

Review Article

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Smokeless tobacco taxation: Lessons from Southeast Asia

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Southeast Asia accounts for nearly 86 per cent of the smokeless tobacco (SLT) consumers in the world. The heterogeneous nature of SLT is a major impediment to using taxation as a tool to regulate SLT. This study was aimed to review issues around fiscal policies on SLT with the objective of providing clarity on the use of taxation as an effective policy instrument to regulate SLT use. Descriptive statistics and graphical representations were used to analyze published data from different sources. An analysis of prices and tax between smoke and SLT products was done to understand the impact of tax policies on SLT consumption. India, Bangladesh and Myanmar together account for 71 per cent of the world SLT users. The retail prices (PPP\$) and tax were lower for SLT in low- and lower-middle-income countries and higher in high-income countries, on an average, suggesting a direct relationship between the two. Evidence from India and Bangladesh suggested that taxation had significantly reduced SLT use among adults. The compounded levy scheme used in India to tax SLT was found effective after incorporating speed of packing machines into the assessment of deemed production and tax on SLT products. The current analysis shows that taxation can be an effective instrument to regulate SLT consumption if tax rates are harmonized across SLT products and in a manner not to encourage substitution with other tobacco products. It is also imperative to set a minimum floor price on all tobacco products including SLT.

Key words Bangladesh - chewing tobacco - India - lower middle-income countries - low-income countries - smokeless tobacco - taxation

The health effects of smokeless tobacco (SLT) are well documented and SLT is known to cause a variety of cancers including oral cancers, oesophageal cancer and pancreatic cancer in humans^{1,2}. SLT also imposes an enormous economic burden on countries. In India, for example, the total economic costs attributable to SLT use alone from all diseases in the year 2011 for persons aged 35-69 yr was ₹ 233.6 billion³. In comparison, the excise tax revenue collected from SLT in that year amounted to only ₹ 12.6 billion.

SLT consists of a wide range of heterogeneous products such as chewing tobacco, betel quid with tobacco, *gutka*, snuff, snus and others whose product characteristics as well as methods of use are different and are packed in different sizes and shapes. Apart from the traditional forms of SLT use found in Regions such as South and Central Asia, South America and Sub-Saharan Africa, the markets for which are largely dominated by informal cottage type production, there is also a new generation of SLT products largely found

in North America, Western Europe and Australia supplied by multinational corporations and are commercially manufactured. However, the available estimates indicate that, by volume, 91.3 per cent of the SLT products sold worldwide are sold in traditional markets².

A substantial body of research shows that significantly increasing the excise tax and price of tobacco products is the single most consistently effective tool for reducing tobacco use⁴. This is also recognized by the Parties to the World Health Organization - Framework Convention on Tobacco Control (WHO FCTC)⁵ and is expressed as such under Article 6 of the Treaty. While the literature on taxing cigarettes and similar smoked tobacco products is fairly well established⁴, the same is not true in case of taxation of SLT products owing to their heterogeneous nature. Although the provisions of Article 6 apply to both smoking and SLT and the guidelines to implement the Article recommend measures to specifically address all tobacco products, in particular, to prevent product substitution within and across categories, yet, little is known about the nature of taxes on SLT products or the extent to which higher SLT taxes translate into higher SLT prices and how these prices affect the consumption and affordability of SLT products. Data from the Global Youth Tobacco Survey (GYTS) - as reported in a 2014 report by The National Cancer Institute (NCI)² - show that students aged 13-15 yr surveyed in 132 countries were more likely to report using non-cigarette tobacco products including SLT products (11.2%) than to report smoking cigarettes (8.9%).

Price and tax measures on SLT are often confusing, and it is important to provide more clarity on this so that tax policies on SLT can be made more effective. A systematic review of tobacco control policies relating to SLT use in the USA concluded that price elasticities of SLT products lie mostly in the inelastic range and SLT tax is an effective tool in reducing tobacco use⁶. Estimates of price elasticities of SLT products are rarely available from Southeast Asian countries. Available studies in India⁷⁻¹⁰ show the price elasticity of SLT products is in the range -0.1 to -0.9 and those from Bangladesh¹¹ show the elasticity to be in the range -0.39 to -0.64. If price elasticity lies within the range of 0 to 1 such products are relatively insensitive to price increase. A given percentage increase in prices of such product through taxation would result in reducing consumption - to a proportion less than the increase in price - and increase tax revenue.

The heterogeneous nature of SLT makes quantification and enforcement of tax and price policies administratively difficult. Consequently, regulating SLT use through fiscal policy has been a major challenge. Hence, it is important to understand the best practices for SLT taxation used in countries so that this knowledge may inform other countries where similar products are consumed. This study was aimed to review issues around fiscal policies on SLT with the objective of providing clarity on the use of taxation as an effective fiscal policy instrument to regulate the use of SLT.

