A BASELINE STUDY ON THE ILLICIT CIGARETTE MARKET

AND THE RESULTING TAX IMPLICATIONS FOR SRI LANKA

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FOREWORD

Cross-border trade has more than tripled over the last three decades following unprecedented global integration propelled by liberalization of merchandise trade, labour and capital flows worldwide. While the socio-economic benefits emerging from these reforms are evident, there have been growing concerns regarding the exponential growth of illicit trade globally in parallel with legitimate trade flows. Interconnectedness of trade, finance, communications and transport systems fostered by globalization and technological advancements have paved the way for smugglers to carry out illicit trade with ease. Smuggling involves a wide variety of goods, including spurious medicines, contaminated food, gold, electronic items, liquor, drugs, illegal arms, illicit cigarettes, antiques and wildlife trade. Such trade poses multi-dimensional challenges to governments.

It is essential to counter such illicit trade not only to eliminate adverse socioeconomic implications, but also to promote legitimate economic activity. Evidence-based research required to formulate the necessary policy regulations to mitigate illicit trade is rather limited in Sri Lanka and it is expected that this research study will fill this lacuna with regard to the illicit cigarette trade.

This research report is intended to provide independent observations on the prevalence and consequences of the illicit cigarette market in Sri Lanka. The scope of the study is confined to assessing the extent of the market share of illicit cigarettes in Sri Lanka and to estimate the tax revenue loss to the government on account of such trade.

The study is mainly based on observational methodology which relied on material evidence collected from statistically-unbiased field surveys. The additional information obtained through key interviews and consumer surveys carried out in this study is consistent with observational data. However, we have not attempted to establish the validity of the information gathered from these sources.

In preparing this report, we have not considered the interests or circumstances of any party who may have an interest in the matters discussed in this report, including those who are engaged in the tobacco industry, public health and fiscal revenue sectors.

We have primarily considered the need to advance academic discussion on the illicit cigarette market in Sri Lanka. It is our belief that this baseline study will lead to a more rigorous analysis and debate on the illicit cigarette trade in Sri Lanka and its impact on the economy, thereby facilitating evidence-based policy formulation to eliminate such trade.

The research team was assisted by R.K.H.S. Wimalasiri, R.S.L.B. Ranasinghe, D.W. Kannangara, C.C. Wimalachandra, G.D.D. Gunathilaka, G.D.K. Viduranga, M.W.P. Thilina and K.A.D.D. Ishara whose support during fieldwork was remarkable.

The team acknowledges the support given by The Ceylon Tobacco Company (CTC) in sharing actual sales data for analysis. The team wishes to thank the officers of the law enforcement agencies, particularly Sri Lanka Customs and Police, for providing us with valuable insights into the issue being studied. The team also wishes to thank Lal Medawattegedara for editing the report.

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EXECUTIVE SUMMARY

Sri Lanka, being a small open economy with a liberalized trade and exchange system adopted over the last four decades, is vulnerable to illicit trade. The country is reported to be a hotspot for smuggled drugs, cigarettes and other illicit items in the South Asian region. While drugs and illicit cigarettes have harmful health implications to society, smuggling of a wide variety of consumer goods have adverse implications for legitimate local manufacturing industries.

Tax avoidance by smugglers also leads to substantial tax revenue losses to the government. Illicit cigarette imports have emerged as a major illicit trade activity worldwide in tandem with globalization and rapid trade liberalization. A large number of studies have been conducted on the illicit cigarette trade in the USA, UK, European Union, South Africa and Canada. In recent times, several Asian countries, including South Korea, Malaysia, Indonesia, Philippines, Pakistan and India have started to pay greater attention to the illicit cigarette trade and to assess its economic implications through the Asia Illicit Tobacco Indicator reports published by Oxford Economics. However, such studies have not been conducted to date to assess the illicit cigarette trade in Sri Lanka, and hence, the present study can be considered the baseline study for the country.

The purpose of this study is to assess the extent of the market share of illicit cigarettes in Sri Lanka, and to estimate the tax revenue loss to the government on account of such trade. The Illicit tobacco trade is defined in Article 1 of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) as any practice or conduct prohibited by law which relates to production, shipment, receipt, possession, distribution, sale or purchase of tobacco products, including any practice or conduct intended to facilitate such activity.

While cigarette imports are banned in Sri Lanka, considerable volumes of illicit cigarettes are reported to be smuggled into the country due to shortcomings in the regulatory framework, infrastructure constraints at Customs and various other loopholes. The government loses tax revenue that could have been generated had such cigarettes been locally produced.

1. Research Design

Quantification of the illicit cigarette trade is a challenging task due to its clandestine nature. While illicit traders do not divulge their transactions, law enforcement authorities too do not publicize the limited information available to them for confidential reasons.

Various methodologies have been used to collect information on the illicit cigarette trade in different countries, and thus, there is no universally accepted methodology.

The methodology used in a study of the illicit cigarette market in the European Union, Norway and Switzerland (Project SUN report prepared by KPMG in 2016), and the study on illicit tobacco in Australia (by KPMG in 2017), were adopted for this study with some modifications to suit local conditions.

The multiple methods adopted in this study to collect primary data include: (a) empty pack survey (b) cigarette butt collection (c) test shopping (d) Smoker Survey and (e) interviews with policymakers and law enforcement authorities.

Surveys were conducted in the purposively selected districts of Colombo, Gampaha, Kalutara, Galle, Matara and Ampara.

The primary data collected from the field were supplemented by secondary data compiled from the Annual Reports of CTC and official documents from the Central Bank of Sri Lanka to extrapolate illicit cigarette trade at the national level and to simulate tax losses incurred by the government due to

such trade.

2. The illicit Cigarette Trade in Sri Lanka

Smuggling, which is the main source of the illicit cigarette trade in Sri Lanka takes place in both large and small scales. Large scale smuggling is carried out through container shipments despite detections by Customs. Infrastructure facilities and human resources available to Customs are inadequate to monitor and detect the growing number of containers passing through the port daily. Large scale smuggling also takes place by concealing illicit cigarettes inside other items, giving rise to the presence of 'low volume-high frequency' illicit cigarette smuggling. The increase in foreign migrant workers into the country is observed as a significant factor in contributing to small scale smuggling in recent times. Small scale smuggling is carried out by individuals smuggling cigarettes into the country in their luggage, either individually or in a coordinated manner.

In terms of the distribution of illicit cigarettes, high income groups gain access to such cigarettes through special business establishments such as casinos, restricted clubs and online networks. Illicit cigarettes are also brought into Sri Lanka to meet the demand created by migrant communities for cigarettes produced in their home countries or for cigarettes of a particular taste. Small shops also sell illicit cigarettes to trusted customers or people who they assume are genuine customers.

The production of illicit cigarettes is not seemingly evident in Sri Lanka.

Although steps have been taken to strengthen Customs detection mechanisms over the years, it has been difficult to restrict the illicit cigarette trade in the country due to several factors, including limited capacities of law enforcement institutions, regulation-related constraints, intelligence information leakages, low penalties and corruption.

3. Key Findings

According to the cigarette butt survey, illicit cigarettes account for 15.6 percent of total cigarette consumption. The share of illicit cigarettes varies across districts; 26.5 percent in Matara, 23.0 percent in Galle, 15.2 percent in Gampaha, 13.2 percent in Kalutara, 10.7 percent in Colombo and 9.3 percent in Ampara.

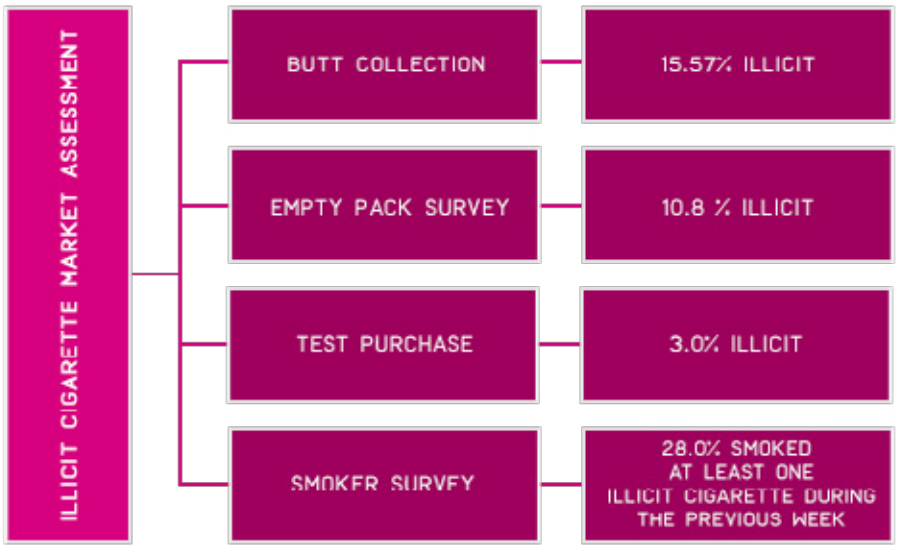
As per the empty pack survey, illicit cigarettes account for 10.8 percent of the total packs collected. district-wise, the illicit cigarette market share in relation to packs is 14.7 percent in Kalutara, 10.8 percent in Gampaha, 10.3 percent in Colombo, 10.2 percent in Matara, 9.7 percent in Ampara and 8.4 percent in Galle.

In the middle-level scenario, which averages the illicit cigarette market share of butt and empty pack surveys, illicit cigarettes account for 13.2 percent of total consumption.

The lower illicit cigarette market share derived from the empty pack survey vis-à-vis- butt collection could be explained by the fact that traders usually do not give illicit cigarette packs to consumers fearing legal action or detection. As much as 87 percent of smokers buy cigarettes in stick form, rather than in packs according to the survey results. Therefore, the illicit cigarette market share is underestimated in the empty pack survey.

Around 28 percent of smokers who were interviewed had consumed illicit cigarettes during the week prior to the interview. On average, one out of four smokers had consumed at least one illicit cigarette in the previous week.

There is a statistically significant correlation between preference for illicit cigarettes and brand choices.



4. Estimation of Tax Revenue Losses Owing to the Illicit Cigarette Trade

In this study, tax losses are computed to ascertain the additional revenue that could have been generated by the government had the volume of illicit cigarettes consumed been legally manufactured.

The revenue loss estimation covers indirect taxes imposed by the government on legally manufactured cigarettes and excludes corporate taxes paid by CTC which are a direct form of taxation.

Currently, legally manufactured cigarettes are subject to three types of indirect taxes, i.e. (a) Excise Special Provision Tax (b) Value Added Tax and (c) Tobacco Tax. The revenue generated from these taxes accounted for 18.3 percent of Sri Lanka's total excise tax revenue in 2017 (Annual Report of the Central Bank, 2017).

On average, such indirect levies alone amounted to 72.5 percent of the price of a cigarette stick in 2017 (CTC sales and pricing data 2017).

There is a broad perception that changes in cigarette taxes are inversely related to smoking rates, which means higher the taxes the lower the smoking rates.

However, it might be misleading to interpret the decline in legitimate cigarette sales as a decline in overall smoking, since consumers move to the illicit market due to higher prices.

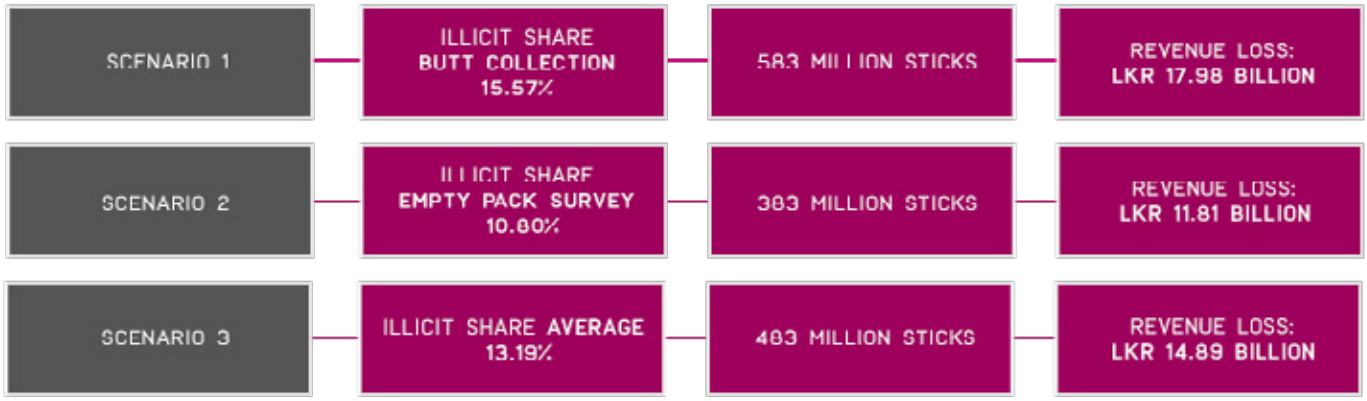
Negative deviations of actual cigarette revenue from budgetary forecasts over the years, as measured by percentage errors, indicates the presence of the illicit cigarette trade.

The low-price elasticity of cigarette demand estimated at -0.16403, indicates that price increases do not cause a decline in cigarette consumption as expected. This is proved by the fact that legitimate cigarette sales declined by only 26 percent (CTC sales data 2017) despite a cigarette tax increase of 192 percent between 2010 - 2017 according to the Ministry of Finance.

Measurement of tax evasion pertaining to the illicit cigarette trade is rather difficult due to its clandestine nature. Hence, various alternative methods must be used to estimate the tax losses by collecting new data from the field.

In this study, the field surveys were complemented by secondary data to calculate the estimates of tax revenue losses to the government.

Tax losses were estimated for 2017 under three scenarios :



Of the three estimates above, Scenario 1, based on butt collection is more reliable, as illicit cigarettes are rarely sold in pack form owing to the fear of legal implications. Hence, the illicit cigarette market share based on the empty pack survey is underestimated.

5. Recommendations

- Considering the fact that higher taxes are a necessary but not a sufficient condition to mitigate smoking, it is appropriate to streamline legislation to curb smuggling and local trading activities of illicit tobacco products through severe punishments.
- The authorities may consider enforcing strict controls in places of transit, warehouses and ventures which might entail high degrees of fraud.
- Imposition of rigorous investigation procedures and criminal prosecutions would help to streamline detection, seizure and destruction of illicit products.
- It would be desirable to enforce the already existing criminal laws pertaining to the illicit cigarette trade.
- Due consideration may be given to improve the infrastructure in Customs investigations with state-of-the-art anti-smuggling equipment such as X-Ray scanners, endoscopes, mirrors, night-vision equipment and advanced cameras.
- The coverage of the Tobacco Tax needs to be broadened to make substitute products including Beedi and cigars subject to taxation.
- Capacity building appears to be necessary in law enforcement agencies, including the Customs, Excise Department and Police to control smuggling and trading of illicit cigarettes.
- In terms of the FCTC protocol of the WHO to eliminate the illicit tobacco trade, further action could be taken to prevent illicit trade by (a) establishing a tracing and tracking system to control the supply chain and (b) strengthening the areas of law enforcement and international cooperation.

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CHAPTER 01 : BACKGROUND & CONTEXT

1.1 Introduction

Sri Lanka, being a small open economy with a liberalized trade and exchange system adopted over the last four decades, is vulnerable to illicit trade[1]. The country is reported to be a hotspot for smuggled drugs, cigarettes and other illicit items in the South Asian region. While drugs and illicit cigarettes have harmful health implications to society, smuggling of a wide variety of consumer goods have adverse implications for legitimate local manufacturing industries. Tax avoidance by smugglers also leads to substantial tax revenue losses to the government and anti-competitive practices in trade. This could have an adverse impact on the image of the nation.

Illicit cigarette imports have emerged as a major illicit trade activity worldwide in tandem with globalization and rapid trade liberalization. A large number of studies have been conducted on the illicit cigarette trade in the USA, UK, European Union, South Africa and Canada[2]. In recent times, several Asian countries, including South Korea, Malaysia (Oxford Economics, 2016-2), Indonesia (Oxford Economics, 2016-1) Philippines (Oxford Economics, 2016-4), Pakistan (Oxford Economics, 2016-3) and India have started to pay greater attention to the illicit cigarette trade and to assess its economic implications through the Asia Illicit Tobacco Indicator reports published by Oxford Economics.

However, such studies have not been conducted to date to assess the illicit cigarette trade in Sri Lanka, and hence, the present study can be considered the baseline study for the country. This will lead to widening the knowledge on the illicit cigarette trade and create opportunities for academic and policy discussions on tobacconomics in Sri Lanka[3].

The purpose of this report is to understand the illicit cigarette market in Sri Lanka and to estimate the tax losses incurred due to such trade. Cigarette production and distribution remain a tightly regulated business sector in Sri Lanka. It is also a sub-sector upon which the government relies on heavily for tax revenues. As reported, the government in 2017, collected Rs. 107 billion as tax revenue from legal cigarette sales (Ministry of Finance, Fiscal Management Report) and taxes on cigarettes have been on the rise. The total amount of taxes on cigarettes have increased by 20 percent in 2017 from the previous year. The excise tax component accounted for 83 percent of the total taxes on cigarettes in 2017. While tax revenues may have increased, there have been serious concerns on the increase of illicit cigarette consumption in Sri Lanka.

While tax increases on the legal cigarette industry can lead to an increase in consumption of illicit cigarettes or alternative tobacco products, the cause of increase in the illicit cigarette market may not necessarily be higher prices alone. Some previous studies have indicated that some high-income countries with higher cigarette prices have lower levels of cigarette smuggling. This implies that there are non-price factors which foster the illicit cigarette market as well. Global studies show that the world market share of illicit cigarettes is 11.6 percent. This is equivalent to 657 billion cigarettes a year and $40.5 billion in lost revenue (Joossens, Merriman, Ross, & Raw, 2009)

The import of cigarettes and tobacco products is prohibited in Sri Lanka. The reported number of illicit cigarettes smuggled or brought in by travelers to Sri Lanka varies. Some reports claim a sharp increase in the detection of illicit cigarettes since the introduction of a tax increase in 2016. It is reported that in the first half of 2017, Customs officials seized 40 million sticks, compared to a total of 4 million sticks

[1] https://www.reuters.com/article/us-sri-lanka-drugtrafficking/sri-lanka-emerging-as-transit-hub-for-cocaine-smugglers-officials-idUSKCN1BB1FK

[2] https://www.oxfordeconomics.com/asia-illicit-tobacco

[3] https://tobacconomics.org

detected in the entire year 2016. Furthermore, the argument that only one in ten illicit cigarettes is detected indicates the gravity of the issue, and the implications of that on consumption and government revenue.

The illicit cigarette trade can also adversely affect the government's intentions to increase tax revenue, reduce smoking in the country and improve health benefits to the people. The illicit market provides cheap cigarettes to the general public tax free. Also, the presence of a large illicit market can undermine the credibility of law enforcement authorities and tax collection departments of the government. There is a strong argument that eliminating or reducing the illicit cigarette trade will reduce consumption, which can have a positive impact on tobacco control and public health. Previous studies have documented experiences in many high income countries that were able to reduce the illicit cigarette trade by various regulatory, enforcement and policy measures (Reuter & Majmundar, 2015). Therefore, understanding the illicit cigarette market is imperative from a public policy perspective. The primary objective of this study is to assess the extent of the market for illicit cigarettes in Sri Lanka. While there are crude estimates available, it is important to systematically study the scale of the illicit cigarette market in Sri Lanka. This study also examines the implications of illicit cigarettes in terms of its market volume and loss of tax revenue. This is important in the context of government taxation, public health, national security, border control and preventing the funding of crime.

1.2 Scope of the Study and Definitions

Illicit trade is a global challenge, and the cigarette market is a prime target in this regard. The illicit tobacco trade is defined in Article 1 of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) as any practice or conduct prohibited by law which relates to production, shipment, receipt, possession, distribution, sale or purchase of tobacco products including any practice or conduct intended to facilitate such activity.

This baseline study is limited to understanding the Sri Lankan context of the illicit cigarette market; it does not delve in to any international dimensions. There is an international dimension to illicit cigarettes, particularly involving global and regional smuggling networks and organized criminal gangs. However, this study is confined to understanding the domestic factors concerning the illicit cigarette trade. The scope is limited to studying only cigarettes, and it does not cover other tobacco products such as beedi. Since the importation of cigarettes to Sri Lanka is prohibited, this study considers all brands, other than those legally produced in Sri Lanka as illicit cigarettes.

Smuggling refers to products illegally transported and traded across borders. It can take place at different scales. Large-scale organized smuggling refers to the illegal transportation, distribution and sale of large consignments of cigarettes,Small-scale smuggling refers to the purchase by individuals or small groups, of cigarettes in small quantities outside Sri Lanka for resale in Sri Lanka, transported in normal luggage. Carrying cigarettes into the country for personal use is also classified as illegal in Sri Lanka. Therefore, this study considers this category as illicit cigarettes even though carrying small quantities of cigarettes for personal use is generally overlooked by officers.

1.3 Research Design

Studying the illicit cigarette market is methodologically challenging due to many reasons. Smuggling is an illegal activity and can be linked to organized crime and therefore, can expose researchers to physical harm. Law enforcement authorities may be reluctant to share all the information concerning smuggling because of the sensitive nature of such operations. On the other hand, researchers must act appropriately in collecting data using ethical means. These can significantly constrain data gathering.

In the context of Sri Lanka, in addition to the above, lack of previous studies of this nature also creates an additional challenge in designing this study. The research team reviewed studies prepared in other countries conducted to ascertain the illicit cigarette market and adopted these methodologies and designs with some modifications to suit local conditions. These studies were aimed at providing estimates of counterfeit and contraband cigarettes in various countries. The main tools adopted for data gathering

in this study consists of analyzing discarded empty packs and cigarette butts, consumer surveys and in-depth interviews with key stakeholders. Justification and detailed description of the methodologies are provided in Chapter 2 of the report.

1.4 Sri Lankan Context of the Illicit Cigarette Market

We present some general information in this section to understand the context in which the illicit cigarette market operates. This is based on consumer surveys, field observations and interviews.

1.4.1 Smuggling – Nature and Extent

Smuggling of illicit cigarettes takes place at different scales. Illicit cigarettes are transported as container cargo and despite certain seizures, many consignments flow into the domestic market undetected. It is believed that the volume of cargo that arrives in Sri Lanka is far beyond the capacity of the systems of cargo examination that are put in place by Sri Lanka Customs. Surveillance by Customs does not necessarily deter the flow of illicit cigarettes into the market because the value of goods that avoid detection exceeds, by many folds, the value of cargo that is detected and destroyed. A significant volume of cargo passes through the green corridors unchecked. Given the time taken to examine each consignment, the high volume of work involved, wide practice of cursory visual inspection by the Customs, and the increased sophistication of smugglers in finding new ways of concealing the cargo, it seems impractical to detect all the illicit cigarettes with the available capacity.

Certain randomly identified consignments are directed to the red and amber channels for examination. Cargo in red channels is examined in detail. Selection of cargo for full examination also depends on the port of origin and on the intelligence gathered by Customs. However, even when detected, it is nearly impossible to trace the intended recipient of the cargo, because either the destination address cannot be verified, or the person who comes to claim the cargo might claim ignorance of the consignment. This poses significant challenges in imposing and recovering penalties[4].

Other forms of entry include smuggling small quantities of illicit cigarettes in normal luggage or by parcel post. These consignments are often unknowingly brought into the country for personal use or for resale on the pretext of personal use. Although it is illegal to bring any cigarettes into Sri Lanka, there is a practice of overlooking this with the intention of promoting tourism. Some law enforcement officers believe it is not illegal to bring foreign cigarettes for personal use as they are unaware of the rules governing such matters. This is a serious loophole with regard to law enforcement. These indicate the presence of 'low volume high frequency' illicit cigarette smuggling. Such practices are likely to increase further with the growing number of foreign workers entering the country.

1.4.2 Distribution

In general, preference for foreign cigarettes is greater among high-income groups. However as observed in the sample areas of this study, low income groups also widely consume them. High-income groups gain access through special business establishments such as casinos, restricted clubs, and online networks. Evidence in the sample areas indicate that small shops also sell illicit cigarettes to trusted customers or people assumed to be genuine. The research team was also able to purchase illicit cigarettes of certain brands from small shops.

Prices of illicit cigarettes vary in the sample areas. In some places the price of an illicit cigarette was 30 percent lower than the legal cigarette prices. In other locations certain illicit brands were sold at a premium price. Illicit cigarettes are also sold by mixing them with legally manufactured cigarettes and charging the standard price. This happens because it is difficult for the average smoker to differenti-

[4] Customs Ordinance 129 stipulates the penalties in detail. Also, the sections 166A and B stipulates guidelines for imposing penalty or ordering for forfeiture.

ate cigarettes by appearance, although there are differences in taste. In such cases, the traders earn a higher profit because cheap, untaxed cigarettes can be sold at higher prices.

Additionally, illicit cigarettes are smuggled into Sri Lanka to meet the demand created by migrant communities for cigarettes produced in their home countries, These migrant communities have created special distribution networks, and a large quantity of illicit cigarettes are reportedly marketed using online platforms operated in their languages. The officers conducting raids in certain areas claimed seizing more than one million illicit cigarettes from such communities during the past couple of years.

1.4.3 Illicit Cigarette Production

There is a perception that illicit cigarettes are produced locally. However, there is no substantial evidence to suggest the local production of cigarettes, particularly in the study areas. It is significant to note the prevalence of white beedi in the study areas.

1.4.4 Enablers of the Illicit Cigarette Trade

(i) Demand and Supply

There is considerable demand for illicit cigarettes in Sri Lanka. While high prices of locally produced cigarettes can be a contributing factor, there is evidence of local consumers' readiness to buy illicit cigarettes even at premium prices for reasons of taste, inquisitiveness, and in some cases maintaining social status. Demand for illicit cigarettes also comes from tourists and migrants.

(ii) Limited Capacity of Law Enforcement Institutions

Since large volumes of containers arrive at the port daily[5], it is difficult to implement a thorough examination of all cargo with the available capacity; and cargo is mostly cleared after cursory inspections or with no inspection. There is also a need to clear cargo speedily for reasons of efficiency, which is important to the import industry. However, there are indications of capacity constraints at entry points mainly in terms of skilled staff, cargo clearing processes and modern equipment. Law enforcement after-entry also faces challenges, in terms of the lack of priority for surveillance of illicit cigarettes compared to other illicit products.

Although there is increased surveillance, both at entry as well as after-entry into the market, it is believed that there are no major challenges to the illicit cigarette market from law enforcement authorities. While laws are tight, it is still difficult to ascertain the source of imports and the distribution network. Importers are able to hide their identities, particularly the large-scale smugglers, thereby limiting the ability of the law enforcement to control the supply.

(iii) Challenges in Implementing Regulations

Sri Lanka Customs have wide powers to raid, arrest and detain individuals involved in the illicit cigarette trade and even break open suspected cargo. The Police too have wide powers to control illicit cigarette distribution and consumption. However, statements from interviews of law enforcement officers such as: "there are rules, but they are rarely implemented"; "anything can be done in Sri Lanka through bribes" and "law enforcement people are reluctant to act or lacking motivation", indicate significant enforcement challenges. Furthermore, when legal action is pursued, there are long delays in concluding litigation and recovering penalties, which indirectly enable the existence of the illicit cigarette trade.

[5] It was reported that around 2000 containers arrive daily at the Colombo port. Around 15% to 20% are examined before release. It was also reported that scanning facilities are basic in nature and identifying illicit items is difficult.

(iv) Intelligence Gathering and Insider Information

There is co-operation between Sri Lankan law enforcement authorities and their regional and global partners such as the World Customs Organization, in terms of intelligence sharing and capacity building. The Central Intelligence Directorate of the Customs also co-operates with other internal monitoring agencies such as the Police and Financial Intelligence Unit of the Central Bank. Cargo originating from suspected ports are intercepted and directed to the Red channel. However, there are also challenges of information leakage that undermines law enforcement operations.

(v) Corruption

There is a wide spread perception that law enforcement agencies lack credibility. There are many examples of disciplinary action taken against officers for colluding with illicit smugglers[6] as well as attempting to solicit bribes[7]. It appears bribery is considered a normal and necessary practice in the import-export business to expedite approvals and clearances at different levels.

These explain the challenges faced by law enforcement institutions in improving their standards and establishing credibility. The illicit cigarette market benefits from such lapses.

These observations suggest that there are a multitude of factors that contribute to the prevalence and persistence of the illicit cigarette market in Sri Lanka. It is important to ascertain the extent to which this market can affect the interests of different stakeholders. It is also imperative to understand the extent of the illicit cigarette market and its financial implications in terms of tax evasion. The following section will describe the methodology adopted in this research study and the rationale behind it .

[6] https://www.colombotelegraph.com/index.php/sri-lanka-customs-cheats-go-unpunished/

[7] http://www.economynext.com/Call_to_expose_Sri_Lanka_Customs_lower_ranks_trying_to_block_reform-3-1975-7.html

CHAPTER 02 : METHODOLOGY

2.1 Rationale of Data Collection Methodology

A major challenge in studying tax avoidance and evasion is that it is inherently difficult to observe (Chernick & Merriman, 2013). Hence the estimation of illicit cigarette demand has been a challenging task and the best practices of previous studies have to be adopted in this study. Although there are no similar studies published in Sri Lanka to date, a number of international studies on illicit cigarettes, tax avoidance and evasion have already been published. The methodologies used include relying on expert opinion, monitoring tobacco trade, comparing sales with consumption, survey-based methods, econometric modeling of the determinants of tobacco demand and observational methods such as assessing littered cigarette pack and butt collections (U.S. National Cancer Institute and WHO, 2016; Ross, 2015).

Early literature on cigarette demand functions have not given serious attention to estimating illicit cigarette demand using observational methods. Those studies mainly attempted to identify the demand functions of cigarettes. Baltagi & Levin (1986), Chaloupka (1991), Becker, Grossman, & Murphy (1994) and Saba, Beard, Ekelund Jr., & Ressler (1995) have attempted to explain the impact of tax increases on cigarette smuggling. Some studies have econometrically estimated tax avoidance based on the residual correlation between tax-paid sales or survey-reported consumption and measures of access to low tax (or price) sources of cigarettes after controlling the other factors that might affect demand (Thursby & Thursby, 2000).

