 20% ad valorem tax was introduced. The main problem with the ad valorem method was that it gives the industry an option to control tax levels by keeping prices low (Smith, Savell, & Gilmore, 2013). Hence, cigarette prices were relatively lower until 2014. More recently, excise duty on the retail tobacco price has been augmented up to 58.6%, which has made the price of cigarettes exorbitant in Malaysia (Li-Ming Ho et al., 2018). Such a hike in the retail cigarette tax has made it difficult for medium and lower income people in Malaysia to buy locally-produced cigarettes. In the meantime, illicit cigarette trading has reached a peak in Malaysia, making the country the highest illegal cigarette trade market across the globe. Although excise taxes are higher in Malaysia, the government is deprived of earning tax revenue due to illicit trading of cigarettes in Malaysia.

vi. Tax Revenues

According to WHO global tobacco report, tobacco taxation revenues (cigarettes only) collected by the Malaysian government was RM 9.31 billion (USD 2.27 billion) in 2015. According to SEATCA (2013), the tax revenue earned from tobacco products in Malaysia is shown in the following Table 5.2.1.6. This table shows that revenues earned from tobacco taxes have increased from 2005 to 2011. The total tobacco tax revenue

earned in Malaysia includes the excise rate, VAT/ GST, import tariffs, etc. Tax revenues are based on domestic production and imported products, and exported cigarettes and raw tobacco leaves are not taxed. Import duties are relatively high, though consistent with AFTA, where import duties lie between 0% to 5% among the ASEAN countries.

Table 27 (5.2.1.6): Tobacco tax revenue in Malaysia

Year	Tax Revenue (USD) (billion)
2005	0.893
2006	0.857
2007	0.964
2008	1.072
2009	1.107
2010	--
2011	1.646

Source: SEATCA (2013)

vii. Smoking help centers/call centers/cessation services

In Malaysia tobacco prevalence has stagnated to around 24% for nearly a decade (FCTC, 2019). Most smokers in Malaysia are in the 25-50 age group, who intend to stop smoking but often do not seek help due to a lack of awareness about available services. However, in 2015, the MoH has adopted a new cessation policy at its national strategic plan on tobacco control for 2015-2020. This national strategic plan included policies that help prevent youth initiation and promote adult smoking cessation. The implementation of this national strategy was facilitated by the use of media, engagement with oral health programs for smoking intervention in schools, mobilizing community pharmacies for cessation, and getting employer commitment for workplace interventions (FCTC, 2019). As for media coverage, Malaysia has developed a dedicated website to motivate current smokers to quit, providing detailed information about health benefits, alternative ways to quit, and successful motivational case stories (Jomquit, 2020). Malaysia has also developed mQuit from the Ministry of Health, comprising government agencies and their partners in academia, professional associations and pharmaceutical companies.

The MoH in Malaysia also collaborates with NGOs and uses social media for promoting quitting services, for example, mQuit Universiti Sains Malaysia (USM), Tobacco Quitline – Perkhidmatan Berhenti Merokok, Malaysian Green Lung Association, Medical Mythbusters Malaysia, Public Health Malaysia, Selbar, and Tak Nak Merokok. Under the school-based smoking screening in the oral health programme, the school health programme engaged dental doctors and nurses for screening school children aged 7 to 17 from 7853 primary and 2561 secondary school in 2016. This programme has been continued every year in all schools. Those students with smoking habits are provided with a non-pharmacological cessation intervention, involving up to three counselling sessions and screening over the following year as a cohort.

For adult smoking cessation services, the government offered services at clinics, and later the MoH trained community pharmacies in smoking cessation services so that they can deliver a structured intervention for

quitting smoking. In this regard, mQuit services were expanded to 88 private mQuit providers across community pharmacies, medical institutions and private hospitals. There are 160 private health care providers and 764 government health clinics and hospitals that have become mQuit providers (Hassan et al., 2018). Table 5.2.1.7 demonstrates alternative support for treatment of tobacco dependence in Malaysia.