Published data from different sources such as the WHO report on the global tobacco epidemic^{12,13} in different years, National Cancer Institute (NCI) Tobacco Control Monograph 21: The Economics of Tobacco and Tobacco Control (NCI and WHO, 2016)⁴, Global Adult Tobacco Surveys (GATSs)^{14,15}, official government sources and other published literature were used for the analysis. Since the Southeast Asia Region alone accounts for nearly 86 per cent of the total SLT users worldwide⁴, the analysis was largely restricted to countries in this Region although other countries were included when comparable data were available.

Descriptive statistics and graphical representations were used to understand the prevalence and trends in SLT use across different countries. An analysis of prices and tax between cigarettes and SLT was also done to understand how tax policies on SLT compare to that of cigarettes. As much as possible the analysis was performed by different World Bank country income groups - High-income Countries (HICs), Upper-Middle-Income Countries (UMICs), Lower Middle-Income Countries (LMICs) and Low-Income Countries (LICs) - and the WHO Regions.

Prevalence of smokeless tobacco

There was substantial variation in both the prevalence and the number of users of SLT across regions as shown in Table I. While the prevalence of SLT use was as high as 22 per cent in Southeast Asia, it was <1 per cent in the Western Pacific region. There were approximately 346 million adult SLT users in the world dominated by the Southeast Asian Region accounting for nearly 86 per cent of the total SLT users worldwide⁴. India alone accounted for 60 per cent of the SLT users in the world in 2010 with approximately 206 million users⁴. Bangladesh (28 million) and Myanmar (11.1 million) were two other countries where the number of SLT users exceeded 10 million⁴.

Table I. Prevalence and number of smokeless tobacco users by World Health Organization Region and country income groups, 2010

WHO Region	Estimated prevalence (%)			Number of SLT users (in millions)		
	Men	Women	Both sexes	Men	Women	Both sexes
Global	8.4	4.6	6.5	223.3	122.7	346
African	2.8	2.1	2.4	7.6	5.9	13.4
Americas	0.6	0.2	0.4	1.3	0.5	1.8
Eastern Mediterranean	4.1	1.4	2.9	9	2.8	11.8
European	2.1	0.1	1	3.4	0.2	3.6
Southeast Asia	27.4	16.5	22	187.3	109.6	296.9
Western Pacific	1	0.4	0.7	6.5	2.8	9.2
High-income (OECD)	1.9	0.2	1.2	8.2	1	9.2
WB country income group						
Global	8.4	4.6	6.5	223.3	122.7	346
High-income	1.7	0.2	1.1	8.9	1.2	10.1
Upper middle-income	1	0.5	0.7	9.4	4.5	13.8
Lower middle-income	19	10.2	14.6	171.7	90.7	262.3
Low-income	12.7	9.8	11.2	33.3	26.4	59.7

SLT, smokeless tobacco; OECD, Organisation for Economic Co-operation and Development; WB, World Bank.

High-income OECD countries, countries defined as high-income by the OECD. High-income OECD countries are excluded from their respective Regions. Country income group classification based on WB Analytical Classifications for 2014.

Source: Ref. 4

Together, India, Bangladesh and Myanmar contributed about 71 per cent of the world SLT user base. Both the prevalence and the number of SLT users were much higher in LICs and LMICs.

According to the second GATS in India¹⁴, the prevalence of SLT use among adults decreased from 25.9 per cent in 2010 to 21.4 per cent in 2017 which was a relative decline of more than 17 per cent. This translated to 199 million adults SLT users in 2017¹⁴ which was a decrease of 7 million SLT users since 2010. If the number of SLT users remained the same elsewhere in the world, this meant a global total of 339 million SLT users in 2017 and India contributing 59 per cent of it. *Khaini*, an SLT product, was the most commonly used tobacco product in India used by 104 million adults (males and females) and *gutka*, another SLT product, was the third most commonly used product being used by 51 million adult males¹⁴. Among adult women, all three most commonly used tobacco products were smokeless varieties, namely, betel quid with tobacco (20 million), tobacco for oral applications (20 million), and *khaini* (19 million) according to the same survey¹⁴.

The most prevalent forms of SLT use in Bangladesh were betel quid with *zarda*, *gul*, *khoini*

(similar to *khaini* in India), and *sadapata* (powdered or dried tobacco leaves)⁴. Data from international tobacco control (ITC) study in Bangladesh also showed a relative decline of 23.1 per cent in the prevalence of SLT use in three years. Prevalence of SLT use went down from 28.6 per cent in 2009 to 22 per cent in 2012¹⁶. This effectively reduced the number of SLT users by about 4 million. Bangladesh is also unique for higher SLT prevalence among women (24.5%) than in men (19.5%) unlike in most other countries¹⁶. If we account for the reduction in the user base of SLT experienced in India and Bangladesh in recent surveys^{14,16}, the global user base of SLT may be revised down to 335 million.