2.2 Empirical Evidence on Observational Collection Methods

There are many studies that have attempted to estimate the illicit cigarette market and tax avoidance using primary data collected from the field. The most popular data collection methods were smoker surveys/interviews, empty pack surveys and test purchasing. Most of the studies have used a combination of these methods rather than relying on a single method (Ross, 2015).

2.2.1 Empty Pack Survey and Butt Collection

A study conducted to estimate the cigarette tax avoidance in Chicago had introduced an innovative method for estimating the illicit cigarette market by collecting empty cigarette packs (Merriman, 2010). Thereafter, a similar method was adopted by Chernick & Merriman (2013) where they estimated cigarette tax avoidance in the City of New York using empty pack data collected before and after tax increases on cigarettes (Chernick & Merriman, 2013).

As per the Methodological Guide on Understanding and Measuring Cigarette Tax Avoidance and Evasion (Ross, 2015) research on cigarette tax avoidance/evasion has also recognized empty pack surveys as an observational data collection method. As per the guide, "this method is based on classifying packs as low-tax or full-tax products given the law and regulations applicable to the jurisdiction where they were found. The features that allow this distinction are the absence of the correct tax stamp, an incorrect health warning, markings of a duty-free store, missing price information (if required by the law), low price, and some other features of a pack required by the law " (Ross, 2015).

The most widely discussed illicit cigarette report has been published by world renowned accounting firm, KPMG. The KPMG's Project Star Report of the illicit cigarette market in Europe, published in 2011 has also used the Empty Pack Survey (EPS) as one of the three methodologies adopted for collecting data on illicit cigarette consumption. There are three primary data inputs used in the model: legal domestic sales data, Empty pack surveys and consumer interview data (KPMG, 2011). Since supply chain members and smokers do not interact, collection of empty cigarette packs would allow the research-

ers to extrapolate illicit cigarette consumption at the national level; however, there were many critiques raised against the methodology adopted by the KPMG Star report. Academics, including University of Bath researchers, conducted a review of the 2011 Project Star report and compared the KPMG data against independent data (Gilmore, et al., 2013). They concluded that there was little information provided on the Project Star methodology used to produce the illicit cigarette estimates, and "that Project Star underestimated legal cross-border sales by using interviews and what are termed Empty Pack Surveys (EPSs)" (Gilmore, et al., 2013). KPMG has continued annually publishing illicit cigarette market research using code name "Project SUN" from 2013 to 2017 by adopting the EPS as the key data collection methodology of their studies. Further many other recent studies adopted EPS as the method of data collection on illicit cigarette tax avoidance (Table 2.1).

Asia 11 study on illicit tobacco in 2012 has used Cigarette Butt Collection as a primary data collection method (Logan, 2014). Furthermore, Stratton, et al., (2016) adopted butt collection and analysis method to determine the contraband tobacco use in two jurisdictions in Canada.

TABLE 02 - 1: DIRECT DATA COLLECTION METHODS USED BY THE PREVIOUS STUDIES

	STUDY / REPORT	COUNTRY / REGION	YEAR	METHOD	DATA COLLECTION	PURPOSE
1	(CHIOU & MUEHLEGGER, 2008)	USA	2008	SMOKERS SURVEY	ASKING THE LOCATION OF PURCHASE FROM SMOKERS	EXAMINE TAX AVOIDANCE AND STATE BORDER CROSSING IN THE MARKET FOR CIGARETTES
2	(LAKHDAR, 2008)	PARIS -FRANCE	2008	EMPTY PACK SURVEY	COUNTING NUMBER OF ILLICIT PACKS COLLECTED FROM WASTE PLANT	DETERMINE THE PERCENTAGE OF FOREIGN PACKS AVAILABLE
3	(CHERNICK & MERRIMAN, 2013)	NYC	2013	EMPTY PACK SURVEY	COUNTING TAX PAID AND TAX NOT PAID PACKS COLLECTED IN TOWNS BEFORE AND AFTER-TAX INCREASE	IDENTIFY THE IMPACT OF ILLICIT CIGARETTE CONSUMPTION BY TAX INCREASE
4	(KPMG, 2011)	EUROPE	2011	LEGAL DOMESTIC SALES, EMPTY PACK SURVEY, SMOKER SURVEY	A ROBUST INDICATION OF THE INCIDENCE OF NON-DOMESTIC AND COUNTERFEIT PACKS AND COUNTRY OF ORIGIN	ASSESSMENT OF THE LEVEL OF COUNTERFEIT AND CONTRABAND CIGARETTES ACROSS THE EU MEMBER STATES.
5	(KPMG, 2017)	EUROPE	2016	LEGAL DOMESTIC SALES DATA , EMPTY PACK SURVEY, SMOKER SURVEY	A ROBUST INDICATION OF THE INCIDENCE OF NON-DOMESTIC AND COUNTERFEIT PACKS AND COUNTRY OF ORIGIN	ASSESSMENT OF THE LEVEL OF COUNTERFEIT AND CONTRABAND CIGARETTES ACROSS THE EU MEMBER STATES.

6	(INTERNATIONAL TAX & INVESTMENT CENTER & OXFORD ECONOMICS, 2012)	PHILIPPINES	2012	EMPTY PACK SURVEY	COUNTING DISCARDED EMPTY CIGARETTE PACKS	ESTIMATE THE INCIDENCE AND SIZE OF NON-DOMESTIC INFLOWS TO THE PHILIPPINES.
7	(LOGAN, 2014)	PAKISTAN, MALAYSIA, BRUNAI	2012	EMPTY PACK AND CIGARETTE BUTT COLLECTION AND ANALYSIS, SMOKER SURVEYS, HOUSEHOLD SURVEYS/CONSUMPTION ESTIMATES COMPARED WITH TAX-PAID PRODUCTS	COUNTING DISCARDED EMPTY CIGARETTE PACKS AND BUTTS.	TO ESTABLISH CREDIBLE ESTIMATES OF CONSUMPTION OF ILLICIT CIGARETTES AND THE IMPACT THIS HAS ON TOBACCO TAX REVENUE FOR 11 MARKETS IN ASIA
8	(GUINDON, DRIEZEN, CHALOUPKA, & FONG, 2014)	16 COUNTRIES	2011	INTERVIEWS, EMPTY PACK SURVEY	COUNTING DISCARDED EMPTY CIGARETTE PACKS	ASSESSED THE LEVELS AND TRENDS IN TAX AVOIDANCE / EVASION IN 16 COUNTRIES
9	(JOOSSENS, ET AL., 2014)	18 EUROPEAN COUNTRIES	2010	EMPTY PACK SURVEYS	COUNTING DISCARDED EMPTY CIGARETTE PACKS	ASSESS TAX EVASION
10	(SCOLLO, ZACHER, DURKIN, & WAKEFIELD, 2014)	AUSTRALIA	2012	TEST PURCHASE OF CIGARETTES PACKS	COUNTING NUMBER OF ILLICIT CIGARETTES PURCHASED.	EVALUATE CHANGES IN THE AVAILABILITY OF ILLICIT TOBACCO IN SMALL RETAIL OUTLETS FOLLOWING THE DECEMBER 2012 INTRODUCTION OF PLAIN PACKAGING IN AUSTRALIA.
11.	(STRATTON, ET AL., 2016)	CANADA	2013-2014	BUTT COLLECTION	CIGARETTE BUTTS WERE ASSESSED AND CLASSIFIED INTO ONE OF THE FOLLOWING CATEGORIES: CONTRABAND, LEGAL CANADIAN, LEGAL NATIVE, INTERNATIONAL, UNKNOWN, AND DISCARDS	DETERMINE THE PROPORTION OF CONTRABAND USE IN TWO CITIES

2.2.2 Smoker Surveys

Discarded illicit cigarette packs and butts are good means to calculate the indicators of tax avoidance and evasion (Guindon, Driezen, Chaloupka, & Fong, 2014). In addition, information on the quantity and the frequency of purchases will help to quantify the share of illicit products in total consumption. Surveys can also collect data on the characteristics of those purchasing and consuming illicit products (Ross, 2015). In certain studies, tobacco consumption has been estimated by using multiple surveys. In Vietnam, tobacco consumption was estimated from the Vietnam Living Standards Survey 1998 (VLSS 1998), the Vietnam Household Living Standards Survey 2006 (VHLSS 2006), the Vietnam National Health Survey 2002 (VNHS 2002), and the Global Adult Tobacco Survey Vietnam 2010 (Nguyen, et al., 2014). Information collected from surveys of smokers' purchasing behavior can be used to assess tax avoidance and evasion based on location and purchase price. This approach mainly detects tax avoidance rather than tax evasion, given that smokers may buy smuggled or bootlegged cigarettes from legitimate retailers, and may be unaware that taxes have not been paid on these cigarettes (U.S. National Cancer Institute and WHO, 2016).

Since surveys rely on self-reporting by the respondents, reliability of survey data is always questionable (U.S. National Cancer Institute and WHO, 2016). "Since participation in a survey is voluntary, those carrying or using illicit cigarettes might be less likely to participate due to the fear of legal prosecution, confiscation, or embarrassment. This will result in underestimating the scope of tax avoidance/evasion" (Ross, 2015). To mitigate some of the weaknesses of this method, Ross (2015) has recommended that it be combined with an independent examination of cigarette packs, and then conduct smoker surveys to obtain additional information about consumption patterns such as frequency of using illicit cigarettes, places of purchase, brand names, and prices (Ross, 2015).

2.2.3 Test Purchases

To determine the availability of illicit cigarettes in the open market, researchers have used test purchase operations to buy cigarettes from vendors and analyze them with given properties of illicit cigarettes. Ross (2015) has recommended test purchase as one of the most direct methods of obtaining estimates of availability of illicit products via legal distribution channels which could provide important information about the role of these channels in supplying illicit cigarettes. Scollo, Zacher, Durkin, & Wakefield, (2014) conducted a research study using test purchase operations to quantify the availability and offering of illicit cigarette by sellers to evaluate the changes in the availability of illicit tobacco in small retail outlets following the December 2012 introduction of plain packaging in Australia (Scollo, Zacher, Durkin, & Wakefield, 2014).

2.3 Validation of the Observational Data Collection Methods

By nature, the illicit cigarette market is a hidden market, where supply chain agents carefully disguise the trade from the law enforcement authorities. Hence, self-reporting data collection methods such as customer surveys, expert opinion, econometrics estimations based upon such data would not reveal the actual picture of illicit cigarette consumption in the country (Chernick & Merriman, 2013). Therefore, more recent studies on illicit cigarettes and tax avoidance have paid attention to the use of more observational data collection methods to estimate the size of illicit cigarette demand and tax avoidance. Following this tradition, this study also adopts the frequently used observational data collection methods: Empty Pack Survey/Butt Collection, test purchase operations and smoker surveys, which are widely accepted by the community of tobacconomics researchers.

"Tobacconomics is a collaboration of leading researchers who have been studying the economics of tobacco control policy for nearly 30 years. The team is dedicated to helping researchers, advocates and policymakers access the latest and best research about what is working—or not working— to curb tobacco consumption and the impact it has on an economy. As a program of the University of Illinois at

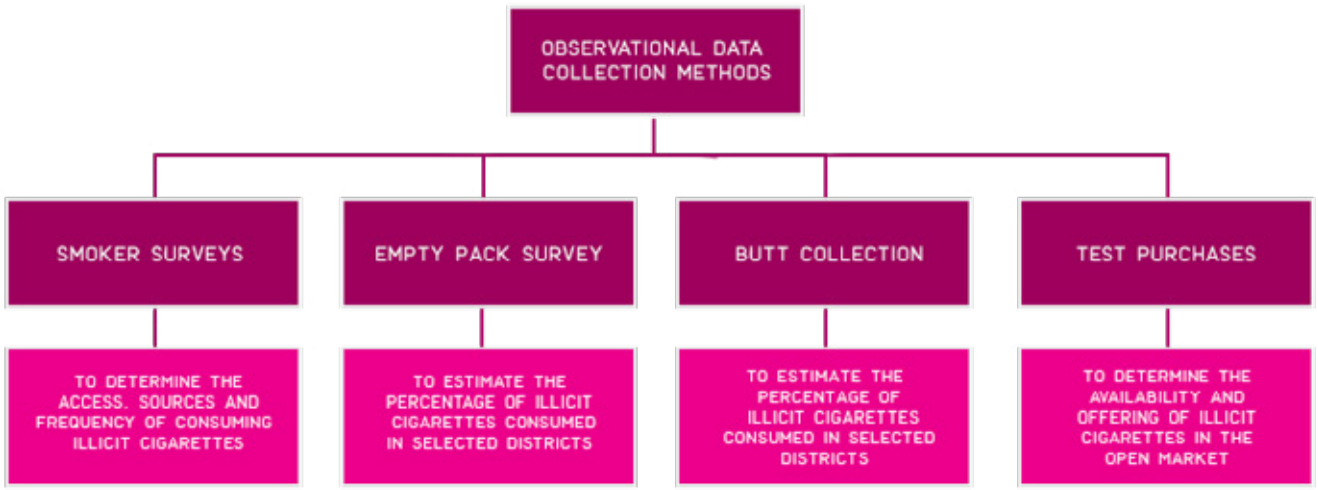
Chicago, Tobacconomics is not affiliated with any tobacco manufacturer" (Ross, 2015). Considering the published methodologies used in estimating tax avoidance in the illicit cigarette market, Ross (2015) published the document, Understanding and Measuring Tax Avoidance and Evasion: A Methodological Guide, which describes suitable methods and ways of handling those methods in studies on tax avoidance and evasion in the tobacco industry.

In that guide, the examination of cigarette packs was identified as an objective observational data collection method. This method is based on classifying packs as low-tax or full-tax products given the law and regulations applicable to the jurisdiction where they were found (Baker, et al., 2016). "The features that allow this distinction are the absence of the correct tax stamp, an incorrect health warning, markings of a duty-free store, missing price information (if required by the law), low price, and some other features of a pack required by the law" (Ross, 2015). The "data is objectively recorded from the packs. As per the guidelines, packs can be obtained from tobacco users, from retail outlets, or collected on the street and from trash bins" (Ross, 2015). Since packs are collected and analyzed as an observational study, it eliminates the validity problems associated with self-reported data obtained from smoker surveys (Ross, 2015).

2.4 Research Design of the Study

2.4.1 Data Collection Methods

The legal cigarette market in Sri Lanka is a monopoly belonging to CTC. It manufactures all its products using locally grown tobacco. According to Sri Lankan tobacco control regulations, irrespective of whether a person is a resident or non-resident, possession of even a single non-tax paid cigarette is an offense. Therefore, even tourists are not legally allowed to bring duty-free or duty-paid foreign cigarettes to Sri Lanka, even for personal use. As per this legal framework, CTC is the only entity legally permitted to manufacture and sell cigarettes in Sri Lanka and cigarettes not manufactured by CTC are considered illicit in Sri Lankan territory. Therefore, unlike in other countries, duty-free cigarettes and other tax-exempted cigarette consumption would not be an issue in estimating the cigarettes market in Sri Lanka. Therefore, the empty pack survey, butt collection, test purchase and smoker surveys would not result in overestimating the illicit cigarette market in Sri Lanka.



2.4.2 Sampling Strategies

As per the guidelines by Ross (2015), it is important that the geographical area to be representative of the tobacco market in the entire country or the area of interest. Furthermore, in the illicit cigarette tax avoidance study, selecting neighborhoods where low-taxed cigarettes, such as Beedi in Sri Lanka, are known to be prevalent will generate biased estimates (Ross, 2015). In order to eliminate the possible over and underestimations, the sampling locations were selected on the basis of the size of cigarette consumption, while recognizing the types of cigarettes consumed in these areas.

2.4.3 Selection of Districts and Zones

Since the CTC is the only entity that can produce cigarettes in Sri Lanka, its territorial sales data would provide a better indication on the geospatial patterns of smoking. Hence researchers requested CTC to provide its district-level sales data and classify the districts which have high, moderate and low sales during the period from 1st February 2017 to 31st January 2018. Based on the rankings, urban and sub-urban areas of Colombo, Gampaha, Kalutara, Matara, Galle and Ampara were selected as the geographical zones for data collection. In Ross's (2015) guideline, specific instructions are given to the researchers to be cautious about tourists and tax-paid foreign cigarette packs, since some countries allow tourists to bring cigarettes for personal use and tourist hotels sell foreign cigarettes to patrons. However, in Sri Lanka both cases are prohibited by the law and hence any foreign-originated cigarette, empty pack and cigarette butt can be considered illicit.

2.4.4 Empty Pack Survey and Butt Collection:

i. Design and Strategy

Even though Empty Pack and Butt Collection have been the preferred observational data collection methods in illicit cigarette studies to estimate the tax losses, no previous studies on the subject have been carried out in Sri Lanka. Therefore, prior evidence on the success of of these methods were not known to the research team. In this context, the empty pack survey and cigarette butt collection were designed as per the Ross (2015) principles and guidelines of conducting such data collection.

ii. Enumerator Training

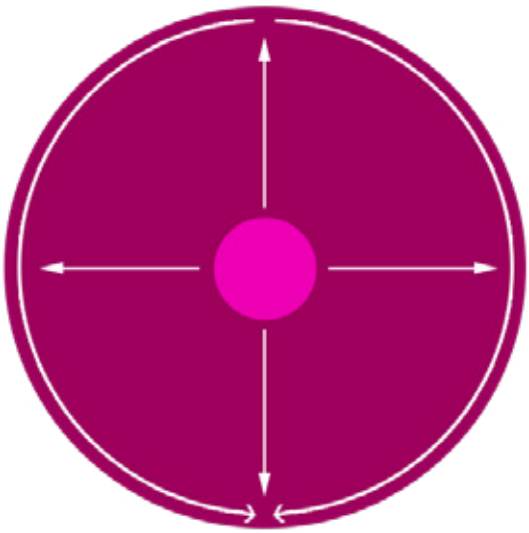
The researchers selected 12 undergraduate students, above the age of 21, from the University of Kelaniya. The 12 students were regrouped as pairs. One pair of enumerators were given the task of the smoker survey and another pair was given the task of test purchases. Other pairs were deployed to collect empty cigarette packs and butts from both sides of the road. All the enumerators were given a comprehensive training on the objectives of the smoker survey, empty pack survey, butt collection and test purchase, and how to ensure safety during data collection based on the Ross (2015) guidelines. At the conclusion of training, they were asked to do a pilot study at the Nawala junction for one hour to become familiar with the data collection procedure.

iii. Selection of Routes

Following the Ross (2015) method, the researchers selected routes in each selected sub-zone for the purpose of collecting discarded packs and butts while taking into account the possibility of being able to physically walk the entire route and their safety. According to the Sri Lankan law, smoking in enclosed public spaces is prohibited. Hence, smokers have to use common open areas, Ross (2015) recommends using select geographical zones for empty pack and butt collection where people walk regularly for their activities on a day-to-day basis. Since the present study also used the same method as benchmarked by the best practices of previous studies of this nature, data collection routes were identified as common public spaces where people gather and walk. The Town Center of each selected zone were used as central points to commence the study.

iv. Walk Through Strategy

Pairs were assigned to walk along the two sides of the road in order to collect empty packs and cigarette butts and to carry out test purchases.



According to previous studies, researchers have adopted different strategies for walking design; walking perimeters of study areas (Chernick & Merriman, 2013), randomly selecting routes throughout the study area (Merriman, 2010), and walking along all sidewalks within each study area (Kurti, Lampe, & Thompkins, 2013). According to Ross (2015), walking along all the streets in the selected sub-areas is desirable. Hence the enumerators chose to walk in all main streets of the selected location to collect empty packs and butts. When the research team reached town centers, each pair of enumerators walked through the main roads connected to the center and covered the outer circle approximately within a 1 km radius for exactly one hour covering each side of the road.

As per the Ross (2015) guidelines, enumerators were asked to walk for one hour or collect nine packs during their walk. During the walk they were asked to collect whatever brand of cigarette packs and cigarette butts they could physically reach. All empty packs and butts were collected and well-documented. All samples were put into pre-labeled bags with the route location, date and time.

2.4.5 Smoker Survey: Instrument and Strategy

The smoker survey instrument was developed by the research team based on previous smoker surveys on illicit cigarettes such as that of Ross (2015). Since foreign manufactured cigarettes are completely prohibited in Sri Lanka, talking to smokers about illicit cigarettes was a sensitive issue. As per the research guidelines used to design this study, survey methods were used to collect information on the quantity and the frequency of illicit cigarette purchases that would help to quantify the share of low-tax or tax-evaded products in total consumption. Surveys can also be used to collect data on the characteristics of those purchasing and consuming low-tax products (Nargis, et al., 2018). Given that illicit cigarette consumption is of a sensitive nature, the questions on tax avoidance/evasion were imbedded into a larger survey questionnaire to collect data on smoking behavior and improve response rates and accuracy.

Since the smoker survey results should validate the estimation of illicit cigarette consumption in selected geographical zones, the smoker survey was also conducted simultaneously during the empty pack and butt collection surveys. Two well-trained enumerators were assigned to interview smokers of legal smoking age in the town center of the selected zone for a duration of exactly one hour and were instructed to interview as many smokers as possible in the allotted time period. Owing to the social pressure from anti-smoking movements, some of the smokers who were identified as smokers, through observations of their behavior, were not willing to participate in the survey. On average, 8-10 respondents from each town were interviewed amounting to a total of 246 respondents. The field data collection for the present study took place between 10th March to 5th April 2018.

2.4.6 Test Purchases: Design and Strategy

The main purpose of test purchasing was to determine the availability of illicit cigarettes in open markets and to check whether sellers were selling illicit cigarettes. In order to conduct the test purchases, two enumerators were trained to buy illicit cigarettes using local terminology from randomly selected shops in each zone.

Two enumerators were assigned to go in different directions from the central location of the zone (as described in the previous section). In order to maintain consistency, the enumerators were asked to spend exactly one hour in each zone and select at least 5 shops/hotels/restaurants on a random basis. They were also instructed to buy at least two cigarettes from each shop they visit.

The collected sample materials were carefully packed, sealed and labeled for disaggregated analysis by zones.

2.5 Data Analysis

The legal cigarettes manufactured in Sri Lanka by CTC are John Player Gold Leaf, Bristol Gold, Navy Cut, Capstan, Dunhill Switch, Dunhill Lights, and Benson & Hedges.

As CTC is a member of the British American Tobacco group, some of the brands produced by CTC in Sri Lanka are also available internationally. However, as per domestic laws, though the brands may be the same, the importation of such brands into Sri Lanka is illegal. In order to identify locally manufactured cigarettes, CTC includes unique identifiers in each cigarette manufactured locally.

As a solution to this, the research team obtained pack and stick samples of legal cigarettes produced by CTC and analyzed their unique properties along with expert opinions.

Having trained the enumerators on the differences between illicit and legal cigarettes, collected samples of empty packs were then systematically analyzed by district and zone, separating illicit packs and recording data, including the brand names. Then the percentage value of the number of empty illicit packs collected from each zone was calculated against the total empty packs collected from each zone.

Unlike cigarette packs, cigarette sticks and butts of different brands have complex properties which cannot be easily identified without expert analysis. Therefore, the research team sought the advice of law enforcement agencies (Police and Customs) to find out the normal procedure followed to analyze illicit cigarettes. As per their instructions, the research team classified and analyzed the collected cigarettes sticks and butts with the assistance of CTC product experts.

The research team closely monitored the classification process and kept records of the results to measure the percentage of illicit cigarette butts collected from each zone. The same procedure was followed to classify the collected sticks from test purchases.

The main objective of the smoker survey was to identify the access, frequency and sources of illicit cigarettes consumed by smokers. The enumerators recorded the data in printed questionnaires and the data was analyzed using the statistical analysis software SPSS.

CHAPTER 03 : KEY FINDINGS OF THE FIELD SURVEYS

3.1 Key Findings of Cigarette Butt Collection

3.1.1. Number of Cigarette Butts Collected by Zone

The research team conducted the cigarette butt collection in the selected zones of each district on the predefined methodology described in Chapter 2. Each enumerator walked through a selected route starting from the town center of the zone and collected all accessible cigarette butts within an hour's walk, approximately covering a maximum of range of 1 Km from the center. A total of 11,581 cigarette butt samples were collected from the sample areas. The highest number of butts were collected from Pettah and Keselwatta 1839 (15.9%), second from Mirissa 767 (6.6%), and third from Nugegoda 762 (6.5%). The lowest number of butts was collected from Deyandara 79 (0.7%), Hakmana 153 (1.3%)[8] and Benthota 187 (1.6%).

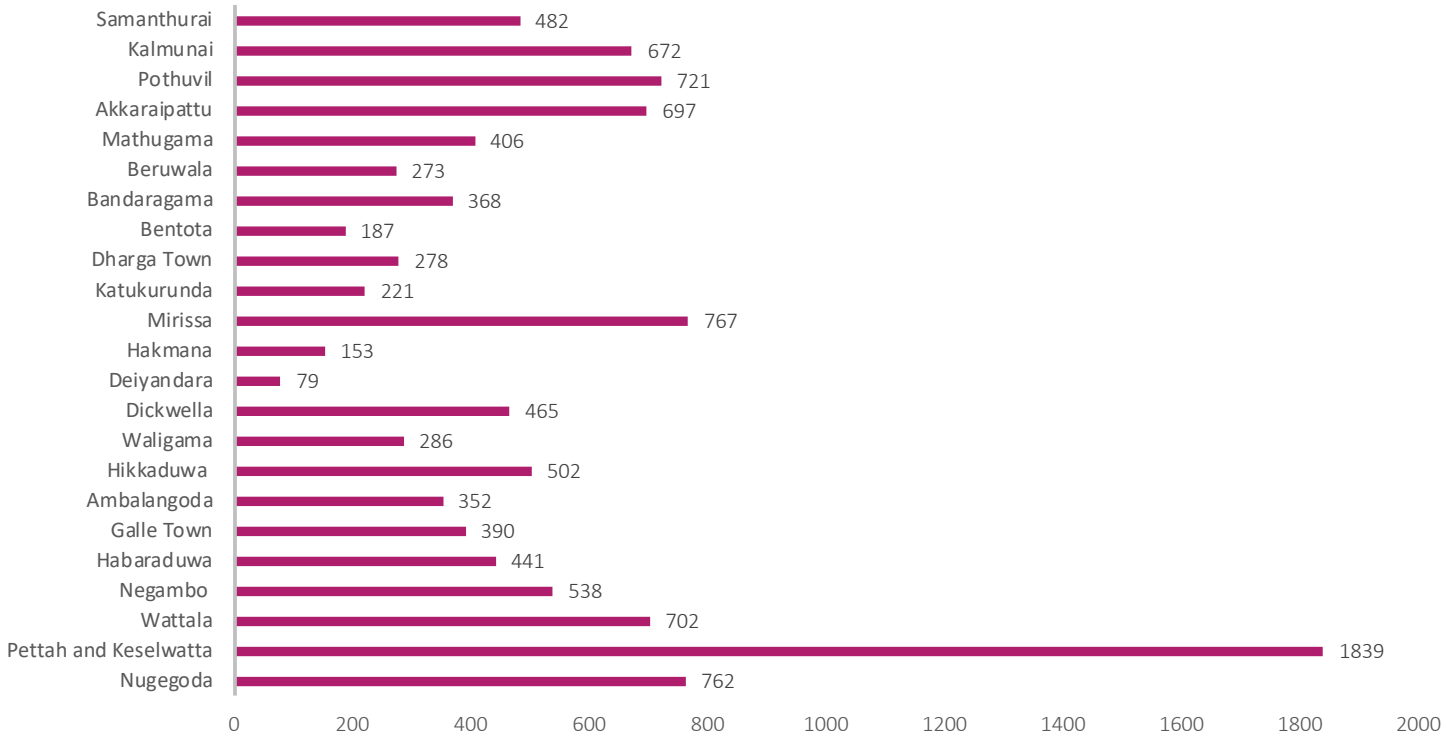


FIGURE 03-1 : NUMBER OF CIGARETTE BUTTS COLLECTED BY ZONE (TOTAL NUMBER OF BUTTS COLLECTED = 11,581)

3.1.2 Number of Cigarettes Butts Collected by District

Butt collection in each district was calculated as the summation of cigarette butts collected from zones which belongs to the same district. A total of 2601 (22.5%) butts were collected from Colombo, 2572 (22.2%) from Ampara, 1750 (15.1%) from Matara, 1733 (15%)

[8] Discussions with smokers and shop owners revealed an ongoing anti-smoking campaign in this town. Therefore shops were reluctant to sell cigarettes.

from Kalutara, and 1685 (14.5%) from Galle. The Lowest collection was reported from the Gampaha district with 1240 (10.7%) butts.

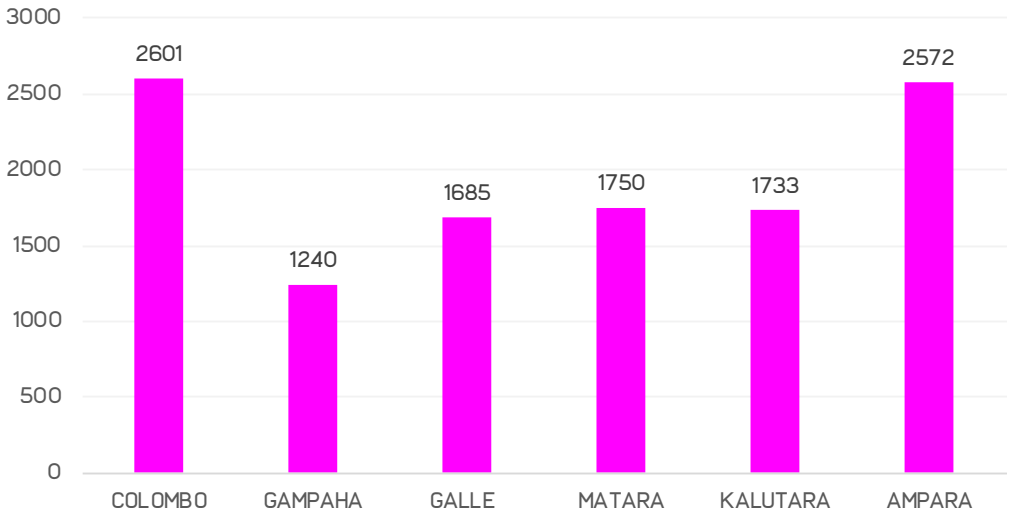


FIGURE 03-2: NUMBER OF CIGARETTE BUTTS COLLECTED BY DISTRICT
(TOTAL NUMBER OF BUTTS COLLECTED = 11,581)

3.1.3 Number of Illicit Cigarette Butts Collected by Zone

Of the sample of 11,581 butts, a total of 1803 illicit cigarette butts were identified. The highest number of illicit cigarette butts were reported from Mirissa 310(17%), Hikaduwa 213(11.8%), and Pettah/Keselwatta 190 (10.5%). The lowest number was reported from Deiyandara 1 (0.06%), Bandaragama 19(1%) and Hakmana 21(1.2%).