Table 28 (5.2.1.7): Alternative support for treatment of tobacco dependence in Malaysia

Is there any national toll-free hot line for tobacco treatment		**No**
Nicotine Replacement Therapy	Where is it available?	Pharmacy
	Is it covered by cost?	Fully covered
	Is it included in the essential medical list?	Yes
Smoking cessation support	Is there any pharmacy care available in Malaysia	Yes, in some
	Are these pharmacies covered by costs?	Yes fully
	Is there any hospital available for tobacco treatment?	Yes, in some
	Are these hospitals covered by costs?	Yes fully
	Is there any office available for the health professionals?	Yes, in some
	Are these offices covered by costs?	Yes fully
	Is there any community available for tobacco treatment?	Yes, in some
	Are these communities covered by costs?	No
	Is there any other setting available	No
	Are these covered by costs	N/A

Source: WHO (2019)

viii. All Indicators of MPOWER and Compliance

Malaysia has adopted all six measures of MPOWER and are implementing these to reduce tobacco consumption and heath burden. According to WHO (2019), more than 70% of Malaysian smokers want to quit smoking. In adopting MPOWER, Malaysia has been listed among the best practicing countries ensuring the highest level of achievement in regard to maintaining the prevalence of tobacco use as well as health warning levels. Table 5.2.1.8 summarizes the present status of Malaysia in implementing all of the measures of MPOWER. Cigarettes in Malaysia are now less affordable versus 2008, and per capita GDP needed to buy 2000 cigarettes of the most sold brand increased on average between 2008 and 2018 (World Health Organization, 2019).

Table 29 (5.2.1.8): All indicators of MPOWER and Malaysia's compliance

Measures	**Achievement/ Status**
Adult Smoking prevalence	18%
M = Monitor	Best achiever as per the recent representative and periodic data for both adults and youth
P = Smokeless Policies	Complete absence of bans or up to two public places completely smoke free.
O = Cessation programmes	NRT and/ or some cessation services (at least one of which is cost covered)

W = Warning	A large health warning has been put in place with all appropriate characteristics. And for mass media, tobacco data is not reported.
E = Advertising bans	Tobacco promotion is banned on national television, radio and print media as well as some – but not all – other forms of direct or indirect advertising.
R = Taxation	Malaysia's tax imposition on tobacco retail price is 58.6%, which is between 50 to 75% of the standard tax ceiling of FCTC.

Source: WHO (2019)

5.2.2. Legal, political, and economic concerns and reasons behind less-than-full implementation of policies

Tobacco consumption has a long history in Malaysia. BAT Malaysia has been operating in Malaysia for more than 100 years. Cigarettes are the only legal product that causes a huge health burden. Following the FCTC, WHO came up with a new approach in 2008 to effectively implement anti-tobacco commitments through maintaining six measures called MPOWER for all its member countries. Malaysia has been taking measures to implement the guidelines of FCTC to reduce tobacco consumption in a praiseworthy manner, to contain prevalence to within 24% in a decade. However, actions and recommended measures are falling short due to the illegal trading of cigarettes in Malaysia. Every year, illicit trading of cigarettes is increasing sharply. According to BAT Malaysia (2020), the percentage of illicit trade has increased to 63% in December 2019. In the last five years, illicit trade has almost doubled. Such a hike in illicit trade has been attributed for higher imposition of excise duty of 58.6% (WHO, 2019).

Higher prices for branded cigarettes have forced middle- and lower-income tobacco consumers to resort to illegal cigarettes. Although the legal sales of tobacco have witnessed a 10% decline (BATM, 2020), the prevalence of cigarette consumption has not declined significantly. Consequently, the government has been deprived of tax revenue earnings despite an exorbitantly high tax on legal cigarettes. Malaysia has the highest illegal cigarette incidence in the world, with loses of almost RM100 million every week to criminal smugglers and sellers (BATM, 2020). Furthermore, six out of 10 cigarettes consumed in the country deliver no tax to the Malaysian Government , equal to 12 billion illegal cigarettes being smoked every year and RM5.1 billion in lost taxes (Ref. TBA). Hence, all of the measures being taken to reduce smoking are being undermined owing to illicit cigarette trade.