Taxation of smokeless tobacco

Experience in both India and Bangladesh showed that tax increases were effective in reducing SLT use. Successive GATS surveys^{14,15} done in 2010 and 2017 in India and ITC surveys¹⁶ done in 2009 and 2012 in Bangladesh showed significant reductions in the prevalence of SLT use in the general adult population. Significant tax increases on SLT products occurred during this period in both countries. In India, it was found that increasing the price of SLT products discouraged SLT use among men⁹ and youth¹⁰. The impact of an increase in prices of the two most popular varieties of

SLT products (*khaini* and *zarda*) on consumption were examined in India¹⁷. It was found that 58 per cent rise in the prices of *khaini* resulted in a 51 per cent decline in the consumption during the period 2008-2013 and a 28 per cent rise in the price of *zarda* led to a 24 per cent decline in the consumption during the same period¹⁷. In Bangladesh, it was observed that ‘the negative effect of the increase in tax that was presumably passed on to the price increase was at work in inducing SLT users to quit’¹⁷. An earlier study from Bangladesh¹¹ also confirmed the inverse relationship between tax increases and SLT use.

The WHO report on the global tobacco epidemic in 2015 and 2017 reported the tax burden - the proportion of overall taxes in retail prices - of SLT products along with their prices (in international dollars at purchasing power parity) for the most common type of SLT products, as reported by 35 countries^{12,13}. There was huge variation in both prices and tax incidence on SLT products across countries from an absolute 0 per cent (*i.e.*, no tax of any kind on SLT products in seven countries) to as high as 72.4 per cent in Sudan (Table II). Only three countries (Morocco, Sudan, and Tunisia) of the 35 had total tax incidence at or above 70 per cent. The WHO’s Technical Manual on Tobacco Tax Administration¹⁶ recommends tobacco excise taxes alone should account for at least 70 per cent of the retail prices of tobacco products. In the Southeast Asia Region, although Indonesia had the highest price for SLT products, it showed the lowest tax at 10.72 per cent (Table II). On the other hand, India had one of the lowest prices per unit of SLT and second highest tax on SLT in Southeast Asia.

Of the 28 countries imposing some taxes on SLT products, 15 including Nepal and Indonesia from the SEAR, levy specific excise on SLT. Singapore levies the highest specific excise at 70 per cent. Twelve countries including India and Bangladesh from the SEAR impose *ad valorem* excise on SLT. In addition to specific excise or *ad valorem* excise most countries impose VAT on sale of SLT, while Algeria, Tunisia and Morocco were the only countries that imposed a mix of all the three kinds of taxes on SLT products. It was clear that most countries where SLT products were sold underutilized taxation as a tool to regulate consumption of SLT products^{12,13}.

Examining price variation of SLT products across countries also revealed interesting insights. Some countries such as Morocco, Sudan and Tunisia although

have relatively high tax, their unit price of SLT products was relatively cheaper than several other countries where tax was low. Republic of Korea, Belarus, Ukraine, Indonesia and Japan, for example, have a relatively high price for SLT products although the tax was relatively low. On the other hand, there were countries where both tax and price were high (*e.g.*, Serbia, Canada, Norway, Iceland and Suriname). To examine the relationship between tax burden and retail price of SLT, the countries were grouped into different income groups and average prices of SLT (20 g pouch of most sold SLT brand in each country) were mapped. The average tax burden on SLT in these country income groups is shown in the Figure. It showed a direct relationship between the retail price of SLT products and tax burden. Two observations became immediately clear: One, the tax burden of STLs was relatively larger in HICs compared to LICs and LMICs. Two, the retail prices (international PPP \$), in general, were lower for SLT products in LICs and LMICs and higher in HICs.

The figure also presents a comparison of retail prices (international PPP \$) and tax burden for a 20 cigarette pack of the most sold brand of cigarette and that of a 20 g pouch of SLT, assuming they are comparable units. The per unit price of SLT products was larger than that of cigarettes in all country income groups except LICs. However, in four of the five LICs and nine of the 13 LMICs, unit prices of cigarettes were at least two PPP \$ larger than that of SLT. These were the countries with relatively low tax burden on SLT compared to cigarettes. Such differences in prices between two tobacco products within a single country may not be good from a tobacco control perspective