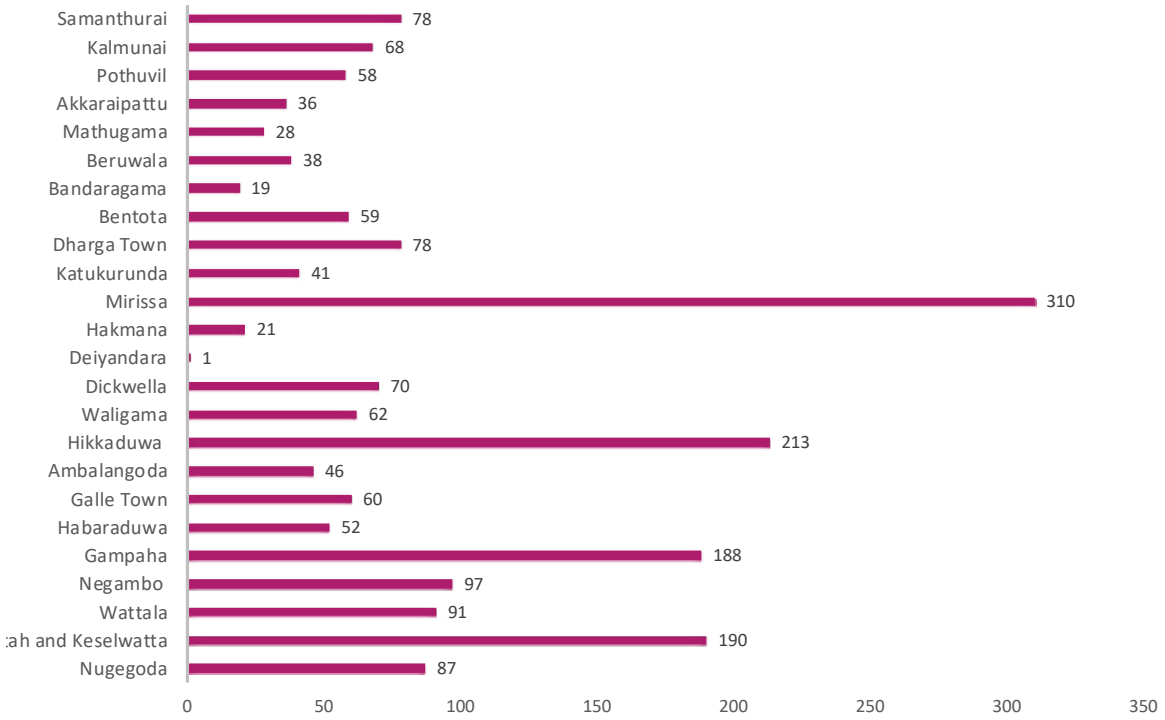


FIGURE 03-3: NUMBER OF ILLICIT CIGARETTES BUTTS COLLECTED BY ZONE
(TOTAL NUMBER OF ILLICIT CIGARETTE BUTTS COLLECTED = 1803)

3.1.4 Number of Illicit Cigarette Butts Collected by District

The highest number of illicit butts was reported from Matara 464 (25.7%). The second highest number from Galle 371 (20.6%) and Colombo 277 (15.4%). Gampaha 188(10.4%) had the lowest count of illicit butts followed by Ampara 240 (13.3%) and Kalutara 263 (14.6%).

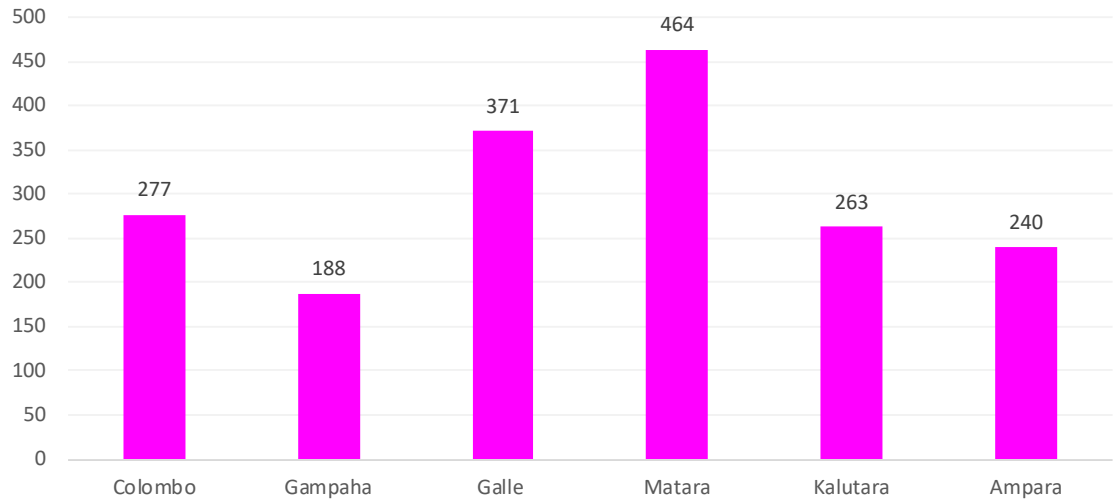


FIGURE 03-4: NUMBER OF ILLICIT CIGARETTE BUTTS COLLECTED BY DISTRCIT (TOTAL NUMBER OF ILLICIT BUTTS COLLECTED: 1803)

3.1.5 Percentage of Illicit Cigarette Butts Collected by Zone

The analysis of illicit cigarette butts indicates that 15.57% percent of the cigarette butts collected were illicit. Figure 03-5 illustrates the percentage of illicit butts collected from each zone.

Accordingly, highest percentage of illicit cigarette butts were reported in Hikkaduwa (42.4%) followed by Mirissa (40.4%) and Bentota (31.6%). These three zones are located in the southern coastal belt of Sri Lanka, which are popular tourist destinations. By looking at these statistics, there are indications that there is a high prevalence of illicit cigarettes among tourists although they are not legally allowed to bring any cigarettes to Sri Lanka. Deyandara (1.3%), Bandaragama (5.2%) and Akkaraipattu (5.2%) have recorded the lowest percentages of illicit cigarette butts.

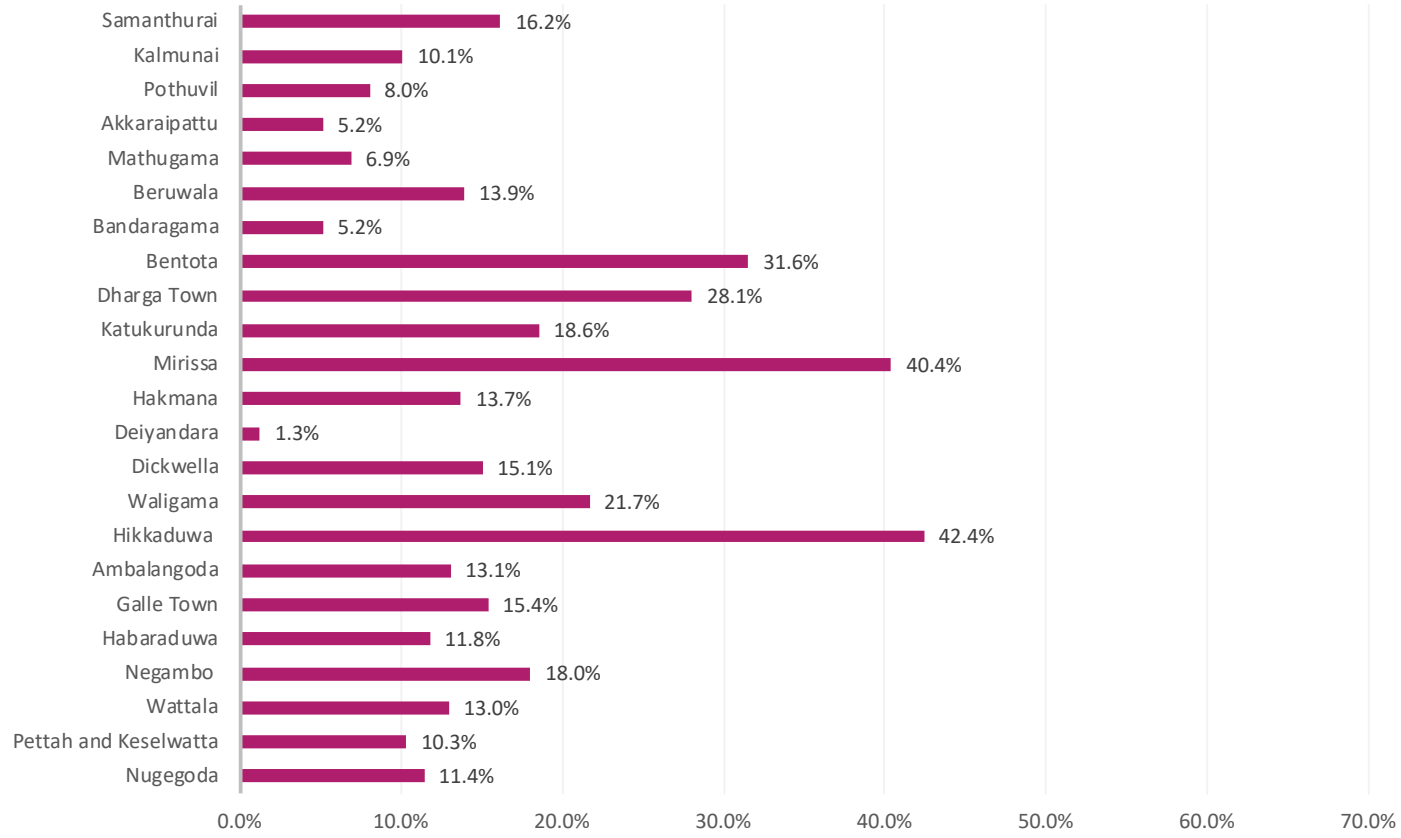


FIGURE 03-5 : PERCENTAGE OF ILLICIT BUTTS COLLECTED BY ZONE

3.1.6 Percentage of Illicit Cigarette Butts Collected by District

Aggregated cigarette butts by district indicates that slightly more than one fourth of the cigarette butts collected in Matara are illicit (26.5%), whereas the second highest percentage was recorded in Galle (22%), followed by Gampaha and Kalutara with (15.2%) of illicit cigarette butts. Even though large numbers of cigarettes butts were collected from Colombo and Ampara districts, the percentage of illicit cigarettes are relatively low in these two districts.

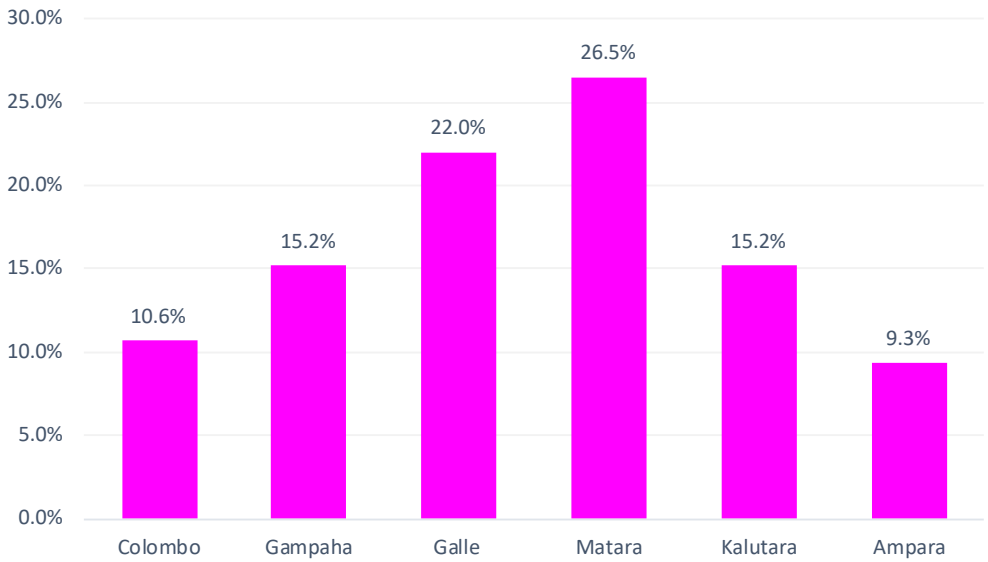


FIGURE 03-6 : PERCENTAGE OF ILLICIT CIGARETTE BUTTS COLLECTED BY DISTRICT

3.1.7 Overall Legal to Illicit Cigarette Butt Ratio

The analysis shows that there are 1803 illicit cigarette butts and 9778 legal cigarette butts in the total sample of 11,581. Hence the percentage of illicit cigarette butts from total butts collected is 15.57% and the ratio between legal and illicit cigarettes is identified as 5.25:1; which means one in every 5.25 cigarette butts collected was illicit cigarette.

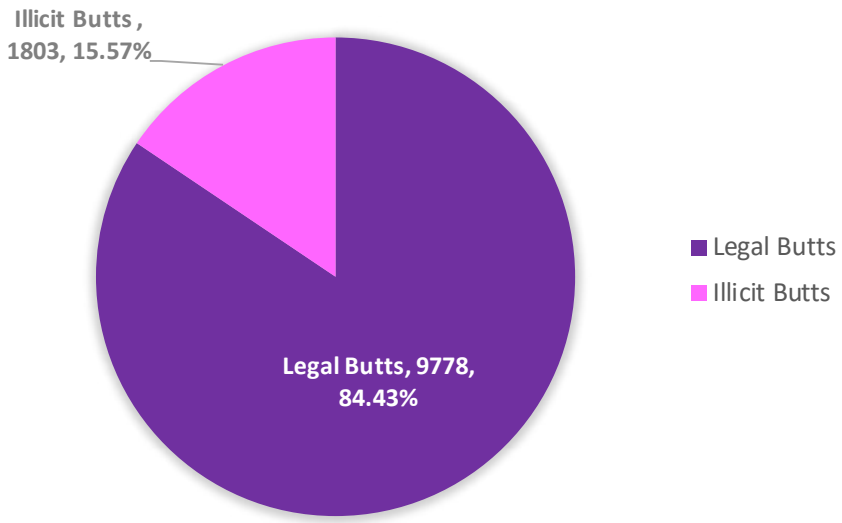


FIGURE 03-7 : OVERALL LEGAL TO ILLICIT CIGARETTE BUTT RATIO
LEGAL TO ILLICIT BUTT RATIO: 5.25: 1

3.2 Key Findings of the Empty Cigarette Pack Survey

3.2.1 Number of Empty Cigarette Packs Collected by Zone

The research team collected a total of 2000 empty cigarette packs in the sample areas. Figure 03-8 illustrates the number of empty cigarette packs collected by zone. The highest number of cigarette packs were collected from Pettah and Keselwatte 160 (8%), followed by Mirissa 148 (7.4%) and Wattala 146 (7.3%). Deyandara 29 (1.4%) and Hakmana 35 (1.75%), recorded the lowest pack collection.

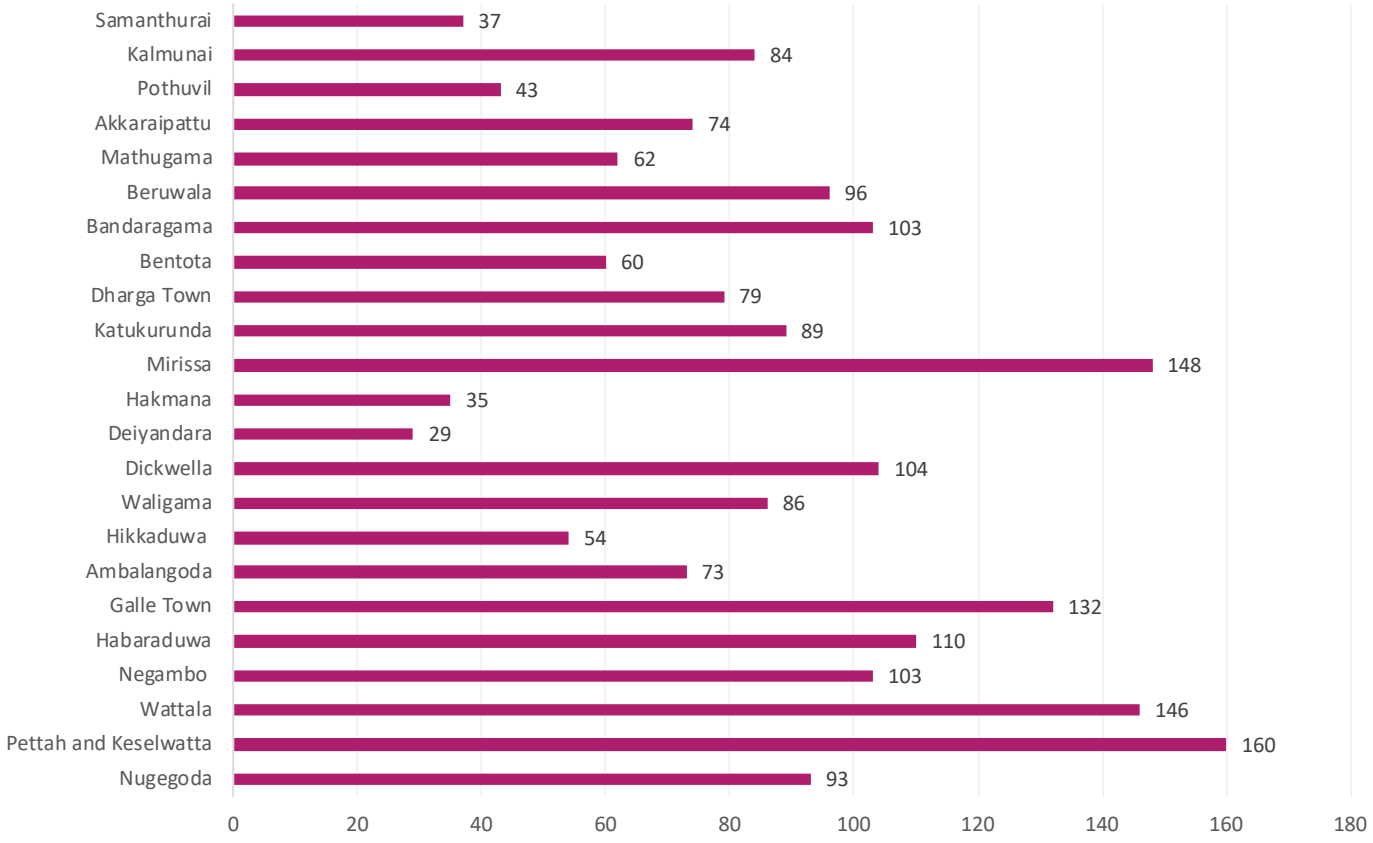


FIGURE 03-8 : NUMBER OF EMPTY ILLICIT CIGARETTE PACKS COLELCTED BY ZONE
(TOTAL NUMBER OF EMPTY CIGARETTE PACKS COLLECTED = 2000)

3.2.2 Number of Empty Cigarette Packs Collected by District

The empty cigarette packs collected in the zones were aggregated at district level. Figure 03-9 illustrates the number of empty cigarettes packs collected by each district. The results show that Kalutara 489 (24.4%), Matara 402 (20%) and Galle 369 (18.4%) recorded the highest number of aggregated empty packs.

Ampara 238 (11.9%) recorded the lowest count, while Colombo 252 (12.6%) and Gampaha 249 (12.45%) also showed similar counts.

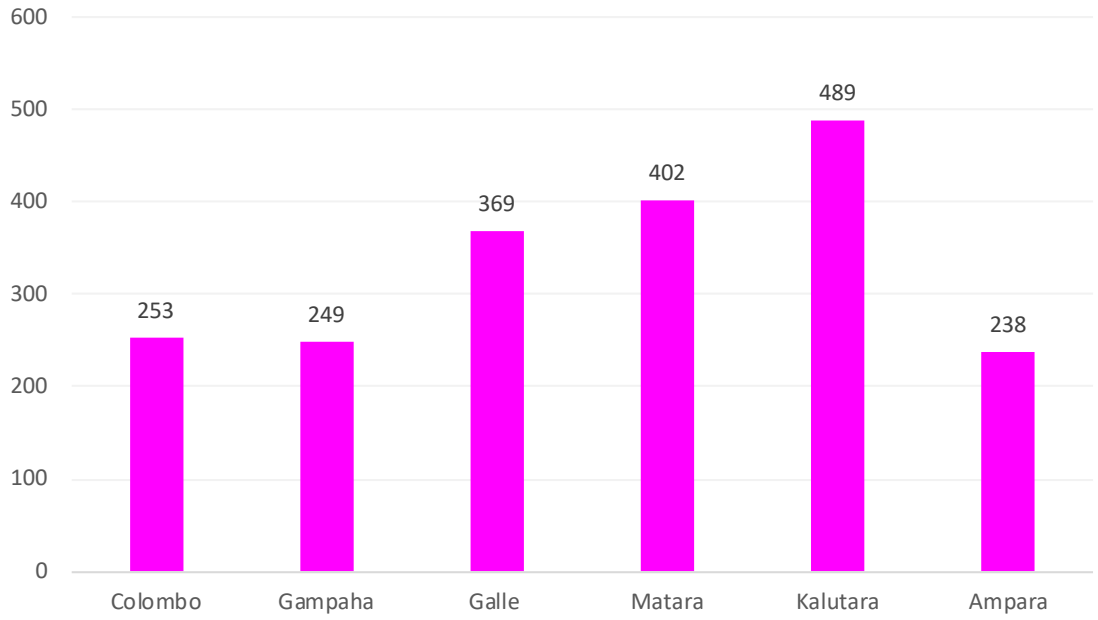


FIGURE 03-9 : NUMBER OF EMPTY CIGARETTE PACKS COLLECTED BY DISTRICT
(TOTAL NUMBER OF EMPTY CIGARETTE PACKS COLLECTED = 2000)

3.2.3 Number of Empty Illicit Cigarette Packs Collected by Zone

The analysis of empty cigarette packs revealed that there were 216 illicit cigarette packs among the 2000 packs collected (10.8%). Out of total of 216 illicit packs collected, the highest number of illicit packs were collected in Mirissa 31 (14.35%). Beruwala and Pettah recorded 17 (7.9%) packs each, followed by Wattala 16 (7.41%) and Dharga-Town 15 (6.9%). No illicit packs were found in Deiynadara, whereas only 2 illicit packs were found in Habaraduwa, Hakmana and Pothuvil.

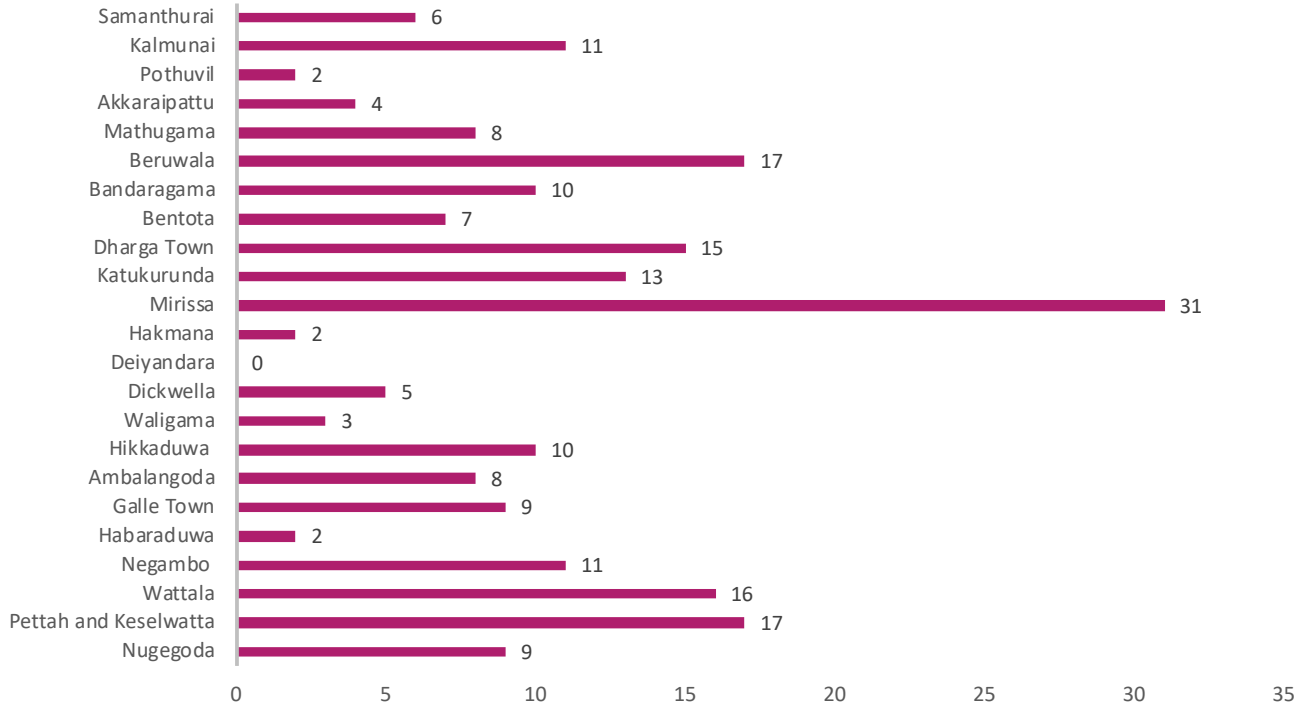


FIGURE 03-10 : NUMBER OF EMPTY ILLICIT CIGARETTE PACKS COLLECTED BY ZONE
(TOTAL NUMBER OF EMPTY ILLICIT CIGARETTE PACKS COLLECTED = 216)

3.2.4 Number of Empty Illicit Cigarette Packs Collected by District

District-wise, the highest number of illicit packs were collected in Kalutara 70 (32.4%), followed by Matara 41 (19%) and Galle 29 (13.4%). The lowest counts were reported in Ampara, Colombo and Gampaha which recorded 23 (10.3%), 26 (12%) and 27 (12.5%) empty illicit cigarette packs respectively.

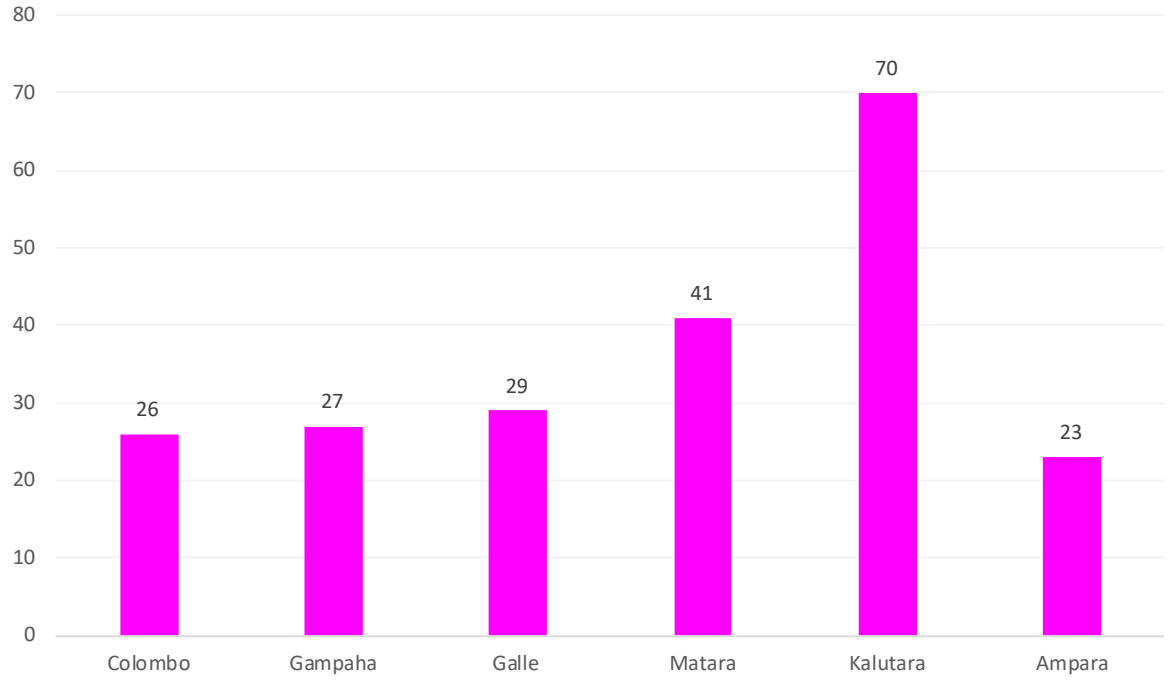


FIGURE 03-11 : NUMBER OF EMPTY ILLICIT CIGARETTE PACKS COLLECTED BY DISTRICT
(TOTAL NUMBER OF EMPTY ILLICIT CIGARETTE PACKS COLLECTED = 216)

3.2.5 Percentage of Empty Illicit Cigarette Packs Collected by Zone

The percentage of empty illicit cigarette packs collected by zone are illustrated in Figure 03-12. Mirrisa reported the highest percentage of illicit packs (20.9%). Dharga Town claimed the second highest percentage with (19.0%) of illicit packs and Hikkaduwa third highest percentage (18.52%) of illicit packs from the total sample.

In Deyanadara the team did not find any empty illicit cigarette packs. Habaraduwa recorded the lowest percentage of illicit packs (1.82%). Remarkably, Weligama recorded less than (5%) of illicit packs even though it is situated in the coastal belt and is a popular tourist destination.