6. Conclusion

This chapter has reviewed the available data and evidence on tobacco in Malaysia. On the demand side, the main data sources are: NHMS (2006), (2015); GYTS (2003); GATS (2011); NECS (2016); SEATCA (2015); World Bank (2015); BATM (2019), (2020); Scholarly Article. On the supply side, the main data sources are: Tobacco Atlas (2016); DOSM (2007); SEATCA (2013); National Kenaf and Tobacco Board (2020); UN Tobacco Control (2013); WHO (2013); BATM (2017); (2018); (2019); (2020); The Confederation of Malaysian Tobacco Manufacturer (2018). On the health consequences of tobacco consumption, main data sources are: GATS 2011; NHMS 2015; Academic studies. On policy measures related to tobacco use, production and trade in Malaysia, the main data sources are: NHMS (2015); GATS (2011); Tobacco Atlas (2016); Tobacco Control Law (2019); World bank (2016); SEATCA (2019), (2013); BATM (2019), (2020); FCTC (2019); WHO (2018), (2019). Below, we summarize the main findings and gaps.

In spite of the availability of such a range of surveys and data sets, there are a number of gaps. On the demand side, key data and evidence gaps are as follows. There is no data available at all on (i) perception of harmfulness between different tobacco products and (ii) prevalence of cigarette smoking and other tobacco use among health professionals and students. While year-wise data on prevalence (including e-cigarettes) are available, it is only from different sources (e.g. GATS and NHMS), affecting comparability over time.

On the supply side, key data and evidence gaps are as follows. No data available at all on (i) the composition of the tobacco industry in terms of number of establishments, gross output, employment and fixed assets; (ii) progress in alternative crop (Kenaf) cultivation and trends in tobacco farming in Malaysia; (iii) the social net benefit of tobacco cultivation; and (iv) exports and imports by type of products and volume/value. Data and estimates on the following are available but not reliable, usable or verifiable: cigarette production data in kg, but no data on the volume of cigarette production. The only estimate for 2018 from Tobacco Atlas (production of 417 million legitimate packs equivalent to 8.3 billion cigarettes) could not be verified against government sources.

On health consequences, key data and evidence gaps are as follows. No data available at all on (i) relative risk (RR) and population attributable risk (PAR) of tobacco-related diseases; (ii) population-level prevalence of tobacco-related illnesses; (iii) disability and deaths due to tobacco-related illnesses; (iv) health insurance coverage for tobacco; (v) HRP-related diseases (despite the popularity of e-cigarettes as an HRP); (vi) data on the existing health insurance system; and (vii) government subsidies involving cessation drugs. Data and estimates on the following are available but dated (at least 10 years old): (i) total costs of treatment for tobacco related diseases (e.g. the latest is for the year 2006); (ii) treatment costs of smoking-related diseases (e.g. latest is for the year 2007); (iii) household expenditures on tobacco-related illnesses (e.g. the latest is for the year 2011); and (iv) disability adjusted life years (DALYs) and years of life lost (YLL) due to smoking-related diseases (estimates for 2003).

On the policy side, key data and evidence gaps are as follows. No data available at all on (i) tobacco control laws relating to cultivation; (ii) tax rates by products; (iii) tax rates on SLT; (iv) indicators of MPOWER including compliance; (v) alternative support for treatment of tobacco dependence; and (vi) trends in retail prices and tax rates of cigarettes over the years. All available policy-related data are fairly recent (i.e. less than 10 years old).

Based on the available datasets and studies reviewed, below are the main findings.

Demand for tobacco

Smoking prevalence is 22.80% (figure for 2015) and did not see significant change over the years. Moreover, there are significant demographic differences in smoking prevalence. Although there is no rural-urban gap, the rate of prevalence is the highest (46.3%) among the 25-39 years of age group. By gender, it is also many times higher among men (32%) compared to women (1.0%).

While the overall demand pattern remains broadly stable over time, important changes occurred in tobacco product-specific demand. There has been significant switching by type in consumption that has occurred from premium-price legal cigarettes to low-cost cigarettes. This is, however, attributed to the sizable illicit trade in tobacco, given that low-cost cigarettes are mostly illegal. Another change in the demand pattern is the rise of e-cigarettes, which has gained huge popularity since its introduction in 2009. This usage has increased tenfold to 10.9 between 2011 and 2015.