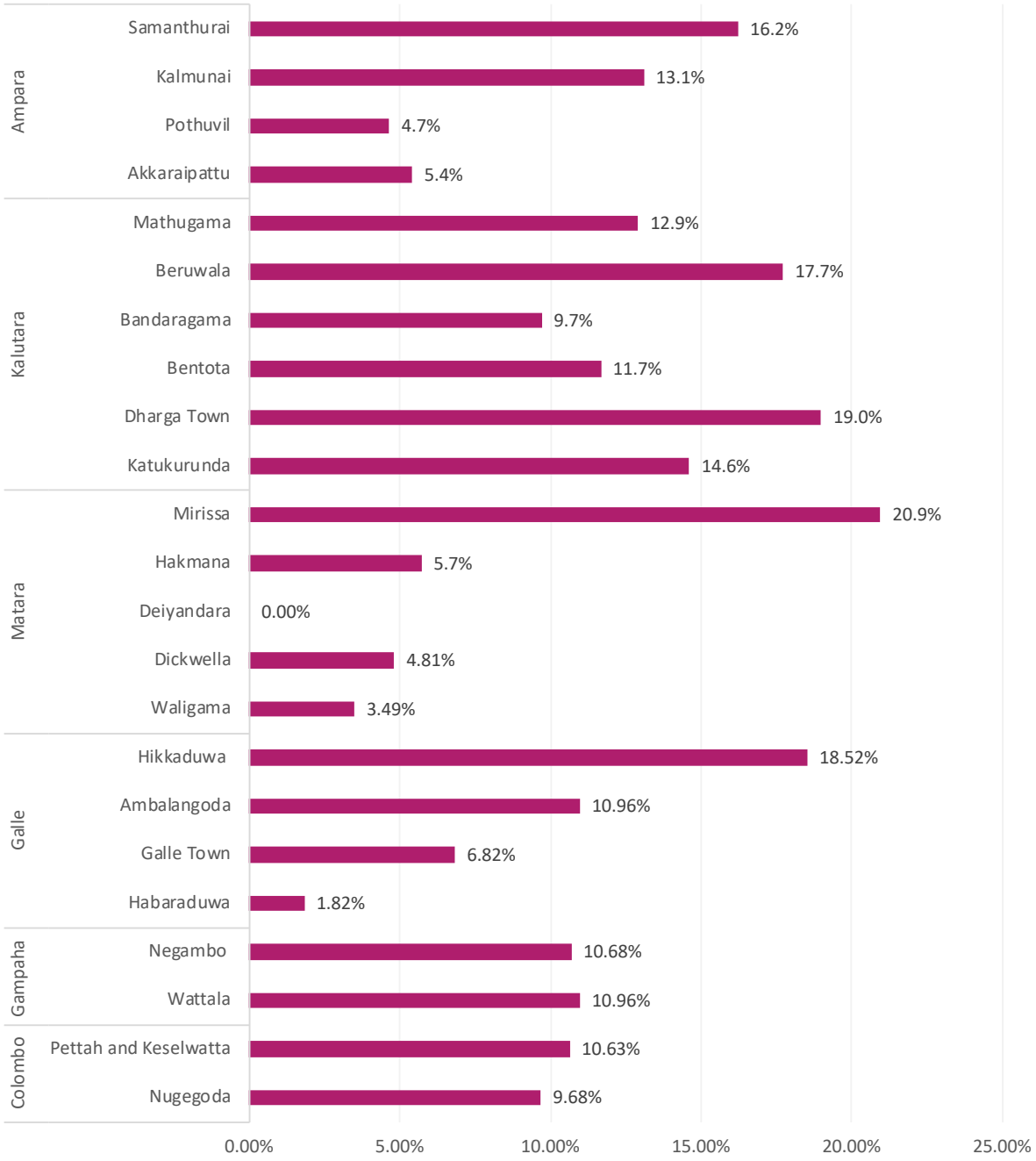


FIGURE 03-12 : PERCENTAGE OF EMPTY ILLICIT CIGARETTE PACKS COLLECTED BY ZONE

3.2.6 Percentage of Empty Illicit Cigarette Packs Collected by District

The percentage of empty illicit cigarette packs collected by district are illustrated in Figure 03-13. Accordingly, packs collected from Kalutara contained (14.3%) of illicit packs. Gampaha (10.8%), Matara (10.2%), Colombo (10.3%) and Ampara (9.7%) recorded similar percentages of illicit cigarette packs, while the lowest percentage of illicit cigarette packs was recorded from Galle (7.9%).

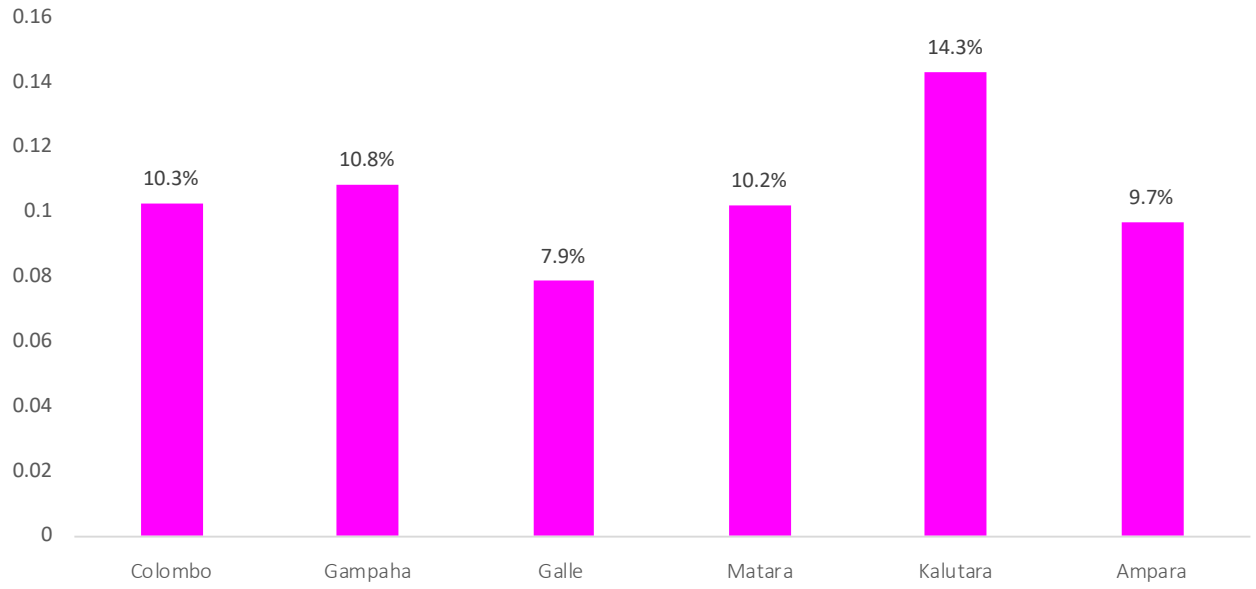
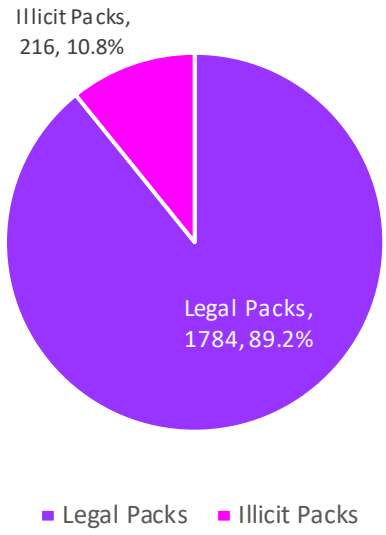


FIGURE 03-13 : PERCENTAGE OF EMPTY ILLICIT CIGARETTE PACKS COLLECTED BY DISTRICT

3.2.7 Overall Legal to Illicit Empty Pack Ratio



From the total sample of 2000 empty cigarette packs, 216 (10.8%) were found to be illicit, while 1784 were found to be legal. The ratio between legal to illicit empty cigarette packs is simplified as 8.25:1. This means that one out of every 8.25 empty cigarette packs collected from the field was illicit.

FIGURE 03-14 : OVERALL LEGAL TO ILLICIT EMPTY PACK RATIO
LEGAL TO ILLICIT PACK RATIO: 8.25:1

3.3 Key Findings of the Smoker Survey

The Smoker Survey was conducted in parallel to the Empty Pack Survey and Butt Collection. Two enumerators were assigned to cover the selected routes of each district for one hour and select volunteer smokers for the survey above the age of 21. There were 246 respondents from the selected districts of Ampara (18.3%), Colombo (16.3%), Galle (19.1%), Gamapaha (14.2%), Kaluatara (16.7%) and Marata (15.4%) as presented in Figure 03-15.

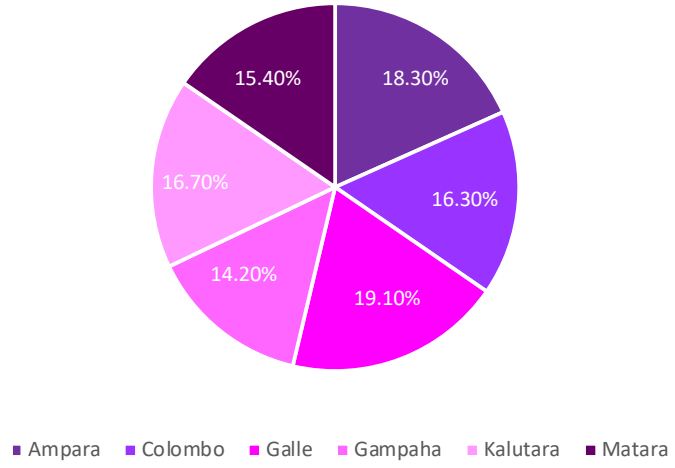
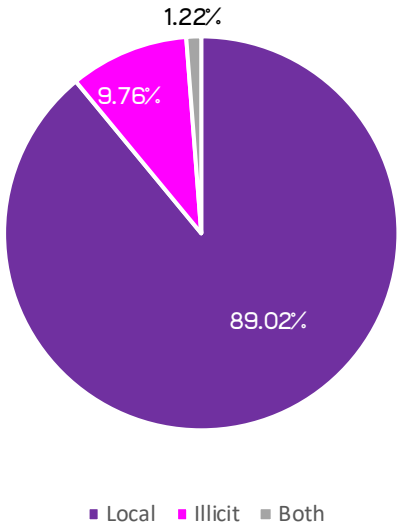


FIGURE 03-15 : DISTRIBUTION OF SMOKER SAMPLE BY DISTRICT (TOTAL NUMBER OF RESPONDENTS = 246)

3.3.1 Preference for Local or Illicit Cigarettes



The aim of the smoker survey was to collect information on self-reported preferences for cigarette brands. When respondents were asked about their preferences between local and illicit cigarettes, 89% of the respondents said they prefer local brands. Around 10% of the respondents preferred illicit cigarettes and 1.2% smokers said they prefer both types.

It can therefore be argued that every one out of ten smokers prefer illicit brands.

FIGURE 03-16 : PREFERENCE FOR LOCAL OR ILLICIT CIGARETTES

Aggregate data for districts show that (31.4%) of the respondents from Gampaha, (10.5%) respondents from Matara and (8.9%) from Ampara prefer illicit cigarettes. However, in Colombo, the preference for illicit cigarettes was comparatively very low at only (2.5%) as shown in Figure 03-17.

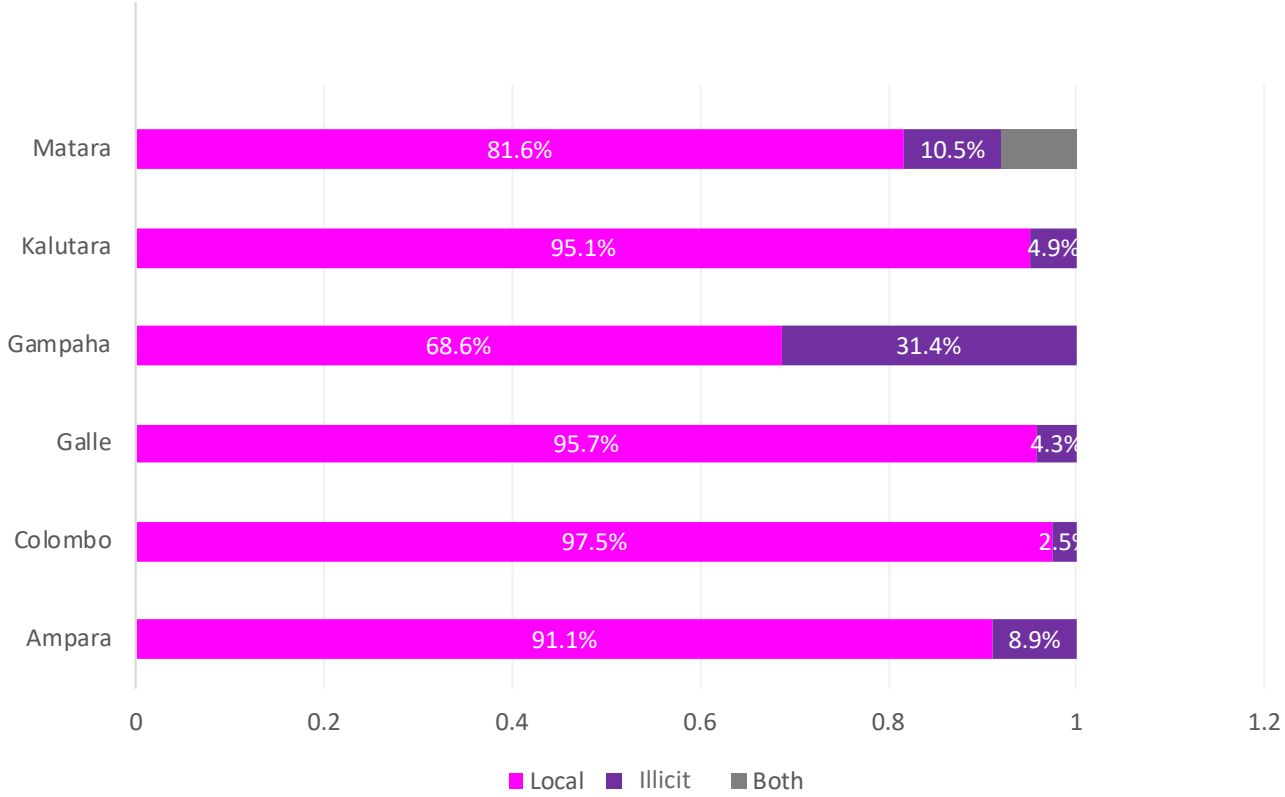


FIGURE 03-17 : PREFERENCE FOR LOCAL OR ILLICIT CIGARETTES BY DISTRICT

3.3.2 Preferences for Cigarette Brands

When respondents were asked to name their most preferred cigarette brand, (73.2%) named Gold Leaf. (12.2%) preferred Dunhill, while only (5.7%) preferred Bristol and remarkably none of the respondents preferred the local brands Capstan and Navy Cut. These figures are compatible with the cigarette sales statistics of CTC.

Around 6.5% of respondents mentioned that they preferred brands other than the listed brands, all of which are illicit. Around 2.0% respondents preferred Benson and Hedges which has both the local and illicit versions. When ask about the preferred brand name overall, 8.5% of the smokers who participated in the survey explicitly stated that they prefer illicit cigarettes over local brands.

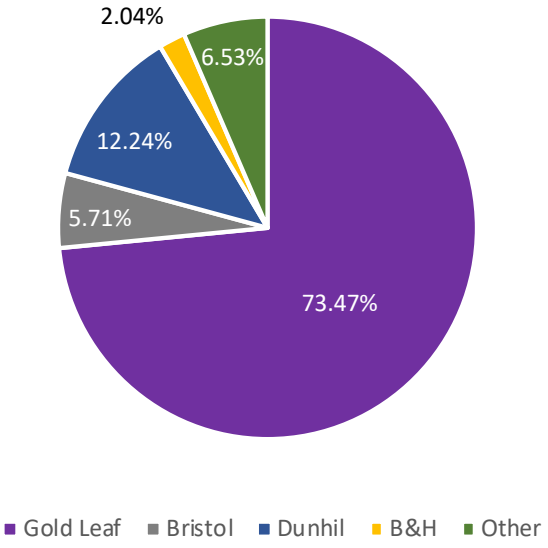


FIGURE 03-18 : PREFERENCE FOR CIGARETTE BRANDS

3.3.3 Consumption of Illicit Cigarettes During the Previous Week

This component of the study was designed to uncover the availability and access to illicit cigarettes in the market. Around (28%) of respondents stated that they have smoked illicit cigarettes in the week prior to the interview.

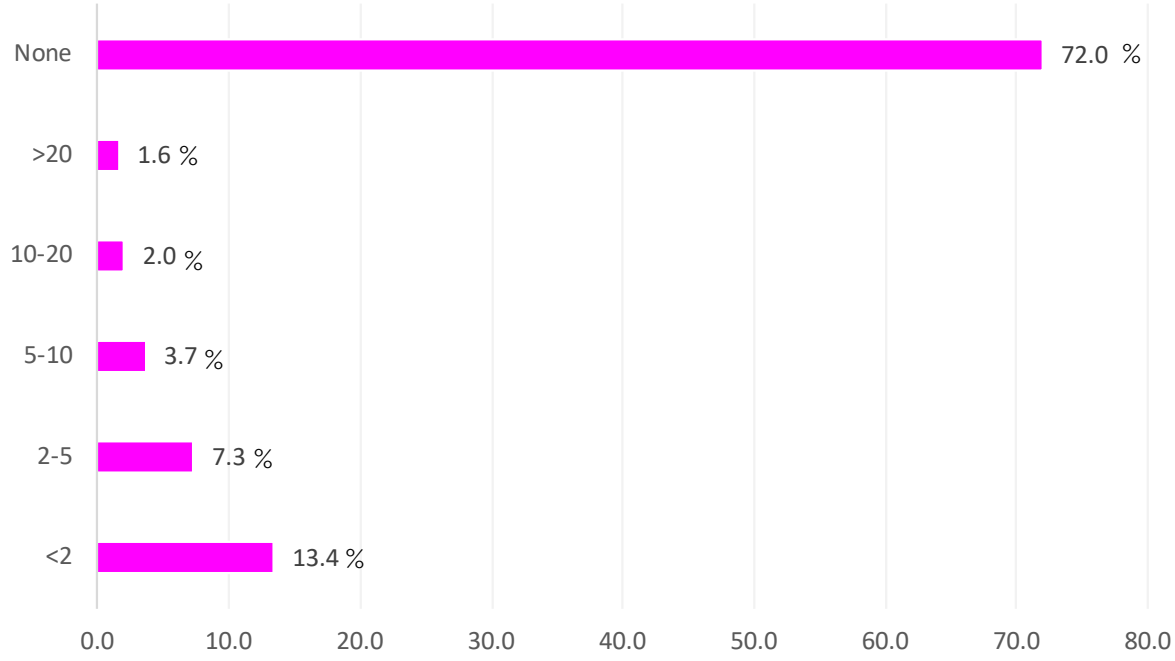


FIGURE 03-19: CONSUMPTION OF ILLICIT CIGARETTES DURING THE PREVIOUS WEEK

More than (50%) of respondents in Gampaha smoked at least one illicit cigarette during the previous week, while (12%) of respondents from the same district smoked more than 10 illicit cigarettes during the same period. Furthermore, (43%) of respondents in Galle, (32%) from Matara, (25%) from Colombo and (22%) of respondents from Ampara all smoked atleast one illicit cigarette during the previous week.

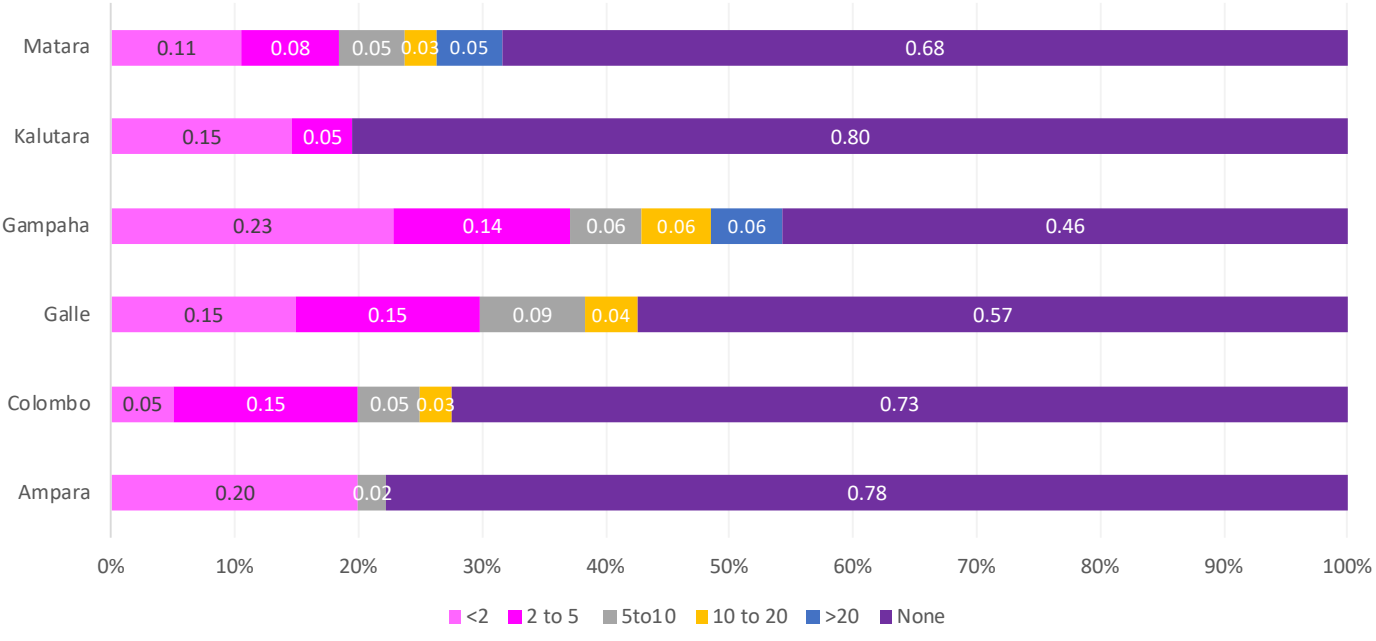
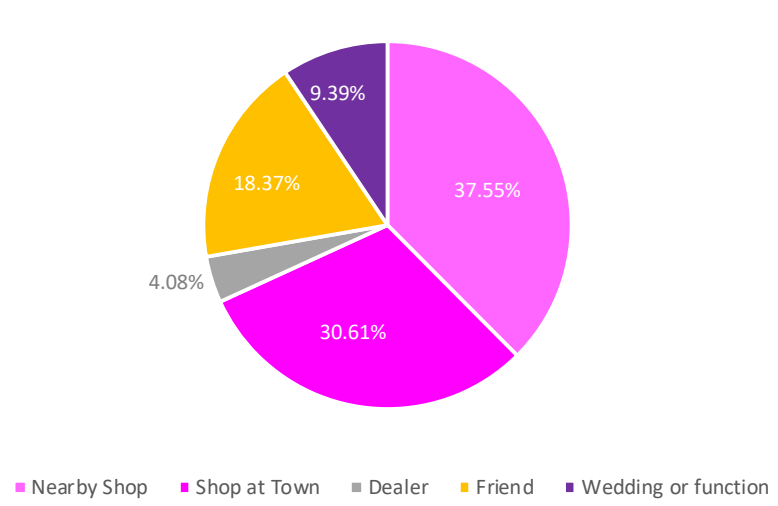


FIGURE 03-20: CONSUMPTION OF ILLICIT CIGARETTES DURING THE PREVIOUS WEEK BY DISTRICT

3.3.4 Modes of Access to Illicit Cigarettes



When the respondents were asked the methods available for them to access illicit cigarettes, (37.5%) said that they could buy illict cigarettes from shops near their houses (30.6%) said there were shops in town and (4.08%) said there were special agents from whom they could buy illicit cigarettes. Noticeably, (18%) of the respondents said that they got illicit cigarettes from their friends and (9.3%) said they smoked illicit cigarettes at weddings or functions.

FIGURE 03-21: MODES OF ACCESS TO ILLICIT CIGARETTES

At district level a large percentage (31%) of respondents from Gampaha mentioned that they obtained illict cigarettes from friends. This might be due to the high density of foreign-employed population in the Negombo and Wattala areas. Similarly, more than (20%) of the respondents from the Kalutara, Galle and Matara districts stated that they obtained illicit cigarettes from their friends. Significant percentages from each district, other than Matara and Ampara, obtained illicit cigarettes at social functions, like a wedding. It is very significant that (75%) of respondents from Ampara stated that they obtain illicit cigarettes from nearby shops.

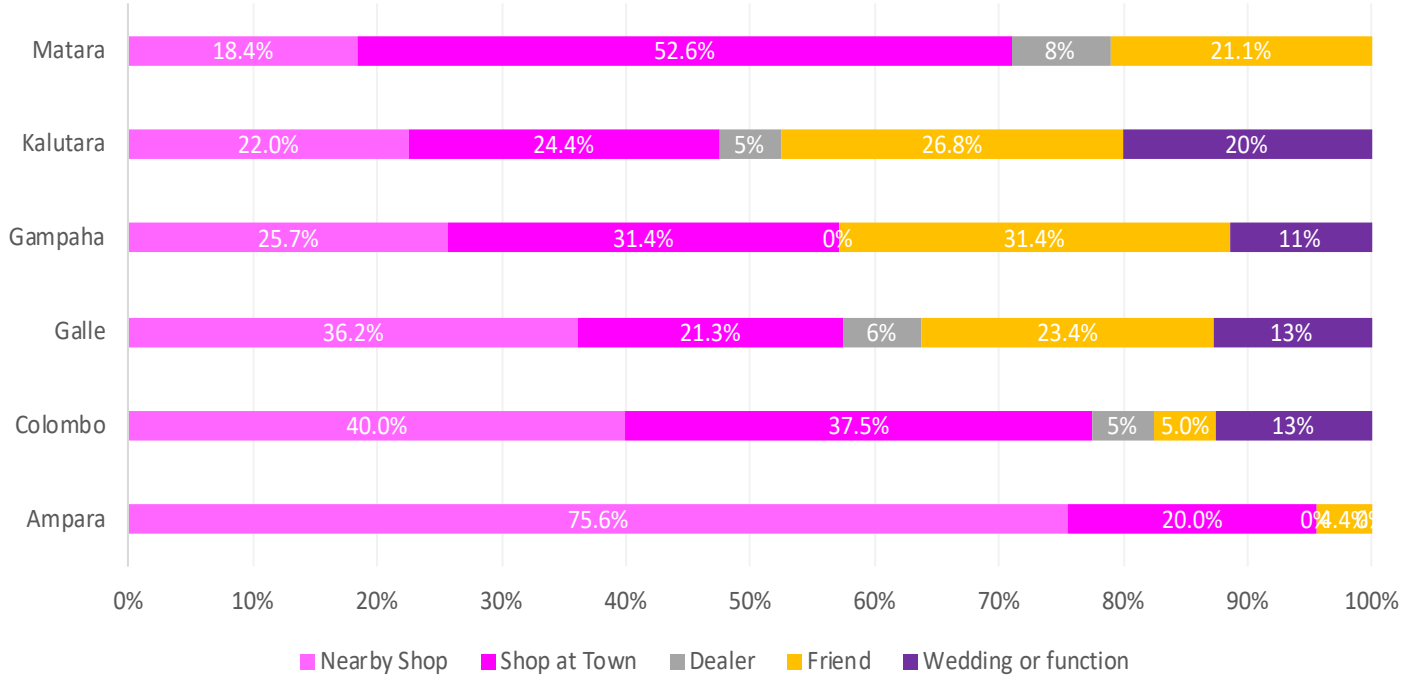


FIGURE 03-22: MODES OF ACCESS TO ILLICIT CIGARETTES BY DISTRCIT

3.4 Key Findings of Test Purchases

Test purchases were used as a triangulation method. Accordingly, two enumerators conducted the test purchase survey and collected 651 cigarettes from randomly selected shops, hotels and restaurants. Through the analysis conducted with the assistance of product experts, it was found that only samples from Negombo, Pettah and Weligama contained illicit cigarettes. It is significant that (20%) of cigarettes purchased in Negombo were illicit, while Pettah and Weligama contained (5%) illicit cigarettes each. This indicates evidence to suggest that there is a higher percentage of illicit cigarette consumption in major towns; but the market is not explicitly open to unknown consumers. In Negombo, the enumerators were able to buy illicit cigarettes from the shops easily, this may suggest that the illicit cigarette trade in Negombo is conducted more openly in comparison to other areas, perhaps due to it being a hotspot for tourists.

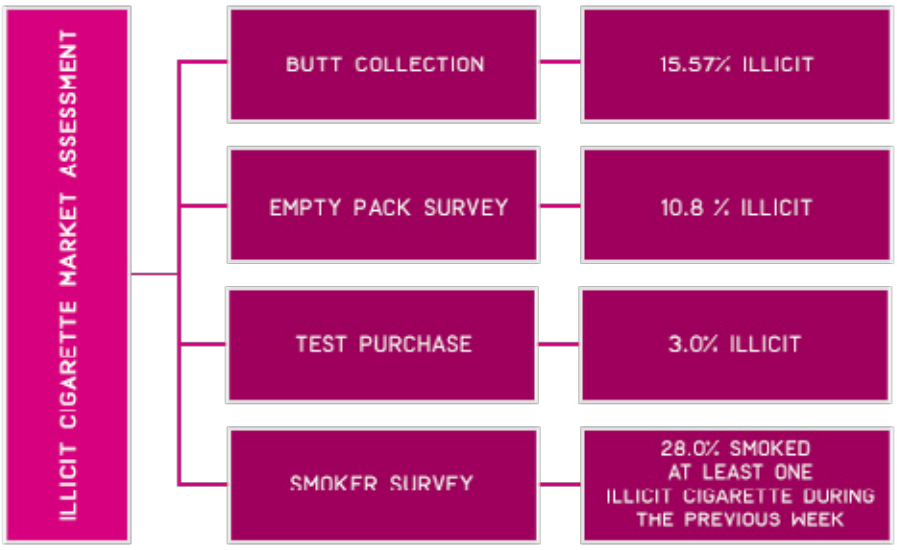
ZONE	PURCHASED	ILLICIT	%
NUGEGODA	60	0	0
PETTAH	83	4	5%
NEGOMBO	75	15	20%
WATTALA	68	0	0%
HABARADUWA	20	0	0%
GALLE	21	0	0%
AMBALANGODA	20	0	0%
HIKKADUWA	60	0	0
WELIGAMA	83	4	5%
DIKWELLA	20	0	0%
DEIYANDARA	12	0	0%
HAKMANA	18	0	0%
MIRISSA	20	0	0%
KATUKURUNDA	20	0	0%
DHARGA TOWN	20	0	0%
BENTOTA	15	0	0%
BANDARAGAMA	20	0	0%
BERUWALA	20	0	0%
MATHUGAMA	23	0	0%
AKKARAIPATTU	30	0	0%
POTHUVIL	16	0	0%
KALMUNAI	19	0	0%
SAMMANTHURAI	14	0	0%
	651	**19**	**3%**

TABLE 03-1 : RESULTS OF DATA ANALYSIS OF TEST PURCHASES BY ZONE

3.5 Overall Assessment of the Illicit Cigarette Market in Sri Lanka

The present study has used multiple data collection methodologies to identify and quantify the different dimensions of the illicit cigarette market in Sri Lanka. Even though test purchasing is an observational method, since there are active law enforcement programs against illicit cigarette sellers, they have become alert and are reluctant to sell illicit cigarettes to unknown buyers. Therefore, there is obvious under-representation of illicit cigarette availability in the open market. Smoker survey data is self-reported and used as a validation method to verify the findings of other methods in this study. Hence, among the four methods adopted, the most reliable methods are the observational methods that include the empty pack survey and butt collection.

According to the smoker survey results, (28%) of the respondents smoked at least one illicit cigarette during the week prior to the study. This is more than 1/4th of the consumers and hence shows a relatively high rate of illicit cigarette circulation in the country. According to the cigarette butt collection data analysis, the overall illicit cigarette consumption rate is 15.57%, and the empty pack survey shows a lower percentage of 10.8%. Both these results are relatively similar to the previous research findings in other countries that indicate the presence of a 9% to 15% illicit cigarette market share. (KPMG, 2017; Kurti, Lampe, & Thompkins, 2013; Logan, 2014).



CHAPTER 04 : ESTIMATION OF TAX REVENUE LOSSES DUE TO THE ILLICIT CIGARETTE TRADE

4.1 Introduction

Higher cigarette taxes have been widely used as a deterrent to smoking with the objective of reducing tobacco-related mortality. The World Health Organization and the World Bank are in the forefront in advocating higher taxes for tobacco products to curb tobacco-related health issues.

However, the effectiveness of cigarette taxes in reducing the smoking prevalence has been hampered by a possible rise in the smuggling of cheaper foreign cigarettes and the consequent growth of the illicit cigarette trade. This is an obvious consequence of higher taxes, as smokers tend to shift to cheaper brands. This provides an incentive for smuggling cigarettes into the country, thus evading taxation.

In Sri Lanka, various direct and indirect taxes on cigarettes have been raised over the years in line with the government's policy of reducing tobacco use. These taxes, which consist of (a) Excise Special Provision Tax (b) Value Added Tax, and (c) Tobacco Tax, account for around 20 percent of the total excise tax revenue of Sri Lanka. On average, such levies amount to almost three fourths of the price of a cigarette stick.

The increase in taxes has had a somewhat downward impact on legitimate cigarette sales. The sales declined from 3,963 million sticks in 2015, to 3,162 million sticks in 2017, following the tax increase. However, it would be misleading to interpret this trend as an overall decline in smoking, as it would have been offset by a potential increase in illicit cigarette consumption.

The shortcomings in the regulatory framework and infrastructure constraints at Customs also provide loopholes to smugglers. There have also been concerns raised about the rising trend in smoking of other products such as Beedi, which is a completely unregulated and an untaxed market segment in Sri Lanka.

While the revenue loss to the Government due to unregulated tobacco products such as Beedi is also alarming, the purpose of this Chapter is to analyze the extent of revenue losses incurred by the government as a result of the illicit cigarette trade.

4.2 Taxation on Cigarettes

In Sri Lanka, the tobacco industry is subject to both indirect and direct taxes imposed by the government. Indirect taxes include taxes exclusively imposed for tobacco products and taxes that are common to all goods and services. Currently, the exclusive category of taxes consists of Special Provision Excise Tax and Tobacco Tax. In addition, the tobacco industry is subject to the Value Added Tax (VAT), which is common to other goods and services as well. Previously, there were various other taxes including Nation Building Tax (NBT), Turnover Tax and Social Responsibility Levy. In 2014, the government withdrew VAT and NBT. In October 2016, the government reintroduced VAT on cigarettes at 15 percent.

The tobacco industry is also subject to direct taxes consisting of corporate taxes paid by the company and the Pay-as-You-Earn (PAYE) taxes paid by the employees. In this study, however, only the above-mentioned indirect taxes are taken into consideration in computing tax losses, as the burden of such taxes are usually passed to consumers leading to price increases in the product.

The Excise Tax is the most prominent levy accounting for around 80 percent of the total indirect levies imposed on cigarettes. The present Excise Tax was introduced in November 1990, in terms of the Excise (Special Provision) Act No. 13 of 1989. Cigarettes have been the only tobacco product subject to Excise Taxes under that Act.

Until 1995, cigarettes were subject to a common Excise Tax irrespective of size. Since then, different tax rates have been applied depending on the length of the sticks. Initially, a two-tier Excise Tax system was adopted, and the present system consists of five tiers (Table 04-1). The Excise Tax for cigarettes was raised substantially from time to time over the last decade. Under the revision effected in October 2016, the tax rate for Gold Leaf – the most popular brand – was raised by 28.4 percent from Rs. 23.75 per stick to Rs. 30.50 per stick. In July 2018, it was further raised by 10.0 percent to 33.55 per stick.

END OF THE YEAR	LESS THAN 60MM	60 - 70 MM	67 - 72 MM	72 - 84 MM	OVER 84 MM
2008	2215	4520	7219	8850	9870
2009	2289	5215	7991	9681	11170
2010	2830	6245	9028	11260	13170
2011	3465	6973	9811	12108	15000
2012	4037	8112	10953	13815	7100
2013	5722	10355	12100	16610	20000
2014	6975	12675	14660	21610	25100
2015	6975	12675	14660	23750	27240
2016	11675	17375	20500	30500	34250
2017	11675	17375	20500	30500	34500
2018 (A)	11675	11375	20500	33550	37675

TABLE 04-1 : EXCISE TAX RATES ON CIGARETTES BY LENGTH (RS. PER 1,000 STICKS)

The total amount of levies on cigarettes rose by 20 percent in 2017 from the previous year. Excise Tax proceeds accounted for 83 percent of the total levies on cigarettes in 2017. Adjusted for inflation, the real tax index (2010=100) for cigarettes doubled from 100 in 2010 to 207 in 2017 reflecting that taxes were raised far above inflation.

There is a broad consensus that changes in cigarette taxes are inversely related to smoking rates, which means higher the taxes the lower the smoking rates. However, it is misleading to interpret any decline in legitimate cigarette sales as a fall in overall smoking, as smokers will switch to cheaper options due to higher taxes. There is evidence worldwide that tobacco tax hikes have led to booms in illicit trade, facilitated by organized criminal networks [9] .

[9] In Canada, for instance, the tobacco tax increases adopted in the 1990s resulted in a booming contraband market propelled by organized crimes. Substantial amounts of contraband tobacco entering through borders were seized by the Canadian Police. Significant Contraband Tobacco Seizure: CRTF' available at http://www. rcmp-grc.gc.ca/on/news-nouvelles/2016/16-06-16-cornwall-eng.htm and 'Illicit Tobacco' available at http://www.rcmp-grc.gc.ca/ce-da/ tobac-tabac/index-eng.htm

4.3 Budget Forecasting Errors of Cigarette Tax Revenue

The existence of the illicit cigarette trade could be grasped by comparing the forecasted cigarette tax revenue for the annual budget against the actuals[10]. Illicit trade makes forecasting more difficult to the fiscal authority. If the actual revenue is lower than the forecast revenue, the inference is that a part of the cigarette consumption initially assumed by the fiscal authority for revenue forecast has shifted to the illicit market.

The ability of the fiscal authority to accurately budget for cigarette revenue can be measured by the Mean Percentage Error (MPE)[11]. The computed values of percentage errors for the period 2009-2017 are given in Table 04-2. On average, MPE for the entire period is -3.3 percent, which means that the realized revenue was lower than the budget forecast by 3.3 percent. It is noteworthy that the actuals were lower than the forecast value in six out of nine years, indicating the existence of illicit trade as argued above. The positive errors in 2011, 2015 and 2016 could be attributed to the increases in Excise Tax rates for cigarettes in those years subsequent to the original budget estimates. Leaving aside those exceptional years, the general tendency is that the tax revenue on cigarettes anticipated by the fiscal authorities at the budgetary stage was not materialized, possibly due to illicit trade.

YEAR	BUDGET FORCAST Rs Mn	ACTUAL	% ERROR [A]
2009	43200	37601	-13.0
2010	42500	40675	-4.3
2011	46795	49623	6.0
2012	58525	53563	-8.5
2013	62920	58567	-6.9
2014	61361	57240	-6.7
2015	68035	80015	17.6
2016	85035	88792	4.4
2017	105035	86002	-18.1

TABLE 04-2: COMPUTED VALUES OF PERCENTAGE ERRORS
COMPUTED BY THE RESEARCH TEAM

The highest forecasting deviation of -18.1 percent is evident for 2017 indicating an unprecedented expansion of the illicit trade. This could be attributed to the substantial tax increases for cigarettes in 2015 and 2016.

[10] Walbeek C. Measuring changes in the illicit cigarette market using government revenue data: the example of South Africa. Tobacco Control. 2014;(23):e69-e74 Published Online First: 2014 Jan 15, doi:10.1136/tobaccocontrol-2013-051178

[11] MPE is the average of the ratios of the difference between actual and forecasted values to actual values multiplied by 100.

4.4 Low Sensitivity of Cigarette Demand to Tax Increases

As explained earlier, the government raises Excise Taxes and other levies on cigarettes from time to time with the declared objective of mitigating the prevalence of smoking. The underlying assumption behind this policy measure is that a tax increase leads to an increase in the price of cigarettes, make them less affordable. However, the effectiveness of tax increases in bringing down smoking depends on the responsiveness of smokers to tax increases and accompanied price hikes, measured in terms of price elasticity of demand as follows:

$$LOG(D) = 8.78872 - 0.16403\ LOG(P)$$

WHERE D = DEMAND FOR CIGARETTES
P = WEIGHTED AVERAGE PRICE OF CIGARETTES

According to the computations as shown above, price elasticity of demand for cigarettes is -0.16403 for Sri Lanka. This implies that a price increase of 1 percent will bring about only a marginal reduction of 0.16 percent in cigarette demand, indicating inelastic demand against price increases.

Figure 04-1 illustrates the low sensitivity of cigarette demand to excise taxes. Although the weighted average excise tax rate rose by 192 percent, the sales of cigarettes declined only by 26 percent during the period 2010-2017. Even this small reduction cannot be regarded as a decline in the overall smoking prevalence in the country, as some smokers may have shifted to the illicit cigarette market, thereby offsetting the fall in legitimate cigarette sales.

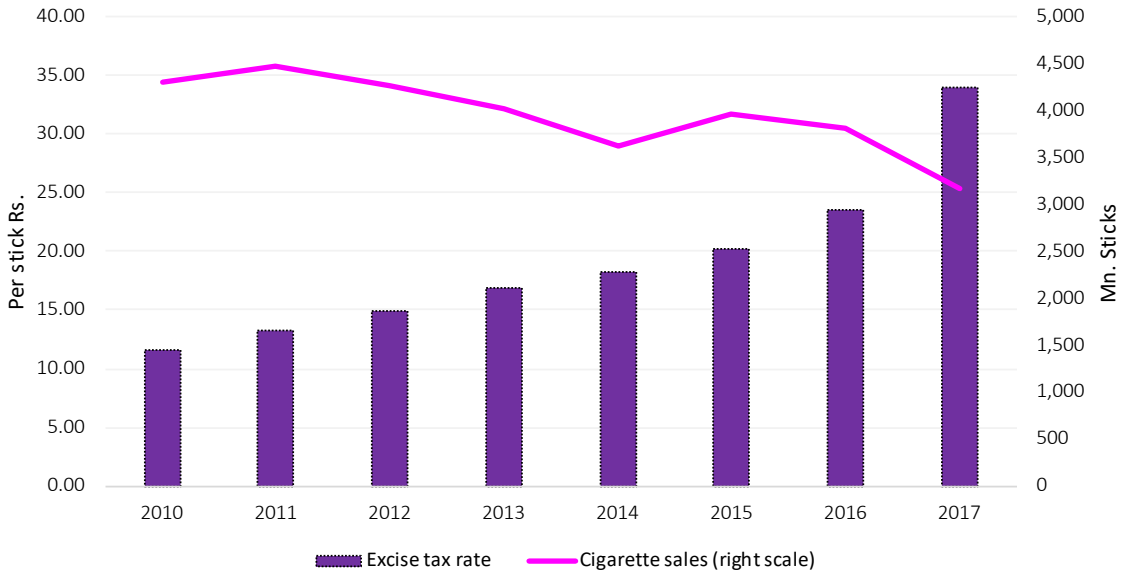


FIGURE 04-1: EXCISE TAXES AND CIGARETTE SALES

The low sensitivity of cigarette demand to tax hikes poses a major challenge for policymakers in using higher taxes as a deterrent to smoking. The estimates indicate that smokers do not have much concern about tax increases and the resulting cigarette price increases. Against this backdrop, some smokers, who cannot afford the increased prices of legitimate cigarettes accompanied with tax hikes, may switch to tax-evaded illicit cigarettes which are available in the market at much lower prices.

However, the relationship between tax increases and illicit trade cannot be explicitly quantified using econometric methods in the case of Sri Lanka due to the lack of time series data. Also, it may be noted here that in EU countries, the illicit cigarette trade remains low despite high taxes on cigarettes. This reflects the effectiveness of stringent controls executed to mitigate illicit trade in those countries.

4.5 Estimating Tax Losses

4.5.1 Methodology

This section describes the methodology adapted to measure tax losses arising from evasion of taxes by illicit cigarette traders[12]. Tax evasion can be defined as illegal methods of circumventing tobacco taxes. "It includes smuggling cigarettes across borders, selling genuine cigarettes that were brought from abroad illegally, selling counterfeit or illicit white cigarettes, or selling or buying cigarettes via the Internet, phone or mail without paying appropriate taxes" (Ross, 2015).

Measurement of tax evasion pertaining to the cigarette trade is rather difficult due to its clandestine nature. The lack of reliable data poses a major challenge to researchers. Those who are engaged in illicit trade do not divulge information. Enforcement authorities who may have limited data and would be reluctant to share them owing to confidentiality.

Hence, various alternative methods have to be used to estimate the tax losses by collecting new data from the field. In this study, we use the findings of the field surveys, which are described in the previous chapters, to make estimates for Sri Lanka.

The total quantity of cigarette sales (QTS) can be expressed as the sum of quantity of legal cigarette sales (QLS) and the quantity of illicit cigarette sales (QIS).

$$QTS = QLS + QIS \quad (1)$$

We use the share of illicit sales, which is derived from the butt and empty pack surveys, to predict the quantity of total cigarette sales, assuming that there is no illicit trade:

$$QTS = ((QLS/ (1 - RIS)) * 1 \quad (2)$$

WHERE, RIS = SHARE OF ILLICIT CIGARETTE SALES TO TOTAL CIGARETTE SALES

The share of illicit cigarette sales derived from the butt survey is 15.57 percent of total sales, whereas the empty pack survey indicates a share of 10.8 percent for illicit sales. These parameters are used to derive two scenarios of revenue losses. Then, the quantity of illegal cigarette sales can be estimated by subtracting actual legal sales from predicted total cigarette sales.

$$QIS = QTS - QLS \quad (3)$$

Assuming that illicit cigarettes could be sold at existing tax rates, the total amount of tax losses (TL) to the government can be derived by multiplying the total number of illicit cigarette sticks by the average indirect tax per stick, as follows:

$$TL = QIS * AIT \quad (4)$$

WHERE, AIT = AVERAGE INDIRECT TAX PER STICK

[12] Tax losses could also arise due to tax avoidance, which refers to legal methods of circumventing tobacco taxes such as tax-free purchases.

4.5.2 Estimated Tax Revenue Losses

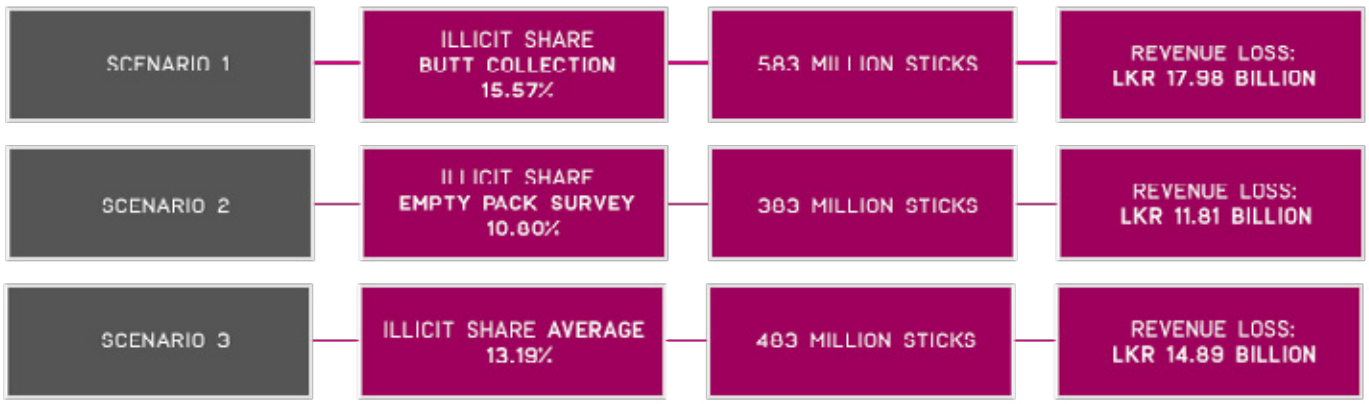
The tax losses estimated in this exercise is based on the assumption that smokers of illicit cigarettes would shift to legally-traded cigarettes in the absence of the illicit trade, and as a result, government revenue would increase. Such increase in government revenue could be construed as the revenue loss in the presence of the illicit trade. However, the extent of the shift to legal trade depends on the price elasticity of demand, which means that there would be a reduction in cigarette purchases as a result of the higher prices in the legitimate market vis-à-vis the illicit market.

The price of illicit cigarettes is assumed to be Rs. 30.00 in this exercise[13]. The weighted average price of legally sold cigarettes which stands at Rs. 46.83 is higher by 56.1 percent than illicit cigarette price. Using the previously mentioned price elasticity of -0.16403, the demand for legal cigarettes which shifted from the illicit market to the legitimate market would go down by 9.20 percent (=56.1 x (-0.16403)).

The tax losses are computed under three scenarios using different shares of illicit trade derived from the findings of the field surveys (Table 04-3). In Scenario 1, the illicit trade share of 15.57 percent based on the butt survey was used. The illicit trade share of 10.8 percent used in Scenario 2 was based on the Empty Pack Survey. Scenario 3 shows an illicit trade share of 13.19 percent which is the average of trade shares from the butt and empty pack surveys.

Scenario 1 indicates that as much as 583 million illicit cigarettes were traded in 2017. Adjusting for a reduction in purchases by 9.20 percent on account of price elasticity, the legitimate cigarette trade would have gone up by 529 million sticks, in the absence of illicit trade. This would have generated additional tax revenue around Rs. 17.98 billion for the year. On the same basis, the estimated quantity of illicit cigarettes for 2017 under Scenario 2 is 383 million sticks, which would have generated additional tax revenue of Rs. 11.81 billion.

Scenario 3 presents the middle-level illicit trade with illicit cigarettes amounting to 483 million sticks. Adjusted for the decline in demand for licit cigarettes, the estimated loss of tax revenue is Rs. 14.89 billion.



[13] Based on information collected during field visits.

ACTUAL DATA FOR 2017	
TOTAL INDIRECT TAXES (RS MN)	107383
NO. OF LEGALLY CIGARETTES (MN. STICKS)	3162
INDIRECT TAXES PER STICK (RS)	33.96
SCENARIO 1 : UPPER LEVEL (ILLICIT SALES SHARE 15.57%)	
(BASED ON CIGARETTE BUTT SURVEY FINDINGS)	
TOTAL SALES (MN. STICKS)	3745
ILLICIT SALES (MN. STICKS)	583
PROJECTED INCREASE IN LEGAL SALES ASSUMING A DEMAND	529
REDUCTION OF 9.20 % (MN. STICKS)	
TAX LOSS (RS. MN.)	**17982**
SCENARIO 2 : LOWER LEVEL (ILLICIT SALES SHARE 10.80 %)	
(BASED ON EMPTY PACK SERVEY FINDINGS)	
TOTAL SALES (MN. STICKS)	3545
ILLICIT SALES (MN. STICKS)	383
PROJECTED INCREASE IN LEGAL SALES ASSUMING A DEMAND	348
REDUCTION OF 9.20 % (MN. STICKS)	
TAX LOSS (RS. MN)	**11806**
SCENARIO 3 : MIDDLE LEVEL (ILLICIT SALES SHARE OF 13.19 %)	
(AVERAGE OF BUTT & EMPTY PACK SURVEY FINDINGS)	
TOTAL SALES (MN. STICKS)	3645
ILLICIT SALES (MN. STICKS)	483
PROJECTED INCREASE IN LEGAL SALES ASSUMING A DEMAND	439
REDUCTION OF 9.20 % (MN. STICKS)	
TAX LOSS (RS. MN)	**14894**

TABLE 04-3 : ESTIMATES OF TAX REVENUE LOSSES, 2017
COMPUTED BY THE RESEARCH TEAM

Notes:

1. In the absence of illicit sales, smokers will have to pay a higher price for legal cigarettes. It is assumed that the average price they pay goes up from Rs. 30 per stick (in the illicit market) to a weighted average price of Rs. 46.83 per stick (in the legal market). This shows a price increase of 56.1 percent.

2. As a result of the price difference in the two markets, the smokers who used illicit cigarettes would reduce their cigarette consumption from the previous level depending on the price elasticity of cigarette demand, which is estimated to be -0.1575, according to our computations.

CHAPTER 05 : CONCLUSION AND RECOMMENDATIONS

The government has raised Excise Taxes and other levies pertaining to the manufacturing of legal cigarettes substantially over the last decade. Concomitantly, a reduction in the sale of cigarettes manufactured by CTC is evident. Although this is commonly considered as the effectiveness of tobacco tax policy in reducing smoking prevalence, a possible increase in illicit cigarette trade cannot be overlooked.

It should also be noted that smokers are rather insensitive to tax increases as reflected in the low tax elasticity of cigarette demand. This not only proves the fall in legitimate cigarette sales in response to tax increases are marginal, but also the high probability of moving some smokers to the tax-free illicit cigarette market due to upward tax revisions applicable to the formal market. The computations of budget forecasting errors substantiate this point. This severely restricts the effectiveness of cigarette tax as an anti-smoking policy instrument.

The field surveys of this study reveal that the market share of the illicit cigarette trade varies from 15.56 percent based on the butt collection to 10.8 percent based on the empty pack survey. The derived quantities of illicit cigarettes for 2017 are estimated to be in the range of 383 million sticks to 583 million sticks. The resultant tax loss is as much as Rs. 11.5 billion in the lower bound and Rs. 17.5 billion in the upper bound.

The high prevalence of illicit cigarettes indicates that high taxation is a necessary but not a sufficient condition to curb smoking. High taxes should be complemented with illicit trade controls such as strict border surveillance using modern technology and trained staff. Required investment should be provided to procure sophisticated equipment and to improve the infrastructure. New laws are required to overcome the weaknesses in the present administrative and regulatory framework. Substitutes such as Beedi and cigars should also be brought under the tax net to reduce smoking prevalence.

Given the attractive incentives available from the illicit cigarette trade due to higher tax rates, exorbitant profit margins, regulatory loopholes and easy transportability of tobacco products, the regulatory framework and the operating arms need to be strengthened to control smuggling and trading activities related to illicit tobacco products. Such control should be strictly enforced at all points of the supply chain – from the port of entry to the final retail sales point in the street. Tax increases need to be accompanied with tighter controls.

Controls pertaining the cigarette trade needs to be strengthened to complement the increases in taxes on cigarettes. Reportedly, only one in ten illicit cigarettes are detected by law enforcement internationally. The contraband cigarette containers detected are confiscated, penalizing the smugglers as per regulations. Although certain penalties can be imposed as per Customs regulations, it is reported that there have been practical difficulties in imposing them due to factors such as non-disclosure of actual consignees of illicit cargo. Given the infrastructure and human resource constraints at the Customs and other regulatory bodies coupled with the potential extraordinary profits of illicit and low penalties, there is considerable incentive for smuggling illicit cigarettes.

The following corrective actions are recommended to overcome the above deficiencies:

RECOMMENDATIONS

- Considering the fact that higher taxes are a necessary but not a sufficient condition to mitigate smoking, it is appropriate to streamline legislation to curb smuggling and local trading activities of illicit tobacco products through severe punishments.
- The authorities may consider enforcing strict controls in places of transit, warehouses and ventures which might entail high degree of frauds.
- Imposition of rigorous investigation procedures and criminal prosecutions would help to streamline detection, seizure and destruction of illicit products.
- It would be desirable to enforce the already existing criminal laws pertaining to the illicit cigarette trade.
- Due consideration may be given to improve the infrastructure in Customs investigations with state-of-the-art anti-smuggling equipment such as X-Ray scanners, endoscopes, mirrors, night-vision equipment and advanced cameras.
- The coverage of the Tobacco Tax needs to be broadened to make substitute products including Beedi and cigars subject to taxation.
- Capacity building appears to be necessary in law enforcement agencies, including the Customs, Excise Department and Police to control smuggling and trading of illicit cigarettes.
- In terms of the FCTC protocol of the WHO to eliminate illicit tobacco trade, further action could be taken to prevent illicit trade by (a) establishing a tracing and tracking system to control the supply chain and (b) strengthening the areas of law enforcement and international co-operation.

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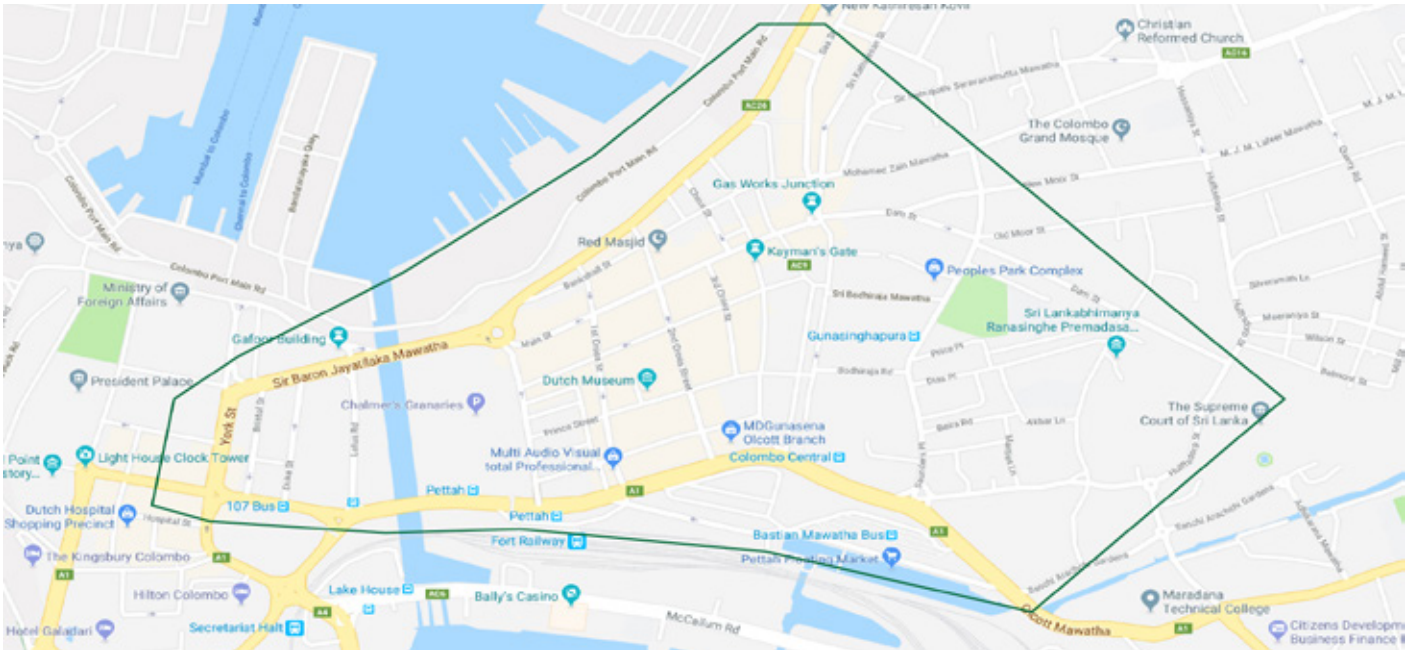
APPENDICES

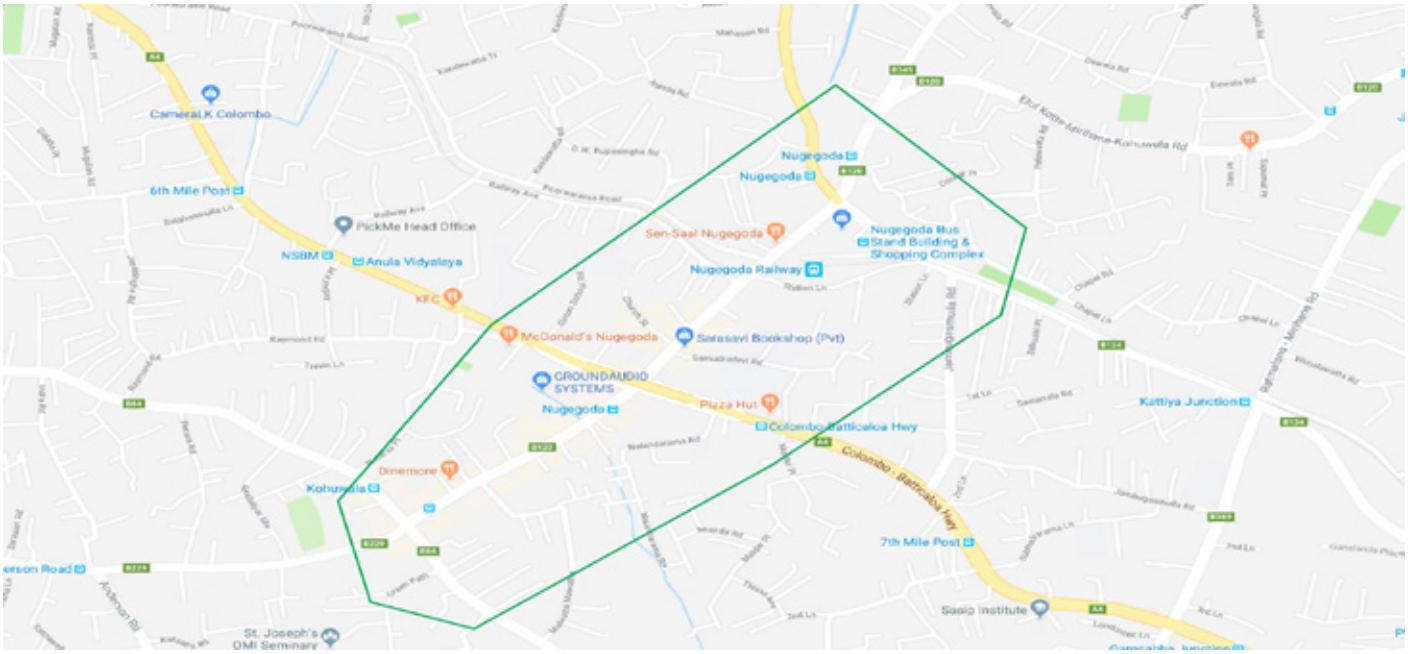
Appendix 1: Data Collection Routes and Sampling Details