More than 80% to 94% of Malaysian adults believe that smoking tobacco causes serious illness, stroke, heart diseases, lung cancer, throat cancer, oral cancer and many other diseases. Recognizing the harm caused by tobacco consumption, the government has set a timeline to reduce the rate of smoking prevalence to 15% by 2025. Consistent with this long-term target, there has been an increase in the attempted quitting rate: 52.3% of the current smokers have attempted to quit smoking in the 12 months in 2015, up from 48.6% in 2011. Most importantly, HRPs have been welcomed as part of the "quit smoking" movement. According to one estimate, nearly 20% of e-cigarette consumers have started using e-cigarettes to quit smoking. Quitting behaviour was also highest (71.6%) among e-cigarette users in 2016.

Supply of tobacco in Malaysia

The market for tobacco products is dominated by only a handful of companies, with BAT Malaysia alone holding more than a 60% market share. By cigarette brand, Dunhill is ranked number one, enjoying 36.4% of the market share in 2019.

In terms of trends in international trade data, Malaysia's import and export of tobacco remains steady. A total sum of 118,198,390 kg of cigarettes were imported from 2010 to 2019 in Malaysia which has total value of RM 7.34 billion. However, total production of cigarettes has decreased significantly from 2013 to 2019. Legal sales of cigarettes have also dropped by nearly a third. These opposing trends are partly reconciled by the presence of smuggled tobacco products. Consequently, the total cigarette consumption (both legal and illicit) has remained stable.

The drop in total production of cigarettes is consistent with a decline in direct employment over the last three years by BATM. This has coincided with AFTA as well as the introduction of kenaf as an alternative cash crop for tobacco farmers. By 2013, the total amounts of tobacco leaf production, employment size and cultivation area were reduced dramatically by more than 90%. At present, the overall size of tobacco farming is very small, accounting for less than 0.5% of total employment and farmland. Kenaf as a commodity crop provided an alternative livelihood to many former tobacco farmers.

However, the biggest challenge on the supply side is the thriving market for illegal cigarettes, which is one of the world's largest in terms of share in the domestic market. The price of a legal cigarette packet is USD 4, versus a price of only USD 0.7 for an illegal cigarette. Given the wide price margin, the total share of illicit

cigarettes soared to 63.2% in 2019, versus 36.9% in 2015. The fiscal cost of illegal trade is large: a total amount of RM 5.1 billion tax has been evaded by the illicit trade in cigarettes in 2018.

Health consequences of tobacco use in Malaysia

Evidence confirms the significant health consequences of tobacco consumption. One third of inpatient hospital deaths in Malaysia are owing to smoking-related diseases. Tobacco-attributable diseases like cancers of the trachea, bronchus, and lung are not only the most common forms of cancers among Malaysian men, they also account for one-fourth of cancer morbidity.

Moreover, the demographic distribution (by gender and age) of smoking-related health burdens is not equal. There is a significant gender disparity in death rates to the disadvantage of men (23.06% are male and 10.35% are female), which also reflects the gender gap in prevalence.

From the patients' perspective, the total cost of tobacco related treatment was almost 32.47% of total health care costs. Smoking-related health costs account for nearly one-fifth of national health expenditure and one fourth of the MoH budget, and is equivalent to 0.7% of the country's GDP.

Policy measures related to tobacco use, production and trade in Malaysia

After joining the WHO FCTC in 2005, Malaysia has adopted WHO's MPOWER strategy. To achieve a smoke-free lifestyle, CTRP has declared 100% smoke free areas in many public places. From January 1, 2019, all eateries have been declared smoke free in Malaysia. Public support for a smoke-free lifestyle remains strong.

Other policy measures to curb tobacco consumption include an advertisement ban on direct and indirect media and restricting point-of-sale advertisements, with provisions to include warning labels. For smoked tobacco, 55% of principal display of package areas is covered with six messages in Malaysia. However, there are no guidelines for warnings on smokeless tobacco.

On the production/sales side, all tobacco products are subject to excise tax and import duties. Malaysia imposes a total tax of 58.6% of the retail price of the tobacco products, of which specific excise tax accounts for 80%; cigarette export is not taxed.

Despite strong legal and fiscal measures to regulate production and consumption of tobacco, tobacco prevalence rate has remained stagnant at around 22% for nearly a decade. While total sales have declined by 10%, prevalence is stable and attributed to illicit trade, which has reached a record high of 63% in 2020. The presence of illegally traded cigarettes makes smoking affordable despite high taxes. This highlights large gaps in governance and tax administration. The fiscal cost is also large: tobacco revenues (cigarettes only) collected by the Malaysian government was RM 9.31 billion in 2015.