1.a. Colombo District



CITY : PETTAH AND KESELWATTE
PROVINCE : WESTERN
DATE : 22 MARCH 2018
TIME : 12:55 P.M - 5:36 P.M

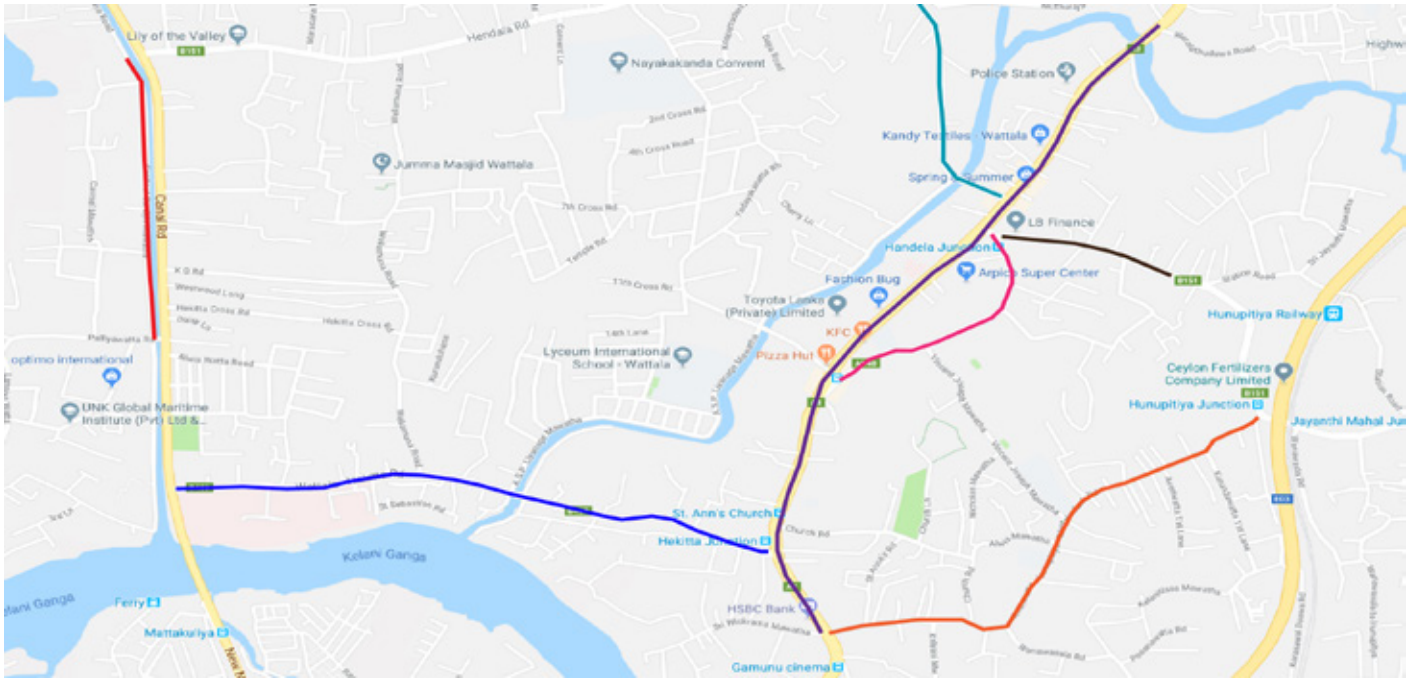
MAP 1: PETTAH AND KESELWATTA ZONE



CITY : NUGEGODA
PROVINCE : WESTERN
DATE : 16 MARCH 2018
TIME : 1:31 P.M - 2:46 P.M

MAP 2: NUGEGODA ZONE

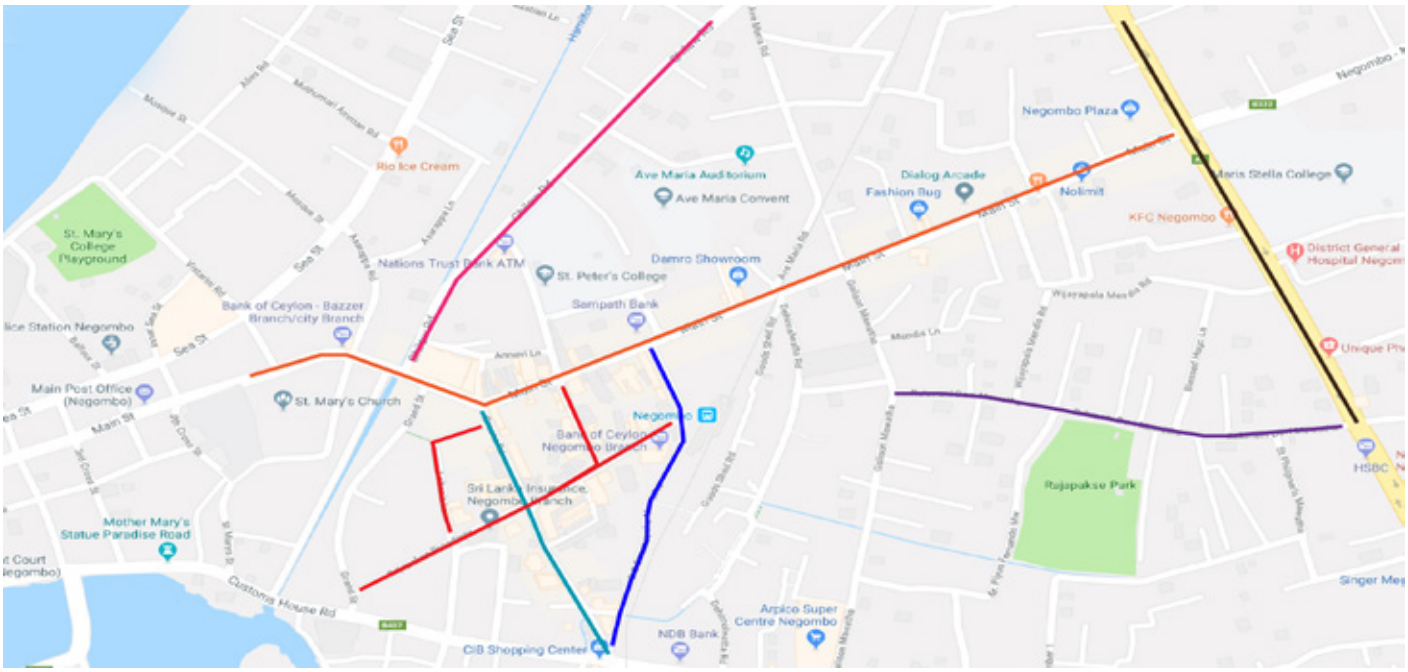
1.b. Gampaha District



MAP 3: ROUTES OF WATTALA

CITY : WATTALA
PROVINCE : WESTERN
DATE : 22 MARCH 2018
TIME : 9:25 A.M - 12:27 P.M

AVARIWATTE, HUNUPITIYA, WATTALA JUNC RD , WATTALA
HUNUPITIYA RAILWAY STATION RD, WATTALA
OLD NEGAMBO RD, WATTALA
32 NEGOMBO-COLOMBO MAIN RD, WATTALA
HANDALA RD-HANDALA JUNC, WATTALA
WATTALA-HEKITTA RD, WATTALA
ELA KATA M.W, WATTALA

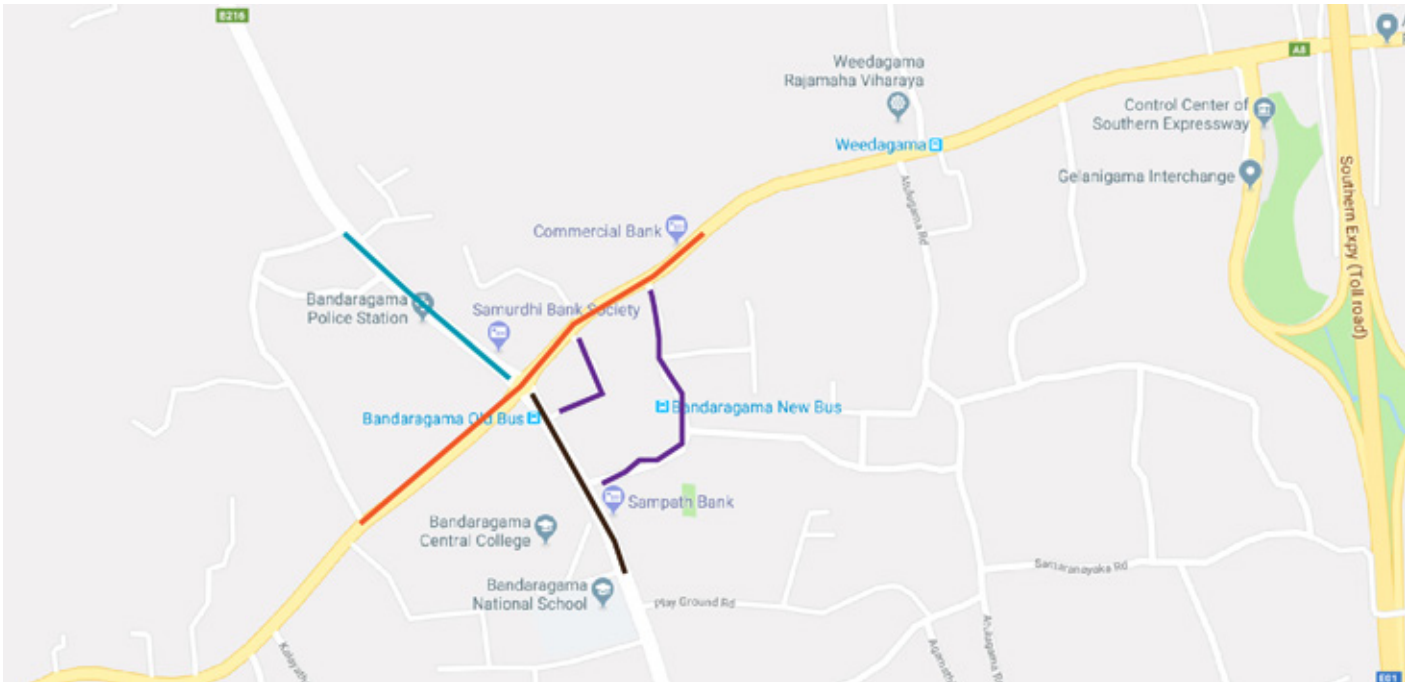


MAP 4: ROUTES OF NEGOMBO

CITY : NEGOMBO
PROVINCE : WESTERN
DATE : 23 MARCH 2018
TIME : 1:12 P.M - 2.04 P.M

MAIN ST, NEGOMBO
NEGOMBO-COLOMBO MAIN RD, NEGOMBO
CHILAW RD, NEGOMBO
RUKMANI DEVI M.W NEGOMBO
GREENS RD, NEGOMBO
D.S SENANAYAKE M.W, NEGOMBO
LEITAN'S LN, DE CROSS RD, RAJAPAKSE BROADWAY

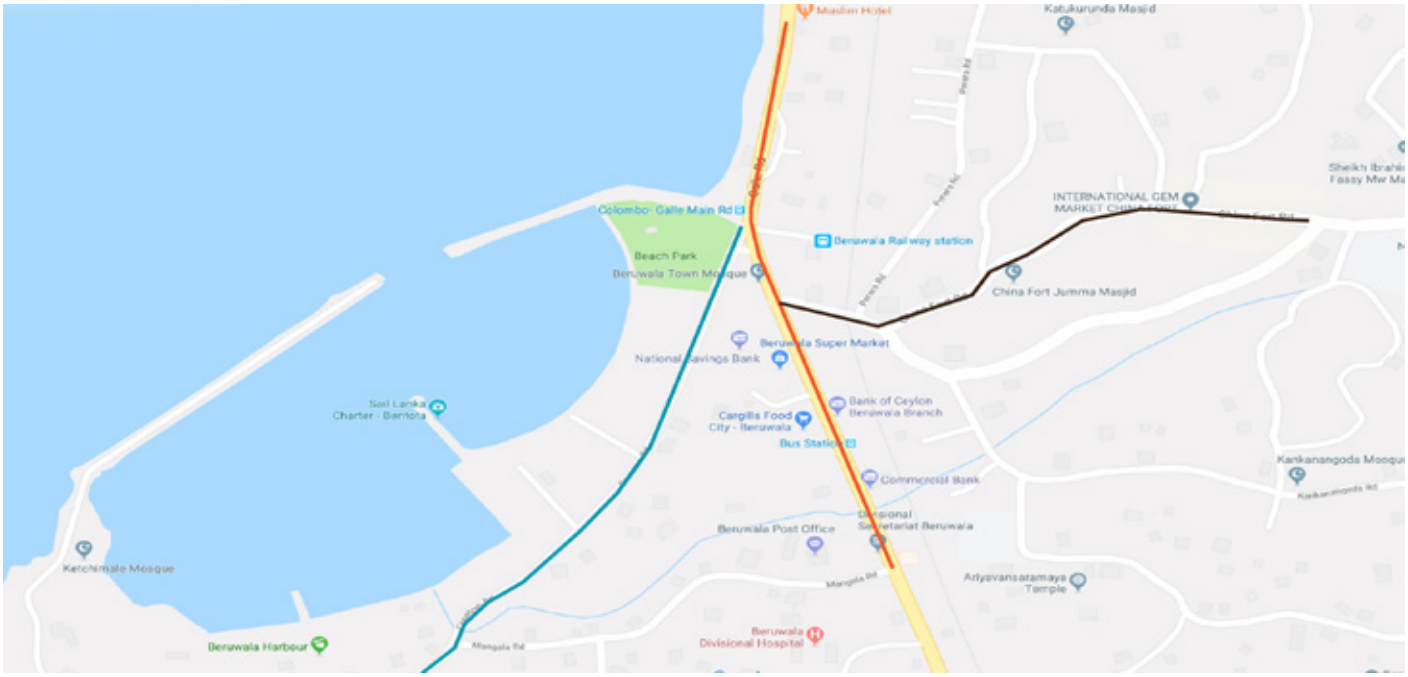
1.c. Kalutara District



MAP 5: ROUTES OF BANDARAGAMA

CITY : BANDARAGAMA
PROVINCE : WESTERN
DATE : 27 MARCH 2018
TIME : 4:31 P.M - 5:27 P.M

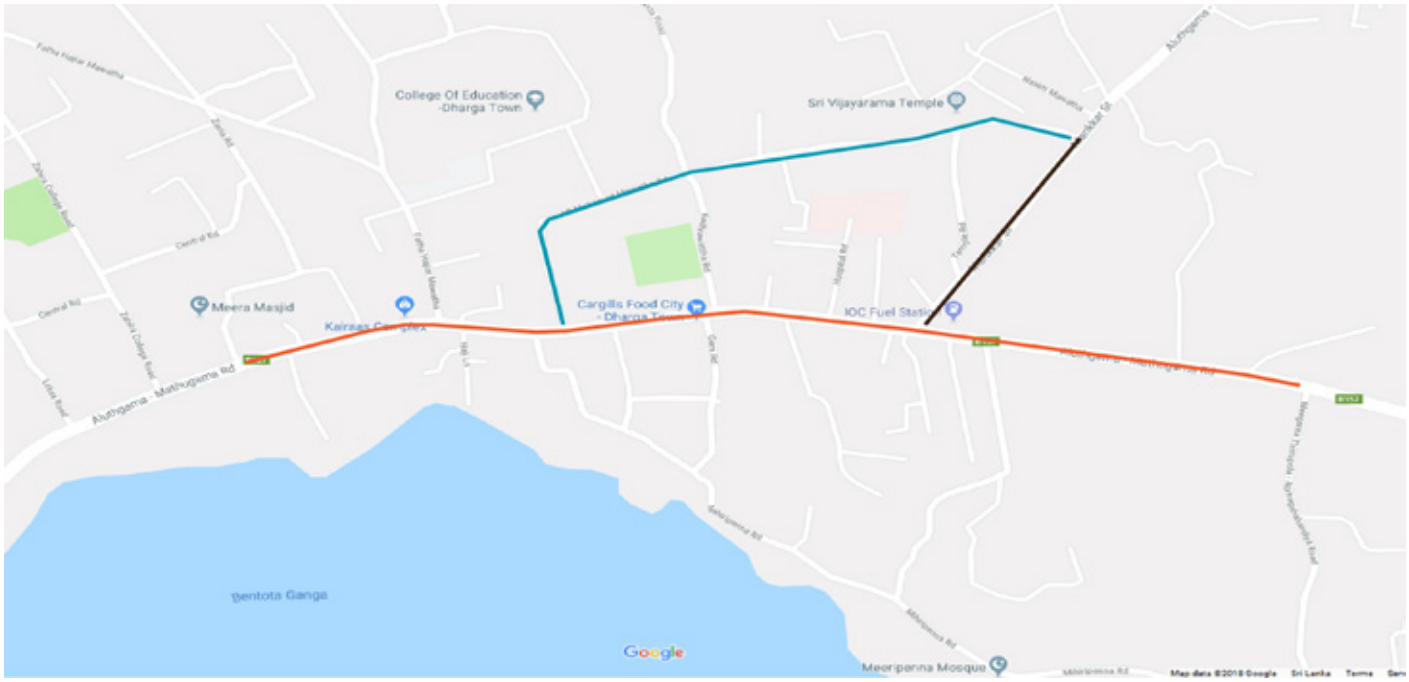
HORANA RD
WASKADUWA-BANDARAGAMA RD, BANDARAGAMA
KASBEWA-KINDELPITIYA-BANDARAGAMA RD
MARKET LANE



MAP 6: ROUTES OF BERUWALA

CITY : BERUWALA
PROVINCE : WESTERN
DATE : 27 MARCH 2018
TIME : 8:38 P.M - 9.36 P.M

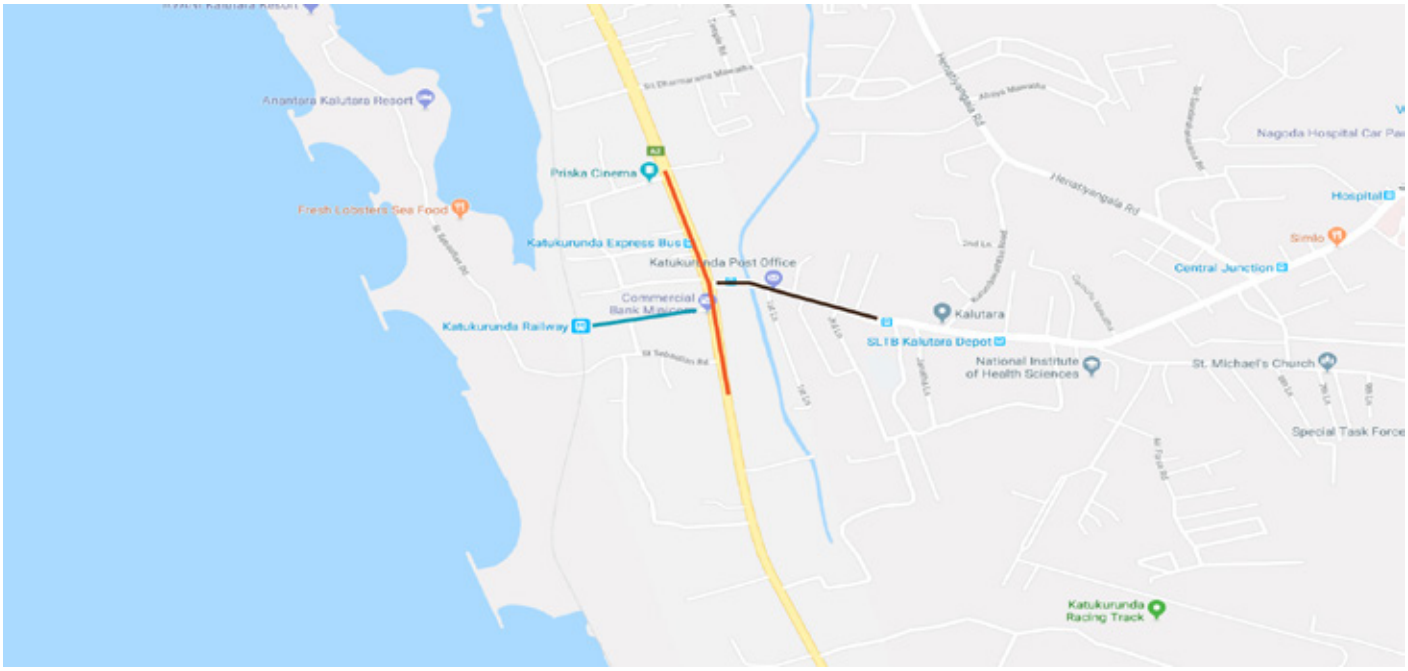
GALLE RD
CHINA FORT RD, BERUWALA
COUSTOM RD, BERUWALA



MAP 7: ROUTES OF DHARGA TOWN

CITY : DHARGA TOWN
PROVINCE : WESTERN
DATE : 27 MARCH 2018
TIME : 10:21 A.M - 11:02 A.M

ALUTHGAMA-MATHUGAMA RD, BERUWALA
ALUTHGAMA-MATHUGAMA-YATADOLA RD, BERUWALA
MARKET RD, DHRGA TOWN



MAP 8: ROUTES OF KATUKURUNDA

CITY : KATUKURUNDA
PROVINCE : WESTERN
DATE : 27 MARCH 2018
TIME : 1:12 P.M - 2.04 P.M

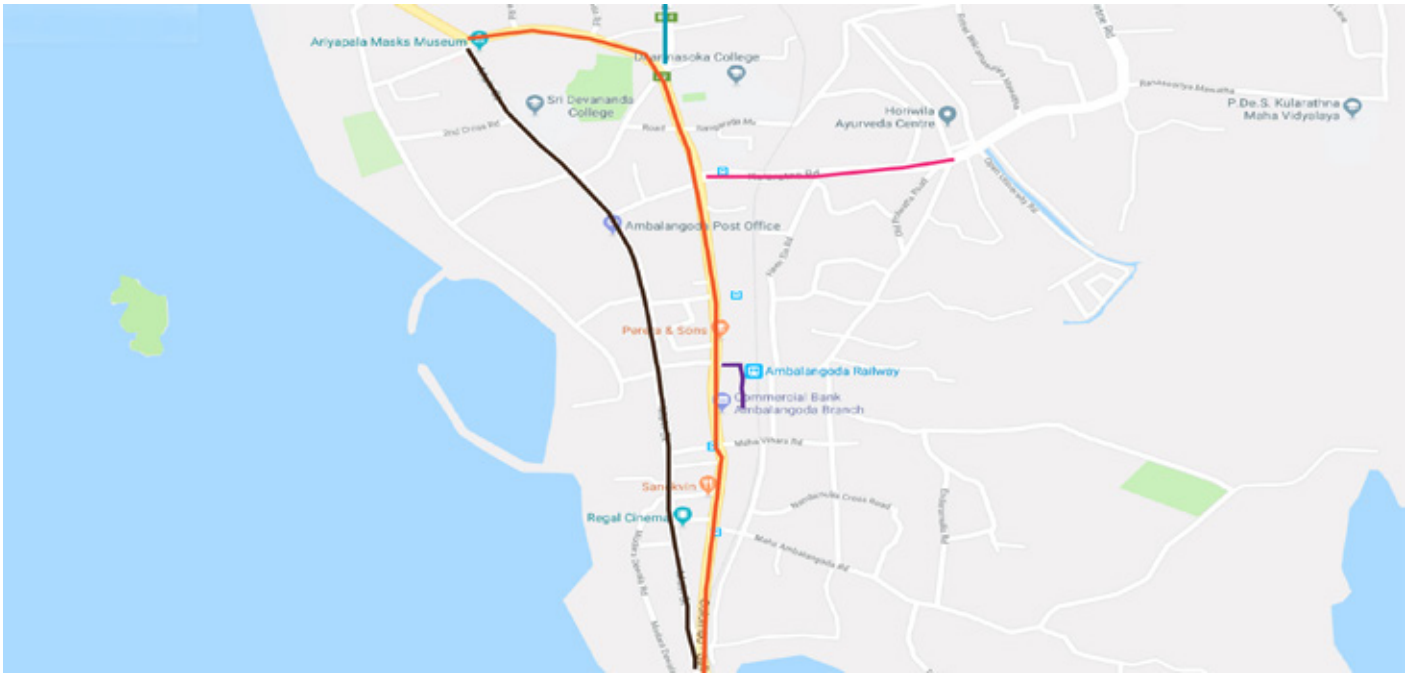
COLOMBO RD
NAGODA RD
STATION RD

MAP 9: ROUTES OF MATHUGAMA

CITY : MATHUGAMA
PROVINCE : WESTERN
DATE : 27 MARCH 2018
TIME : 12:55 P.M - 2:10 P.M

HORANA-ANGURUWATHOTA-MATHUGAMA-ALUTHGAMA RD
MATHUGAMA-ALUTHGAMA RD
NAGODA RD

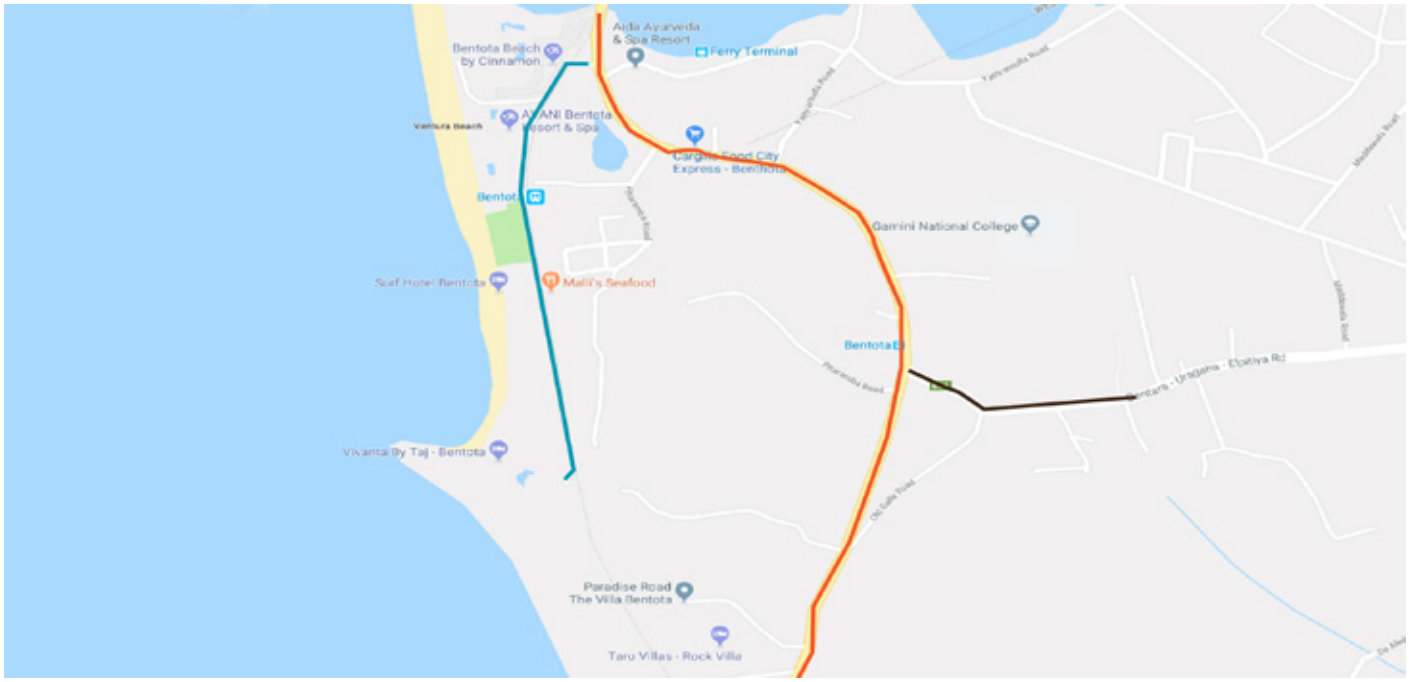
1.d. Galle District



MAP 10: ROUTES OF AMBALANGODA

CITY : AMBALANGODA
PROVINCE : SOUTHERN
DATE : 28 MARCH 2018
TIME : 10:04 A.M - 11:00 A.M

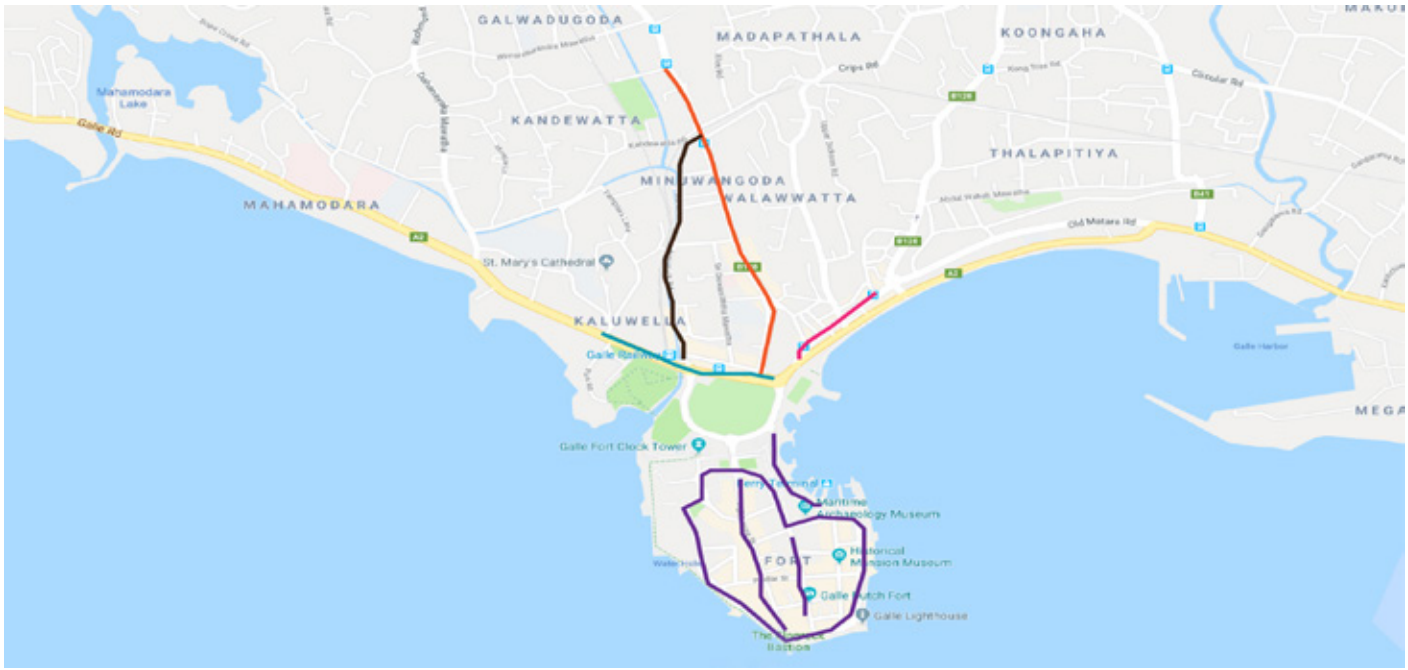
COLOMBO RD, AMBALANGODA
MAIN ST, AMABALANGODA
KULARATNE RD, AMABALANGODA
AMBALANGODA-ELPITIYA-PITIGALA RD