Beyond taxation, policy measures targeting smokers also include a number of demand-side measures. About three-fourth of all Malaysian smokers want to quit smoking. The government has a dedicated website to motivate current smokers to quit, providing detailed information about health benefits, alternative ways to quit and successful motivational case stories. Prominent government run smoking cessation/quitting scheme is mQuit. This involves a nationwide network of 160 private health care providers and 764 government health clinics and hospitals and is implemented under private-public partnership. Partners are varied and include members of the academia, professional associations and pharmaceutical companies.

References

Abd Rashid, R., Kanagasundram, S., Danaee, M., Abdul Majid, H., Sulaiman, A. H., Ahmad Zahari, M. M., ... & Su, T. T. (2019). The Prevalence of Smoking, Determinants and Chance of Psychological Problems among Smokers in an Urban Community Housing Project in Malaysia. International journal of environmental research and public health, 16(10), 1762.

Abidin, E. Z. (2016). Smoke-free legislation in Malaysia: a comprehensive review. Asia Pacific Environmental and Occupational Health Journal, 2(1).

Assunta, M. (1999, May). Tobacco and poverty. In Conference proceeding from the INGCAT International NGO Mobilization Meeting (pp. 15-16).

Assunta, M., & Chapman, S. (2004). A mire of highly subjective and ineffective voluntary guidelines: tobacco industry efforts to thwart tobacco control in Malaysia. Tobacco Control, 13(suppl 2), ii43-ii50.

Assunta, M., & Chapman, S. (2004). The tobacco industry's accounts of refining indirect tobacco advertising in Malaysia. Tobacco Control, 13(suppl 2), ii63-ii70.

Atikah, A. N., Wee, L. H., Zakiah, M. N., Chan, C. M. H., Haniki, N. M., Swinderjit, J. S., & Siau, C. S. (2019). Factors associated with different smoking statuses among Malaysian adolescent smokers: a cross-sectional study. BMC Public Health, 19(4), 579.

Barraclough, S., & Morrow, M. (2008). A grim contradiction: the practice and consequences of corporate social responsibility by British American Tobacco in Malaysia. Social science & medicine, 66(8), 1784-1796.

Barraclough, S., & Morrow, M. (2010). The political economy of tobacco and poverty alleviation in Southeast Asia: contradictions in the role of the state. Global health promotion, 17(1_suppl), 40-50

Bakar, I (2015), The Effectiveness of 'Tak Nak' Anti-smoking Campaign towards Young Adults (A Case Study in Bandar Sunway institution), The Macrotheme Review 4(8), Special Issue IV.

BATM (2019), 2018 A year of business stabilisation for BAT Malaysia despite challenging market environment. http://www.batmalaysia.com/group/sites/BAT_AP6D2L.nsf/vwPagesWebLive/DOBBCCP9?opendocument#:~:text=Volume%3A%20legal%20tobacco%20still%20declined,years%20of%20double%2Ddigit%20decline.

BATM (2019), Illicit Cigarettes Study (ICS) in Malaysia in 2019. http://www.batmalaysia.com/group/sites/bat_ap6d2l.nsf/vwPagesWebLive/DOALBJUB/$FILE/medMDBEUCK7.pdf?openelement

BATM (2019), The Annual Report 2019, Real Deal, www.batmalaysia.com

BATM (2019), The Economics of the Illicit Tobacco Trade in Malaysia, http://www.batmalaysia.com/group/sites/bat_ap6d2l.nsf/vwPagesWebLive/DOALBJUB/$FILE/medMDBD8BNZ.pdf?openelement

BATM (2020), Company Factsheet. Corporate Profile. http://www.batmalaysia.com/group/sites/BAT_AP6D2L.nsf/vwPagesWebLive/DOAP8FY5. Access date: 2020

Cheah, Y. K., Adzis, A. A., Bakar, J. A., & Applanaidu, S. D. (2019). FACTORS ASSOCIATED WITH DEMAND FOR TOBACCO ACROSS MALAYSIA REGIONS: PARTICIPATION AND LEVEL OF CONSUMPTION. International Journal of Business & Society, 20(3).

DOSM (2017), Annual Average Price of Graded Cured Tobacco Leaves (Malaysian Flue- Cured Tobacco). http://www.data.gov.my/data/en_US/dataset/malaysia-annual-average-price-of-graded-cured-tobacco-leaves-malaysian-flue-cured-tobacco

DOSM (2017), Malaysia: Number of Registered Tobacco Farmers by State. http://www.data.gov.my/data/en_US/dataset/malaysia-number-of-registered-tobacco-farmers-by-state

DOSM Website (2019), https://www.dosm.gov.my/v1/index.php.

Fallahi, M., NOR, N. M., & THINNG, W. B. K. (2015). The Impact of Human Development on Cigarettes Consumption in Malaysia. International Journal of Economics & Management, 9(2)

Firend, A. R. (2015). Government pricing policy and behavioral consumption of Tobacco. International Journal of Innovative Science Engineering, 2(10), 107.

GATS (2011), Global Tobacco Adult Survey, Malaysia. https://www.moh.gov.my/moh/images/gallery/Report/GATS_Malaysia.pdf

GYTS (2003), Malaysia (Ages 13-15) Global Youth Tobacco Survey (GYTS). http://ghdx.healthdata.org/record/malaysia-global-youth-tobacco-survey-2003

Ho, L. M., Schafferer, C., Lee, J. M., Yeh, C. Y., & Hsieh, C. J. (2018). Raising cigarette excise tax to reduce consumption in low-and middle-income countries of the Asia-Pacific region: a simulation of the anticipated health and taxation revenues impacts. BMC public health, 18(1), 1187.

Hock, L. K., Li, L. H., Huey, T. C., Yuvaneswary, V., Sayan, P., Yusoff, M. F. M., ... & Mohd, G. S. (2019). Support for smoke-free policy among Malaysian adults: findings from a population-based study. BMJ open, 9(2), e020304.

IKU (2020), Institute for Public Health, Ministry of Health, Malaysia. http://iku.gov.my/ Access date: 15.07.2020

Jomquit web site (2020), Ministry of Health, Malaysia. http://jomquit.moh.gov.my/

Juni, M. H., Rosliza, A. M., & Ying, L. P. (2019). The Role of Cigarette Policies In Reducing Cigarette Consumption and the Occurrences of Chronic Obstructive Pulmonary Disease and Lung Cancer In Malaysia. International Journal of Public Health and Clinical Sciences, 6(3), 161-171.

Kan Chan Siang, M. D., & John, C. K. M. (2016). A review of lung cancer research in Malaysia. Med J Malaysia, 71, 71.

Liber, A. C., Ross, H., Omar, M., & Chaloupka, F. J. (2015). The impact of the Malaysian minimum cigarette price law: findings from the ITC Malaysia Survey. Tobacco control, 24(Suppl 3), iii83-iii87.

Lim, K. H., Teh, C. H., Heng, P. P., Pan, S., Ling, M. Y., Yusoff, M. F. M., ... & Lim, H. L. (2018). Source of cigarettes among youth smokers in Malaysia: Findings from the tobacco and e-cigarette survey among Malaysian school adolescents (TECMA). Tobacco Induced Diseases, 16.

MOHAMED NOR, N. O. R. A. S. H. I. D. A. H., RAJA ABDULLAH, N. M., Rampal, L., & MOHD NOOR, Z. A. L. E. H. A. (2013). An Optimal Cigarette Tax in Malaysia. International Journal of Economics & Management, 7(2).

Morrow, M., & Barraclough, S. (2003). Tobacco control and gender in Southeast Asia. Part I: Malaysia and the Philippines. Health Promotion International, 18(3), 255-264.

NHMS (2015), National Health and Morbidity Survey, Malaysia. http://iku.gov.my/

NHMS (2019), National Health and Morbidity Survey, Malaysia. http://iku.gov.my/

NORDIN, R. B., ARAKI, S., Hajime, S. A. T. O., Yokoyama, K., MUDA, W. A. M. B. W., & Daw, W. I. N. (2001). Gender difference in safe and unsafe practice of pesticide handling in tobacco farmers of Malaysia. The Malaysian journal of medical sciences: MJMS, 8(1), 1

Nor, N. A. M., Ismail, N., Ibrahim, F., Razak, I. A., & Ab-Murat, N. (2018). Tobacco use and attitudes towards tobacco control activities of Malaysian dental students. Archives of Orofacial Science, 13(1).