MAP 11: ROUTES OF BENTOTA

CITY : BENTOTA
PROVINCE : SOUTHERN
DATE : 28 MARCH 2018
TIME : 8:27 A.M - 9:08 A.M

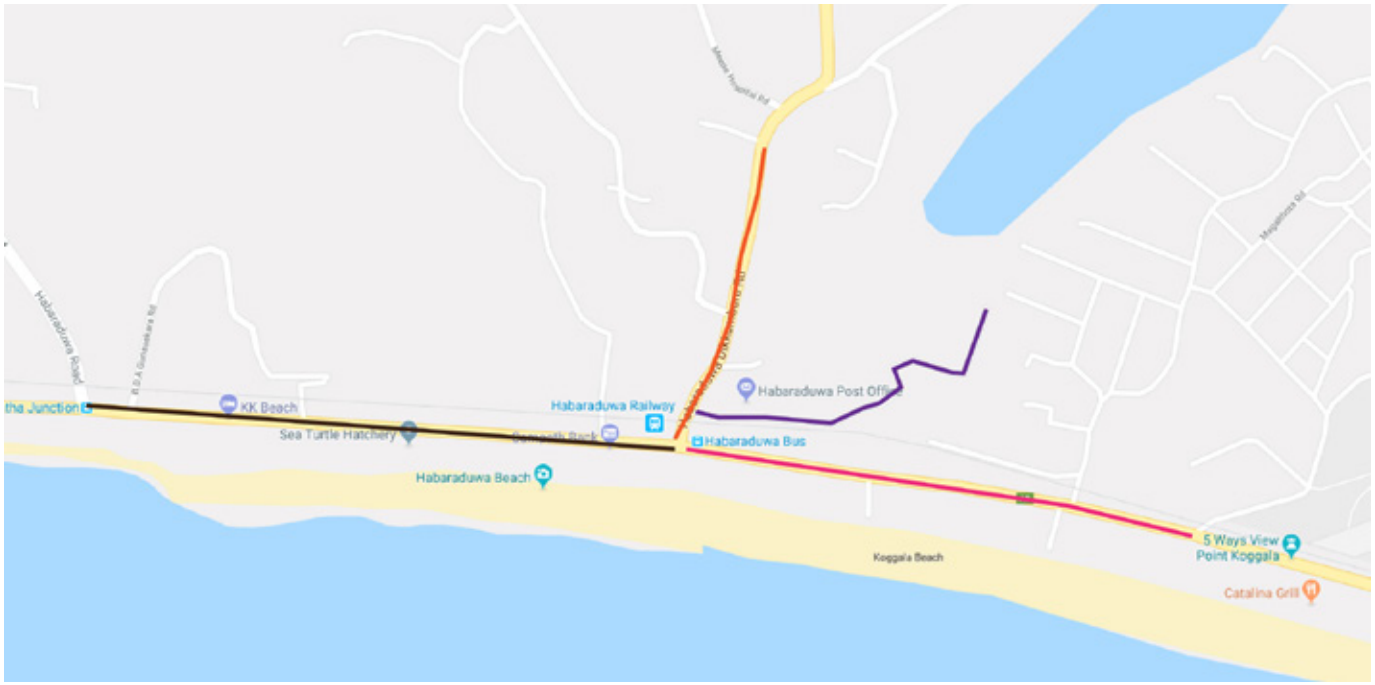
COLOMBO RD, BENTOTA
BENTARA-URAGAHA-ELPITIYA RD, BENTOTA
BEACH RD



MAP 12: ROUTES OF GALLE TOWN

CITY : GALLE
PROVINCE : SOUTHERN
DATE : 28 MARCH 2018
TIME : 3:54 P.M - 4:39 P.M

WAKWELLA RD, GALLE
HAVELOCK RD, GALLE
MAIN ST, GALLE
FORT RDS
GALLE RD



MAP 13: ROUTES OF HABARADUWA

CITY : HABARADUWA
PROVINCE : SOUTHERN
DATE : 28 MARCH 2018
TIME : 3:54 P.M - 4:39 P.M

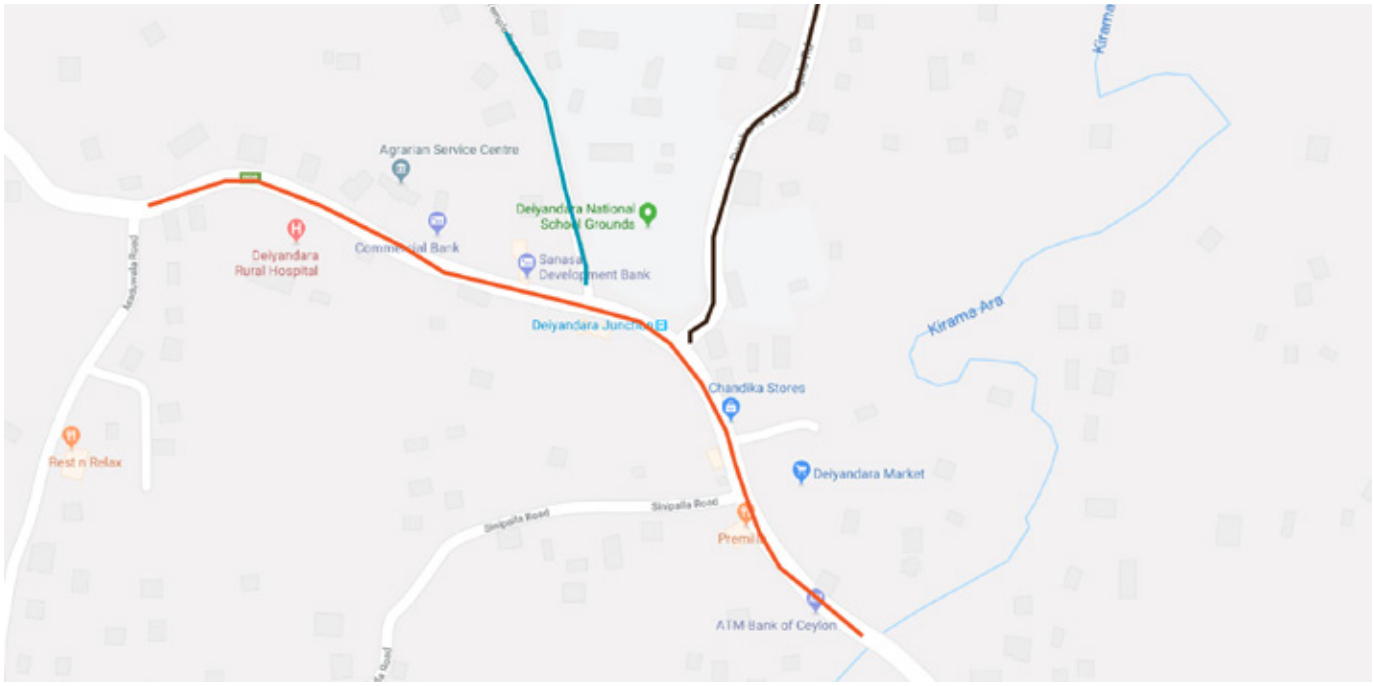
HABARADUWA-DIKKUBURA RD, HABARADUWA
HEDIWATTE JUNC. TO HABARADUWA
MATARA RD TO HABARADUWA
HABARADUWA FAIR RD

MAP 14: ROUTES OF HIKKADUWA

CITY : HIKKADUWA
PROVINCE : SOUTHERN
DATE : 27 MARCH 2018
TIME : 8:38 P.M - 9.36 P.M

COLOMBO RD, HIKKADUWA
BEDDEGAMA RD, HIKKADUWA
KURUDUWATTE RD, HIKKADUWA
BEACH

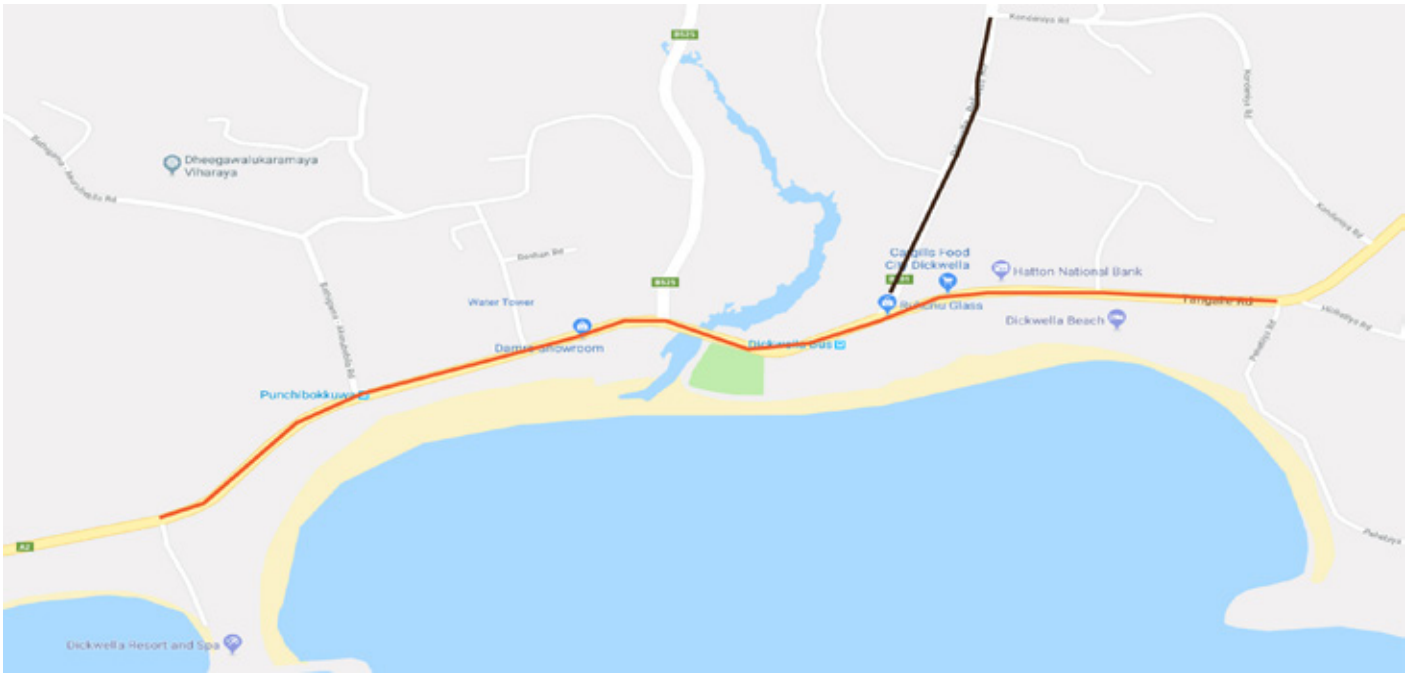
1.e. Matara District



MAP 15: ROUTES OF DEIYANDARA

CITY : DEIYANDARA
PROVINCE : SOUTHERN
DATE : 29 MARCH 2018
TIME : 12:57 P.M - 1:16 P.M

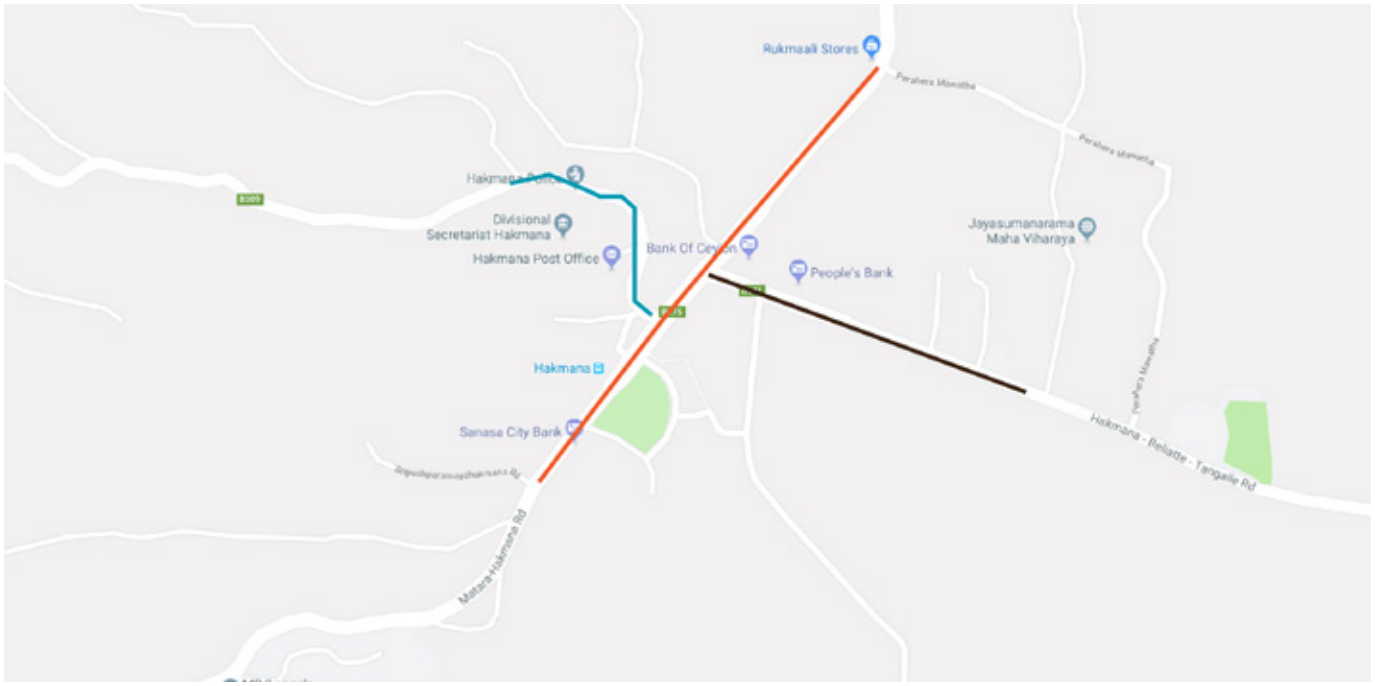
DENAGAMA-MULATIYANA RD
DENHENA-HANDUGALA RD
TEMPLE RD



MAP 16: ROUTES OF DIKWELLA

CITY : DIKWELLA
PROVINCE : SOUTHERN
DATE : 29 MARCH 2018
TIME : 8:23 A.M - 9.15 A.M

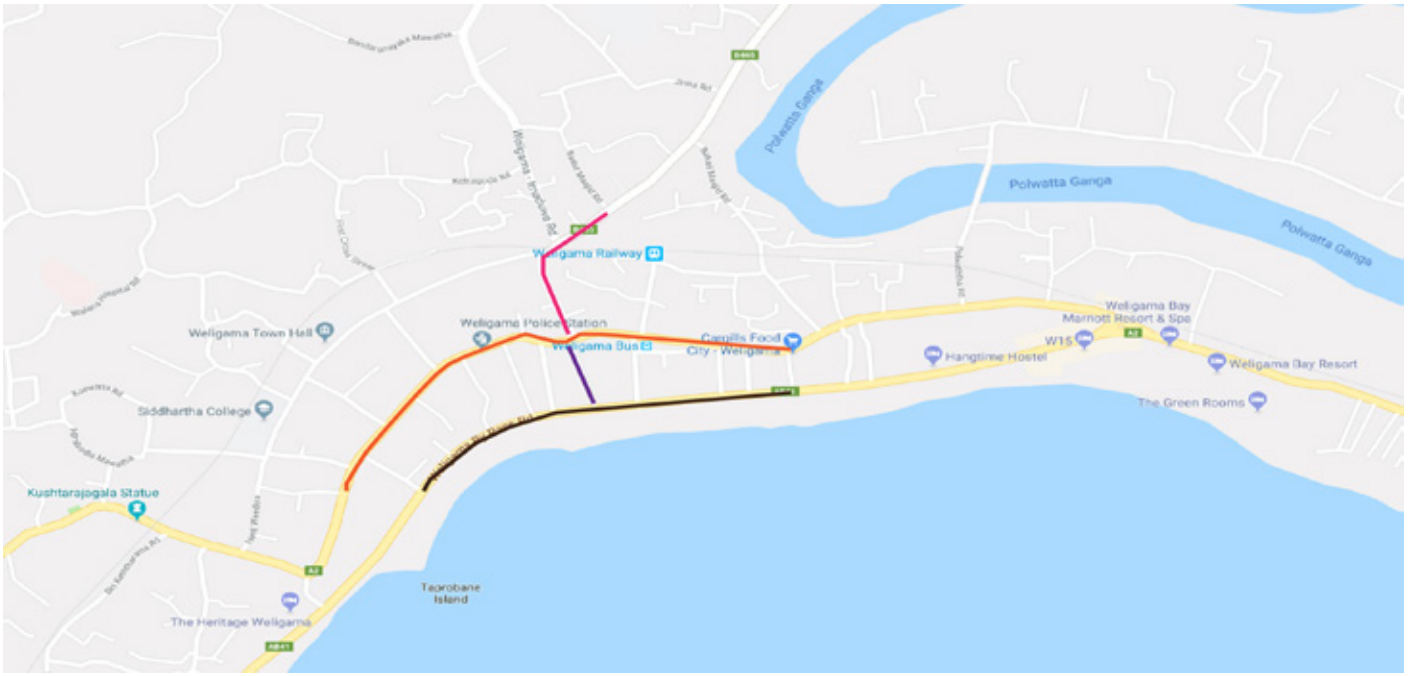
TANGALLE RD, DIKWELLA
DIKWELLA-BELIATTA RD, DIKWELLA



MAP 17: ROUTES OF HAKMANA

CITY : HAKMANA
PROVINCE : SOUTHERN
DATE : 29 MARCH 2018
TIME : 10:06 A.M - 10:29 A.M

MATARA-HAKMANA RD, HAKMANA
HAKMANA-BELIATTA-TANGALLE RD, HAKMANA
NARANDENIYA RD, HAKMANA



MAP 18: ROUTES OF WELIGAMA

CITY : WELIGAMA
PROVINCE : SOUTHERN
DATE : 29 MARCH 2018
TIME : 1:40 P.M - 2:20 P.M

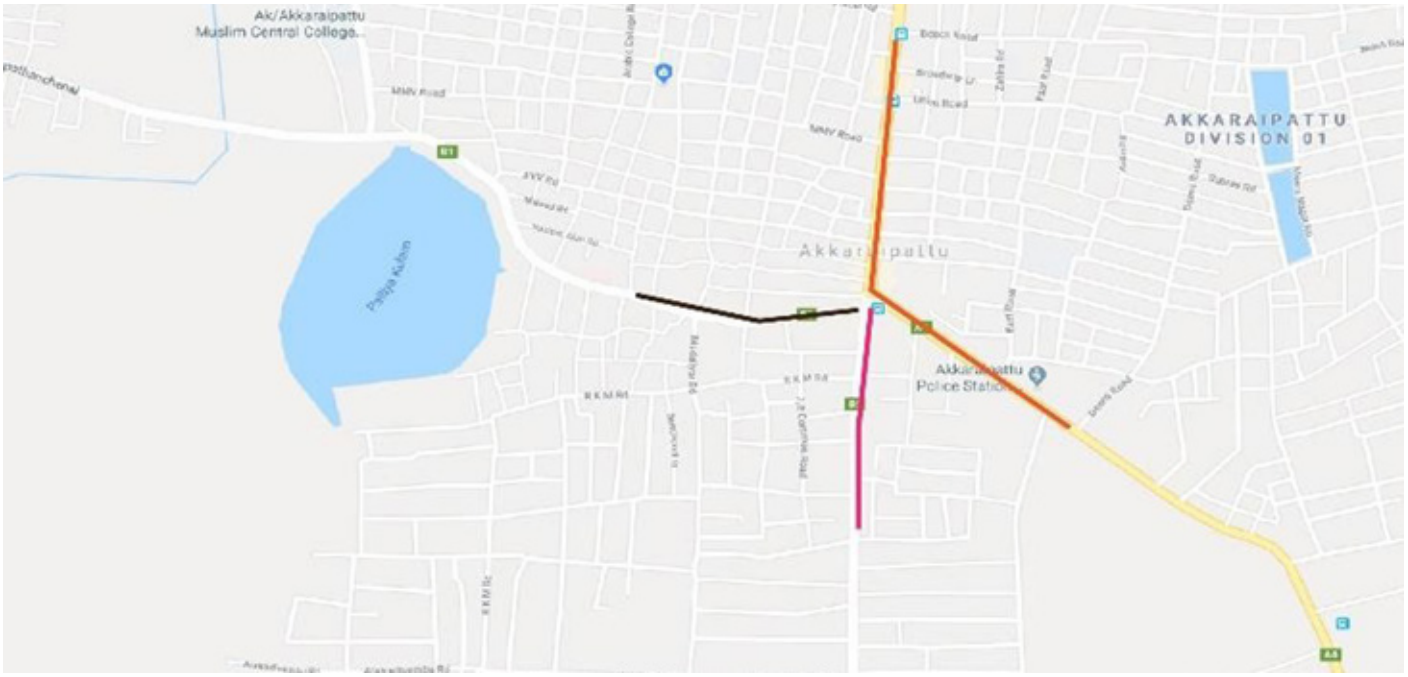
MATARA RD, WELIGAMA
WELIGAMA BYPASS RD
GALBOKKA RD, WELIGAMA
SAMARAWEERA PLACE, WELIGAMA