Omar, Z. A., Ali, Z. M., & Tamin, N. S. I. (2006). Malaysian Cancer Statistics-Data and Figure, Peninsular Malaysia 2006. National cancer registry, ministry of health Malaysia.

PMI (2020), Malaysia. https://www.pmi.com/markets/malaysia/en/about-us/overview#:~:text=PMM%20is%20an%20affiliate%20of,L%26M%2C%20Chesterfield%20and%20Sampoerna%20A. Access date: 2020

Ross, H., & Al-Sadat, N. A. (2007). Demand analysis of tobacco consumption in Malaysia. Nicotine & tobacco research, 9(11), 1163-1169

SEATCA (2007), Health Care Cost of Smoking in Malaysia. https://seatca.org/dmdocuments/10_health_care_costs_of_smoking_in_malaysia.pdf

SEATCA (2013), Tobacco Farming in the Asian Region. https://seatca.org/dmdocuments/Media_Farming%20Regional%20Paper_final.pdf

SEATCA (2015), The Asian Tobacco Control Report, https://seatca.org/dmdocuments/ATCRC,May%202015.pdf

Smith, K.E, Savell, E., Gilmore, A.B. (2013). What is known about tobacco industry efforts to influence tobacco tax? A systematic review of empirical studies. Tobacco Control, 22, e1 Policies in Bangladesh: Evidence.

TECMA (2016), Tobacco and E-Cigarette Survey Among Malaysian Adolescents. http://www.iku.gov.my/images/IKU/Document/REPORT/TECMA2016/TabaccoandECigarette.pdf

The Asean Post (2019), Kenaf: Nature's little-known wonder. https://theaseanpost.com/article/kenaf-natures-little-known-wonder

TIID (2020), TI Market Share in Malaysia, Tobacco Industry Interference Database, sites.google.com/site/tobaccointerferencewiki/home/countries/malaysia/ti-market-share-in-malaysia

Tobacco Atlas (2016), Country Profile Malaysia, https://tobaccoatlas.org/country/malaysia/

Tobacco Control Laws (2020), Legislation by Country Malaysia. https://www.tobaccocontrollaws.org/legislation/country/malaysia/laws

UN Tobacco Control (2013), Kenaf as an Alternative Crop to Tobacco Growers in Malaysia. https://untobaccocontrol.org/impldb/wp-content/uploads/resources/LTS%20COP%205%20Malaysia.pdf

Unfairtobacco (2018), Alternatives to tobacco – a closer look, Kenaf in Malaysia, https://unfairtobacco.org/wp-content/uploads/2018/09/Kenaf-in-Malaysia_en_a4.pdf

World Bank Group (2019). Confronting Illicit Tobacco Trade: A Global Review of Country Experiences. Malaysia: Adressing the illicit flow of tobacco products. WBG Global Tobacco Control Program Washington, D.C.

World Health Organization. (2012). WHO global report on mortality attributable to tobacco.

WHO (2013), Tobacco Agriculture and Trade, Malaysia. https://www.who.int/tobacco/country-fact-sheets/mys.pdf?ua=1

World Health Organization. (2019). WHO report on the global tobacco epidemic, 2019: offer help to quit tobacco use. World Health Organization. https://apps.who.int/iris/handle/10665/326043.

World Bank (2015), Malaysia: Addressing the Illicit Flow of Tobacco Products. http://pubdocs.worldbank.org/en/584471548434954318/WBG-Tobacco-IllicitTrade-Malaysia.pdf

Yusof, N. A., Zin, F. M., Idris, N. S., & Mohammad, R. (2019). Alternative Tobacco Products Use among Late Adolescents in Kelantan, Malaysia. Korean journal of family medicine, 40(4), 2

[1] The value of USD is calculated as per the current exchange rate of 09.08.2020 (1 MYR = 0.238804 USD).

[2] https://www.who.int/news-room/detail/19-12-2019-who-launches-new-report-on-global-tobacco-use-trends