MAP 19: ROUTES OF MIRISSA

CITY : MIRISSA
PROVINCE : SOUTHERN
DATE : 29 MARCH 2018
TIME : 1:00 P.M - 1:31 P.M

MATARA RD
UDUPILA RD
MIRISSA BEACH

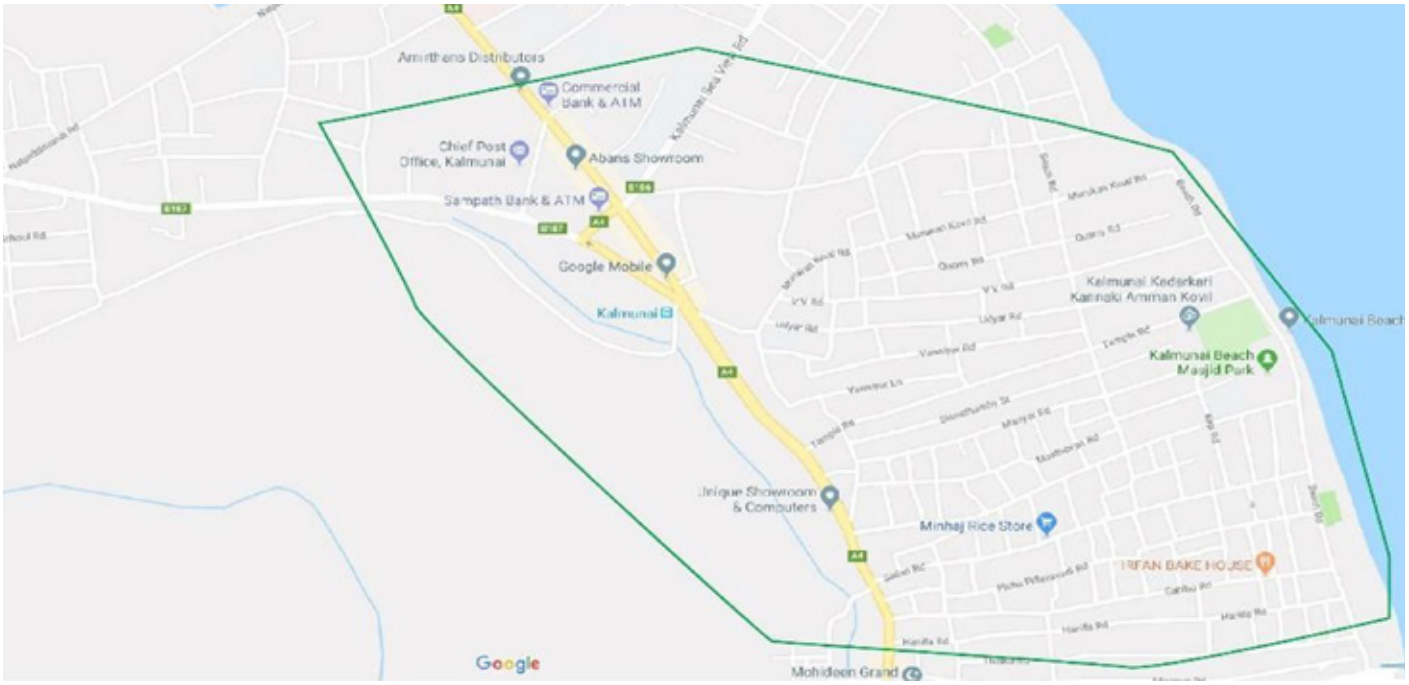
1.f. Ampara District



MAP 20: ROUTES OF AKKARAIPATTU

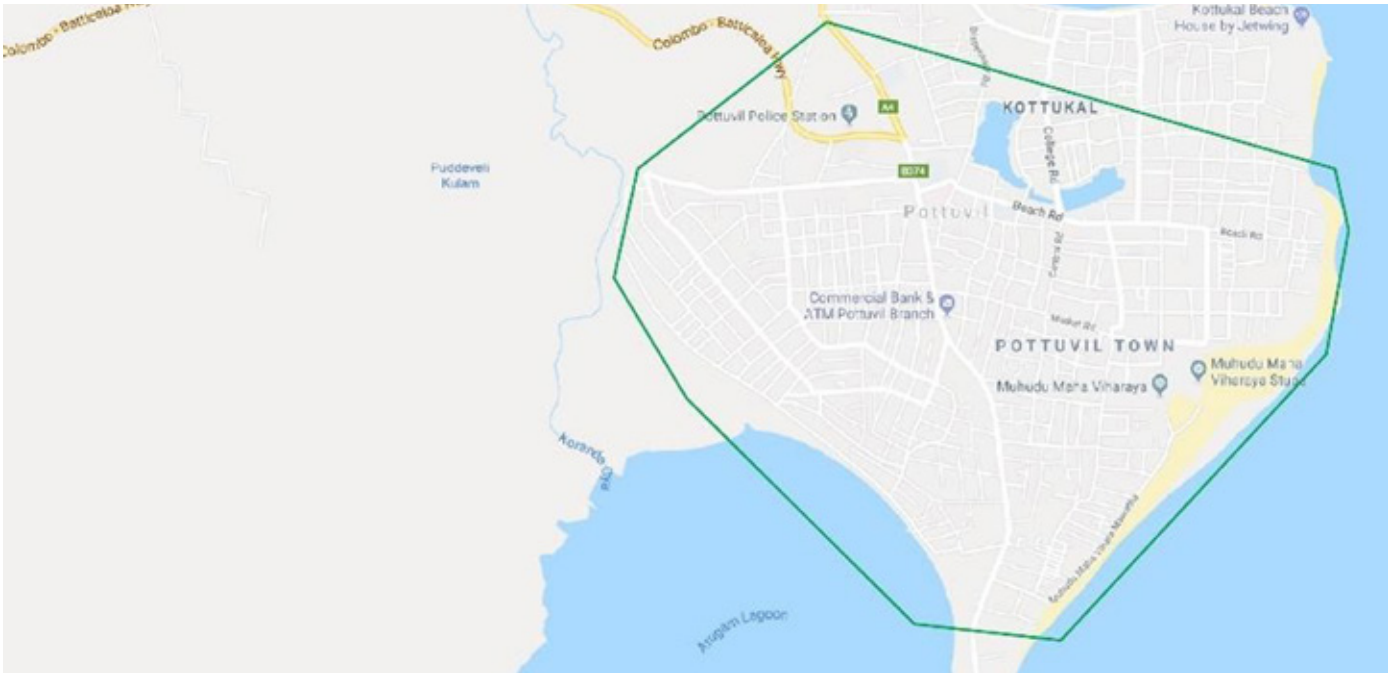
CITY : AKKARAIPATTU
PROVINCE : EASTERN
DATE : 5 APRIL 2018

COLOMBO-BATTICALOA RD
AKKARAIPATTU-WARAPATHANCHENAI RD, AKKARAIPATTU
AKKARAIPATTU-SAGAMAM RD, AKKARAIPATTU



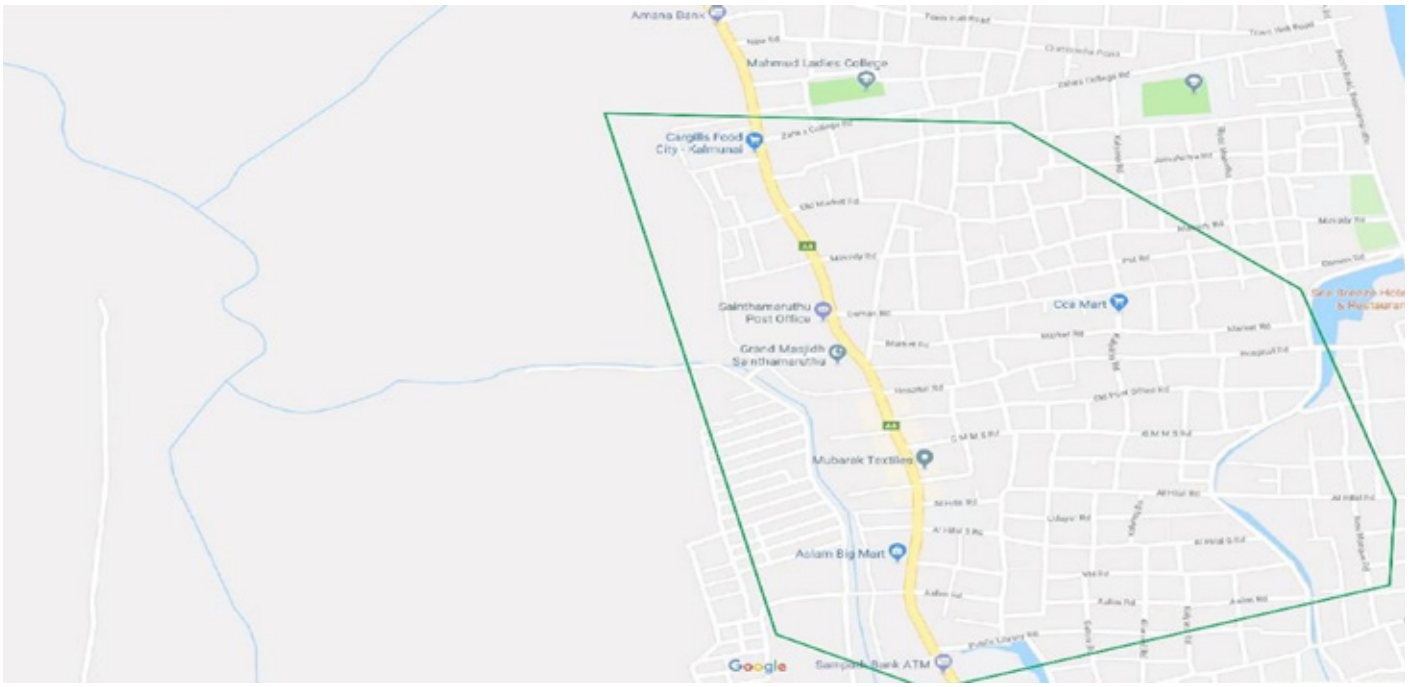
MAP 21: KALMUNAI ZONE

CITY : KALMUNAI
PROVINCE : EASTERN
DATE : 4 APRIL 2018



MAP 22: POTTUVIL ZONE

CITY : POTTUVIL
PROVINCE : EASTERN
DATE : 5 APRIL 2018



MAP 23: SAMANTHURAI ZONE

CITY : SAINTAMARUTHU
PROVINCE : EASTERN
DATE : 4 APRIL 2018

Appendix 2: Data Analysis Summary by Routes and Zones

CODE	CITY	TOTAL BUTTS	ILLICIT BUTTS	BUTT %	TOTAL PACKS	ILLICIT-PACKS	PACK %
N	NUGEGODA						
N1	KOHUWALA - SAKYA RD	279	17	6.09%	18	1	5.56%
N2	POLICE- KANDAWATTA	86	21	24.42%	20	1	5.00%
N3	NAWALA ROAD	259	33	12.74%	21	1	4.76%
N4	CHAPEL LANE	125	14	11.20%	23	3	13.04%
N5	HOSPITAL RD.	13	2	15.38%	11	3	27.27%
		762	**87**	**11.42%**	**93**	**9**	**9.68%**
C	COLOMBO						
C1	MAIN ST.	120	28	23.33%	36	2	5.56%
C2	AMOUR ST.	94	15	15.96%	35	7	20.00%
C3	KOCHIKADE	105	17	16.19%	21	1	4.76%
C4	FORT	255	29	11.37%	10	2	20.00%
C5	BEREWAWE	400	48	12.00%	24	5	20.83%
C6	STATION RD.	865	53	6.13%	34	0	0.00%
		1839	**190**	**10.33%**	**160**	**17**	**10.63%**
NE	NEGAMBO						
NE1	MAIN	199	8	4.02%	28	5	17.86%
NE2	GREEN COURT ST.	261	34	13.03%	24	1	4.17%
NE3	PRISON RD.	78	55	70.51%	51	5	9.80%
		538	**97**	**18.03%**	**103**	**11**	**10.68%**
W	WATTALA						
W1	ALABODA WATTE RD.	133	28	21.05%	32	6	18.75%
W2	HETTITHTHA RD.	289	31	10.73%	49	4	8.16%
W3	AWARIYAWATTA	280	32	11.43%	65	6	9.23%
		702	**91**	**12.96%**	**146**	**16**	**10.96%**
GA	GALLE						
GA1	FORT	52	27	51.92%	21	3	14.29%
GA2	WAKWALLA RD.	116	5	4.31%	29	0	0.00%
GA3	MAIN SEA ST.	147	6	4.08%	36	3	8.33%
GA4	KUNUALLA	4	2	50.00%	23	0	0.00%
GA5	WAKWALLA RD.	71	20	28.17%	23	3	13.04%
		390	**60**	**15.38%**	**132**	**9**	**6.82%**

CODE	CITY	TOTAL BUTTS	ILLICIT BUTTS	BUTT %	TOTAL PACKS	ILLICIT-PACKS	PACK %
HA	HABARADUWA						
HA1	DIKKUBURA	81	3	3.70%	29	0	0.00%
HA2	STATION RD.	50	9	18.00%	23	0	0.00%
HA3	MATARA RD.	223	30	13.45%	26	0	0.00%
HA4	POLA RD.	13	3	23.08%	8	1	12.50%
HA5	NA	74	7	9.46%	24	1	4.17%
		441	**52**	**11.79%**	**110**	**2**	**1.82%**
AM	AMBALANGODA						
AM1	BUS STAND	175	17	9.71%	19	3	15.79%
AM2	MAIN ST.	104	12	11.54%	16	2	12.50%
AM3	NA	41	9	21.95%	28	3	10.71%
AM4	STATION	32	8	25.00%	10	0	0.00%
		352	**46**	**13.07%**	**73**	**8**	**10.96%**
HI	HIKKADUWA						
HI1	HIKKADUWA TO GALLE	155	87	56.13%	12	2	16.67%
HI2	BADDEGAMA	174	58	33.33%	17	2	11.76%
HI3	POLICE PAN-ASIA	125	58	46.40%	19	5	26.32%
HI4	BEACH	48	10	20.83%	6	1	16.67%
		502	**213**	**42.43%**	**54**	**10**	**18.52%**
WE	WELIGAMA						
WE1	CITY RD.	100	38	38.00%	14	0	0.00%
WE2	BEACH RD.	96	21	21.88%	32	3	9.38%
WE3	STATION RD.	90	3	3.33%	40	0	0.00%
		286	**62**	**21.68%**	**86**	**3**	**3.49%**
DI	DIKWELLA						
DI1	HAKMANA RD	0	0	0.00%	21	0	0.00%
DI2	THANGALLA RD	185	44	23.78%	18	0	0.00%
DI3	MAIN ST	86	11	12.79%	31	4	12.90%
DI4	THANGALLA SIDE	194	15	7.73%	34	1	2.94%
		465	**70**	**15.05%**	**104**	**5**	**4.81%**

CODE	CITY	TOTAL BUTTS	ILLICIT BUTTS	BUTT %	TOTAL PACKS	ILLICIT-PACKS	PACK %
DE	DEIYANDARA						
DE1	MATARA RD	6	0	0.00%	3	0	0.00%
DE2	HOSPITAL RD	38	0	0.00%	16	0	0.00%
DE3	HAKMANA RD	35	1	2.86%	10	0	0.00%
		79	**1**	**1.27%**	**29**	**0**	**0.00%**
HA	HAKMANA						
HA1	MIDDENIYA RD	36	14	38.89%	9	2	22.22%
HA2	BELIATHTHA RD	27	3	11.11%	7	0	0.00%
HA3	MATARA RD	90	4	4.44%	19	0	0.00%
		153	**21**	**13.73%**	**35**	**2**	**5.71%**
MI	MIRISSA						
MI1	POST OFFICE	87	28	32.18%	40	7	17.50%
MI2	MATARA RD	400	216	54.00%	49	14	28.57%
MI3	TOWN	0	0	0.00%	7	1	14.29%
MI4	NA	280	66	23.57%	52	9	17.31%
		767	**310**	**40.42%**	**148**	**31**	**20.95%**
KA	KATUKURUNDA						
KA1	GALLE RD	36	9	25.00%	25	3	12.00%
KA2	SEBESTIAN	0	0	0.00%	10	5	50.00%
KA3	ALUTHGAMA	84	12	14.29%	36	3	8.33%
KA4	STATION RD	101	20	19.80%	18	2	11.11%
		221	**41**	**18.55%**	**89**	**13**	**14.61%**
DH	DHARGA TOWN						
DH1	MARKET	64	5	7.81%	15	0	0.00%
DH2	MATHUGAMA RD	114	7	6.14%	14	1	7.14%
DH3	ALUTHGAMA	100	66	66.00%	50	14	28.00%
		278	**78**	**28.06%**	**79**	**15**	**18.99%**

CODE	CITY	TOTAL BUTTS	ILLICIT BUTTS	BUTT %	TOTAL PACKS	ILLICIT-PACKS	PACK %
BE	**BERUWALA**						
BE1	GALLE RD	142	22	15.49%	31	5	16.13%
BE2	HABOUR RD	64	10	15.63%	31	3	9.68%
BE3	CHINA TOWN	67	6	8.96%	34	9	26.47%
		273	**38**	**13.92%**	**96**	**17**	**17.71%**
MA	**MATHUGAMA**						
MA1	KALUTHARA RD	148	21	14.19%	10	1	10.00%
MA2	BUS STAND	83	0	0.00%	18	5	27.78%
MA3	POLICE RD	150	4	2.67%	14	1	7.14%
MA4	NABADA RD	25	3	12.00%	20	1	5.00%
		406	**28**	**6.90%**	**62**	**8**	**12.90%**
AK	**AKKARAIPATTU**						
AK1	TOWN	367	16	4.36%	37	3	8.11%
AK2	THIRUKKOVIL	140	3	2.14%	2	0	0.00%
AK3	SAGAMAM RD	92	8	8.70%	13	1	7.69%
AK4	HALAYALAI	68	4	5.88%	9	0	0.00%
AK5	SRI DHARMARA	30	5	16.67%	13	0	0.00%
		697	**36**	**5.16%**	**74**	**4**	**5.41%**
PO	**POTTUVIL**						
PO1	TOWN	148	11	7.43%	8	0	0.00%
PO2	MAIN ST	97	8	8.25%	14	0	0.00%
PO3	PHARMACY	161	9	5.59%	0	0	0.00%
PO4	ARUGAMBAY	41	5	12.20%	7	1	14.29%
PO5	MAIN ST POTTUVIL	274	25	9.12%	14	1	7.14%
		721	**58**	**8.04%**	**43**	**2**	**4.65%**

CODE	CITY	TOTAL BUTTS	ILLICIT BUTTS	BUTT %	TOTAL PACKS	ILLICIT-PACKS	PACK %
BE	BENTOTA						
BE1	BEACH RD	97	34	35.05%	18	4	22.22%
BE2	GALLE RD	81	24	29.63%	23	1	4.35%
BE3	ALPITIYA	9	1	11.11%	19	2	10.53%
		187	59	31.55%	60	7	11.67%
BA	BANDARAGAMA						
BA1	KALUTHARA RD	263	9	3.42%	40	7	17.50%
BA2	TOWN TO HIGHWAY	33	6	18.18%	30	3	10.00%
BA3	BUS STAND	0	0	0.00%	9	0	0.00%
BA4	PILIYANDALA	72	4	5.56%	24	0	0.00%
		368	19	5.16%	103	10	9.71%
KA	KALMUNEI						
KA1	MARKET	250	16	6.40%	18	0	0.00%
KA2	MAIN RD	60	10	16.67%	17	5	29.41%
KA3	HOSPITAL RD	4	0	0.00%	11	3	27.27%
KA4	BEACH RD	44	8	18.18%	13	2	15.38%
KA5	HOSPITAL RD	100	5	5.00%	13	1	7.69%
KA6	BUS STAND	214	29	13.55%	12	0	0.00%
		672	68	10.12%	84	11	13.10%
SA	SAMANTHUREI						
SA1	TOWN	82	14	17.07%	15	1	6.67%
SA2	NAINAKANDA RD	320	28	8.75%	4	0	0.00%
SA3	KALMUNEI RD	80	36	45.00%	6	2	33.33%
SA4	MAIN RD	0	0	0.00%	12	3	25.00%
		482	78	16.18%	37	6	16.22%
	ISLANDWIDE	11581	1803	15.57%	2000	216	10.80%

Appendix 3: Smoker Survey Questionnaire

SRI LANKA HEALTH AND LIFE STYLE SURVEY 2018
(APPROX. 3 MINS)

1. AGE:

2. MONTHLY INCOME

A) LESS THAN 10000
B) 10001-30000
C) 30001-60000
D) 60001-90000
E) 90001-120000
F) 120001-150000
G) 150001-180000
H) 180001-210000

3. LOCATION:

4. MARITAL STATUS

A) MARRIED
B) UNMARRIED

5. CHILDREN

A) NONE
B) 1 - 2
C) MORE THAN 2

6. BRAND OF CURRENT MOBILE PHONE

A) APPLE
B) SAMSUNG
C) OPPO
D) HUAWEI
E) NOKIA
F) OTHER

ANSWER THE FOLLOWING QUESTIONS CONSIDERING YOUR CONSUMPTION PATTERNS

7. HAVE YOU RECENTLY OBTAINED MEDICATION FROM A DOCTOR?

A) YES
B) NO

8. REASON FOR MEDICATION

A) FEVER
B) COUGH
C) FLU
D) NCD
E) OTHER

9. DO YOU HAVE DIABETES, PRESSURE OR CHOLESTEROL?

A) YES
B) NO

10. WHAT IS THE DISTANCE FROM YOUR HOME TO THE NEAREST GROCERY STORE?

A) LESS THAN 250 M
B) 500M
C) 1KM
D) MORE THAN 1KM

11. DO YOU SMOKE?

A) YES
B) NO

12. DOES ANYONE AT HOME SMOKE CIGARETTES? (IF NON-SMOKER, MOVE TO QUESTION 22)

A) YES
B) NO

13. HOW MANY CIGARETTES DO YOU SMOKE PER DAY?

A) LESS THAN 2
B) 2-5
C) 5-10
D) MORE THAN 10

14. HOW DO YOU NORMALLY BUY CIGARETTES?

A) PACKET FORM
B) STICK FORM

15. WHICH CIGARETTE BRANDS DO YOU PREFER?

A) LOCAL
B) IMPORTED

16. WHAT IS THE PRICE OF THE CIGARETTE YOU NORMALLY BUY?

A) LESS THAN RS.50
B) RS. 50
C) RS. 55

17. WHICH ARE YOUR MOST PREFERRED BRANDS?

A) GOLD LEAF
B) BRISTOL
C) DUNHILL
D) BENSON & HEDGES
E) NAVY CUT
F) CAPSTAN

18. DID YOU SMOKE ANY FOREIGN CIGARETTES IN THE LAST WEEK?

A) YES
B) NO

19. IF YES, HOW MANY FOREIGN CIGARETTES DID YOU SMOKE LAST WEEK?

A) LESS THAN 2
B) 2-5
C) 5-10
D) 10-20
E) 20 OR MORE
F) NONE

20. FROM WHERE DO YOU BUY / GET CIGARETTES? (RANK ACCORDING TO BUYING FREQUENCY)

A) NEIGHBORHOOD SHOP
B) SHOP IN TOWN
C) SHOP NEAR YOUR OFFICE
D) FRIENDS
E) WEDDINGS

21. WHEN DO YOU BUY CIGARETTES THE MOST?

A) WHEN AT HOME
B) WHEN MARKETING
C) WHEN IN OFFICE
D) OTHER
E) OPTIONAL

22. DO YOU CONSUME ALCOHOL?

A) REGULAR
B) OCCASIONAL
C) NON-USER

23. IF YES, HOW MUCH ALCOHOL DO YOU CONSUME PER MONTH?

A) LESS THAN 250ML
B) 250-750 ML
C) MORE THAN 3 BOTTLES
D) DON'T KNOW

24. WHICH ALCOHOL BRANDS YOU PREFER?

A) LOCAL
B) IMPORTED
C) NO DIFFERENCE

25. DID YOU CONSUME IMPORTED ALCOHOL DURING THE LAST MONTH?

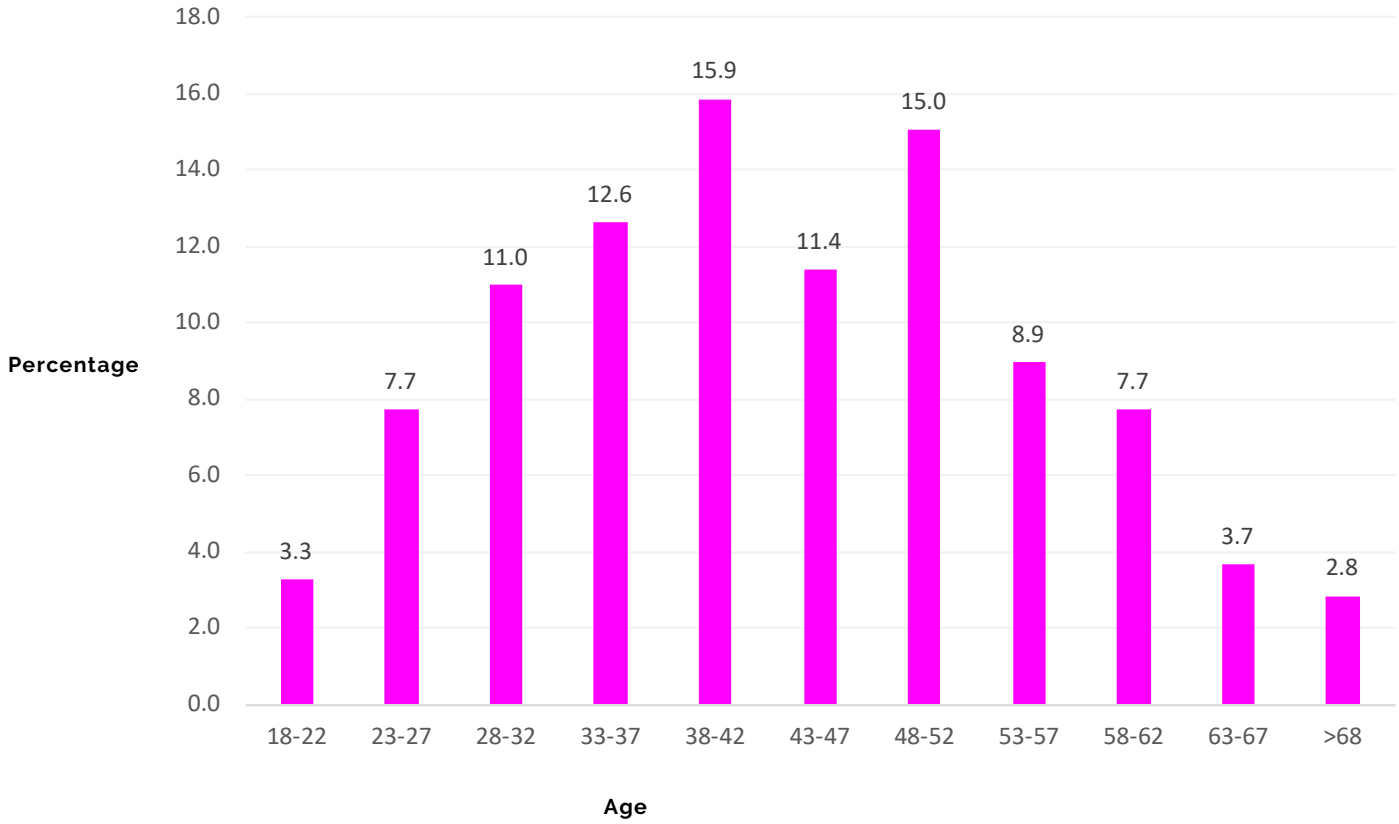
A) YES
B) NO

26. HOW DO YOU GET IMPORTED ALCOHOL? (RANK ACCORDING TO BUYING FREQUENCY)

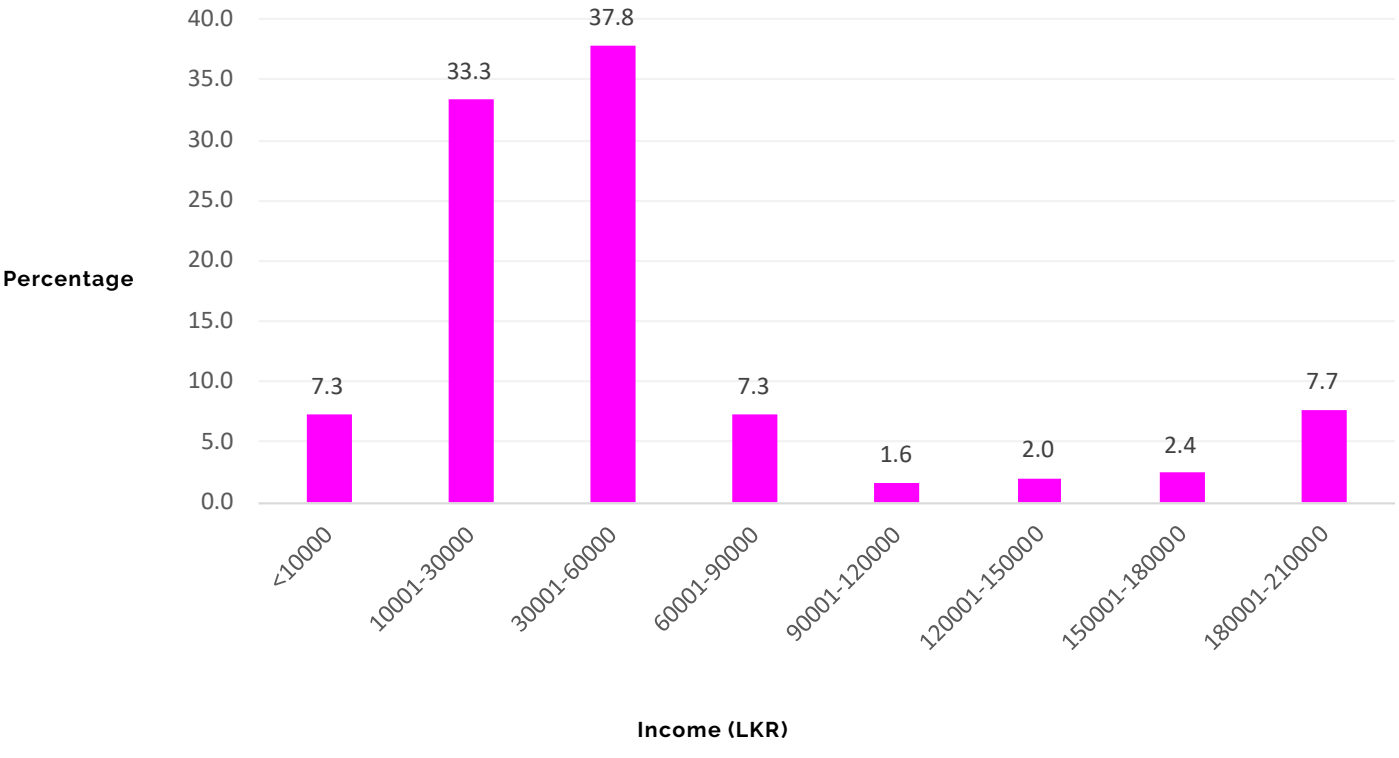
A) LIQUOR SHOP
B) DEALER
C) FRIEND
D) SUPERMARKET
E) WEDDING

Appendix 4: Smoker Survey Sample Profile

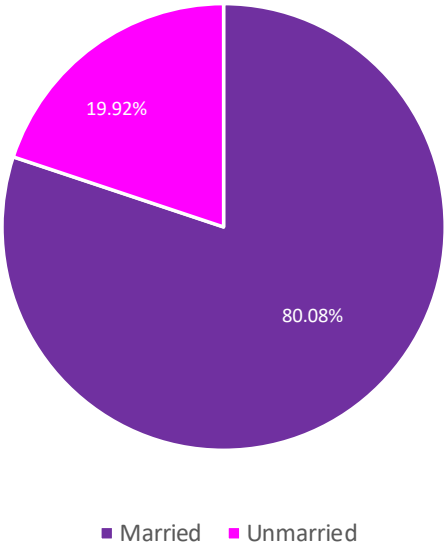
Distribution of Age



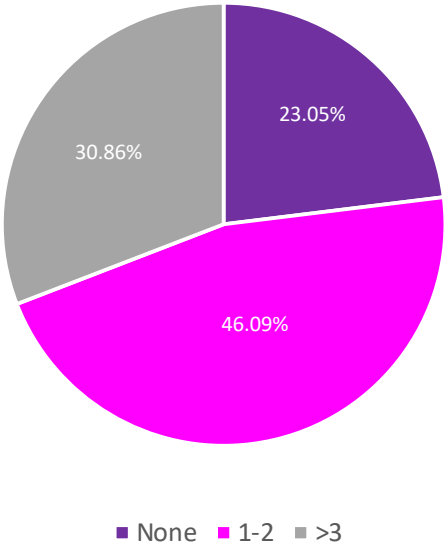
Income Level



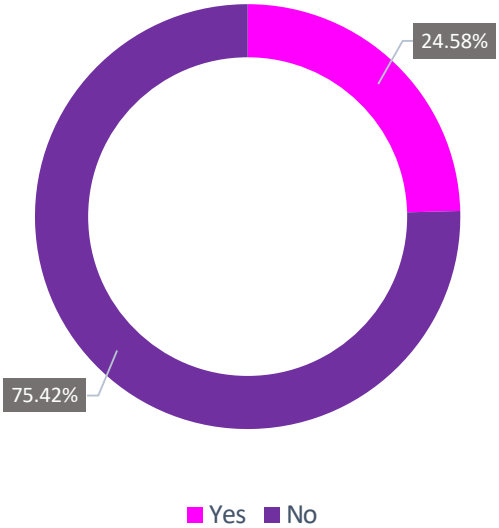
Marital Status



Number of Children

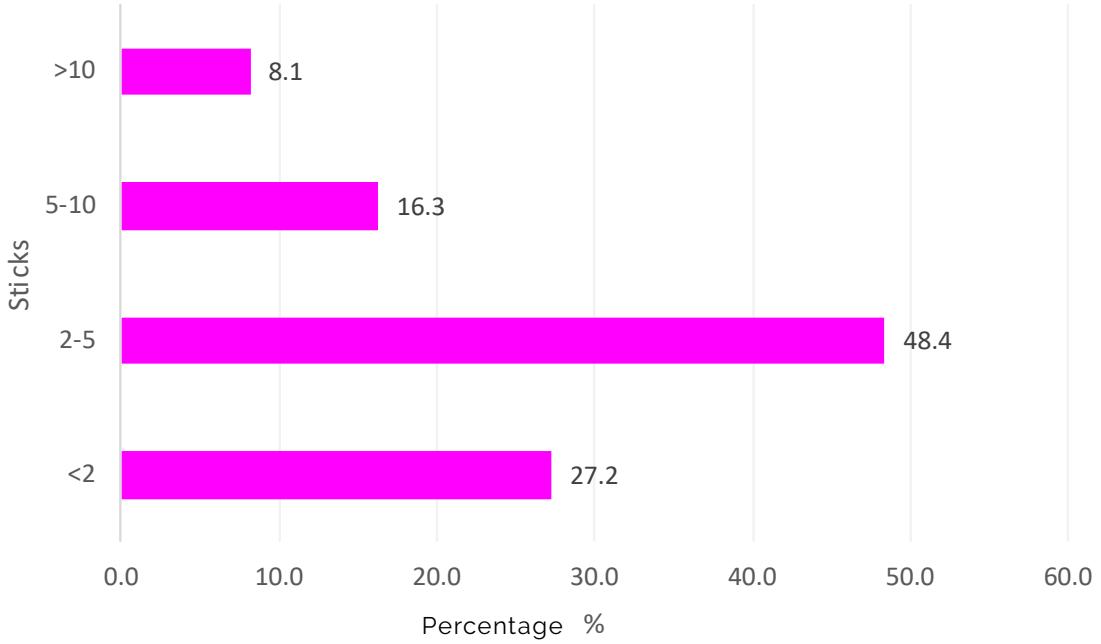


Diagnosed for non-communicable diseases (NCD)

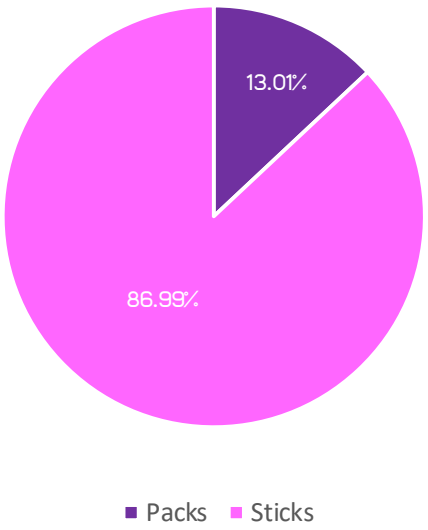


Smoking Behaviors

Disclosed Daily cigarette consumption



Purchase in Stick or Pack Form



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AND THE RESULTING TAX IMPLICATIONS FOR SRI LANKA

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