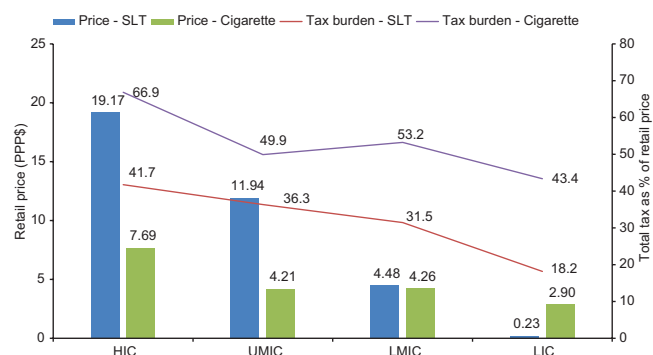


Figure. Comparison of retail price and tax incidence between smokeless tobacco (SLT) and cigarettes by country income groups. Note: Retail Price (PPP\$) shows the retail price in international purchasing power parity dollars for a 20 cigarettes pack of the most sold brand and 20 g pouch of the most sold SLT brand in each country. HIC, high-income countries; UMIC, upper middle-income countries; LMIC, lower middle-income countries; LIC, low-income countries. Source: Refs 12, 13

Table II. Price and tax burden of smokeless tobacco by country

Country	WHO Region	WB country income group	Year	Retail price of most sold brand (in PPP\$)	Total tax as a per cent of price
Chewing tobacco (20 g)					
Canada	AMR	HIC	2016	14.14	67.78
Italy	EUR	HIC	2016	2.95	42.81
Switzerland	EUR	HIC	2016	5.94	13.41
Algeria	AFR	UMIC	2016	2.40	52.95
Grenada	AMR	UMIC	2016	5.35	23.40
Marshall Islands	WPR	UMIC	2016	3.33	57.00
Libya	EMR	UMIC	2014	1.23	7.76
Yemen	EMR	LMIC	2016	0.54	0.00
Bangladesh	SEAR	LMIC	2016	1.35	53.49
Timor-Leste	SEAR	LMIC	2016	0.20	0.00
Micronesia, fed. Sts.	WPR	LMIC	2016	3.40	31.96
Côte d'Ivoire	AFR	LMIC	2014	0.07	0.00
Sudan	EMR	LMIC	2014	0.26	72.43
India	SEAR	LMIC	2014	0.38	50.98
Nepal	SEAR	LMIC	2014	1.82	22.65
Burundi	AFR	LIC	2016	0.16	0.00
Madagascar	AFR	LIC	2016	0.12	45.33
Dry snuff (20 g)					
Hungary	EUR	HIC	2016	9.66	21.26
Japan	WPR	HIC	2016	23.08	17.77
South Africa	AFR	UMIC	2016	0.92	12.28
Russian Federation	EUR	UMIC	2016	14.88	27.73
Serbia	EUR	UMIC	2016	24.44	60.17
Belarus	EUR	UMIC	2014	50.28	27.83
Suriname	AMR	UMIC	2014	4.64	57.94
Cameroon	AFR	LMIC	2016	2.14	0.00
Morocco	EMR	LMIC	2016	2.22	71.02
Ukraine	EUR	LMIC	2016	26.07	25.66
Indonesia	SEAR	LMIC	2016	19.30	10.72
Tunisia	EMR	LMIC	2014	0.46	70.00
Togo	AFR	LIC	2016	0.04	0.00
DR Congo	AFR	LIC	2014	0.71	0.00
Moist snuff (20 g)					
Norway	EUR	HIC	2016	5.05	65.91
Zimbabwe	AFR	LIC	2016	0.10	45.65
Snus (20 g)					
Republic of Korea	WPR	HIC	2016	87.67	43.83
Nose tobacco (20 g)					
Iceland	EUR	HIC	2016	4.87	61.18

HIC, high-income countries; UMIC, upper middle-income countries; LMIC, lower middle-income countries; LIC, low-income countries; WHO, World Health Organization; AMR, American Region; EMR, Eastern Mediterranean Region; AFR, African Region; WPR, Western Pacific Region; SEAR, South-East Asian Region

Source: Refs 12,13

Table III. Example of a compounded levy scheme in India (financial year 2016-2017)

Retail sale price (per pouch)	Excise rate of duty per packing machine per month (₹ in lakhs)						<i>Khaini</i> Any speed
	Chewing tobacco (other than filter <i>khaini</i>)						
	Up to 300 pouches per min		301-450 pouches per min		451 pouches per min or above		
	Without lime tube	With lime tube	Without lime tube	With lime tube	Without lime tube	With lime tube	
Up to ₹ 1.00	30.51	28.98	43.58	41.4	92.61	87.98	18.52
Exceeding ₹ 1.00 but not exceeding ₹ 1.50	45.76	43.47	65.37	62.1	138.91	131.97	27.78
Exceeding ₹ 1.50 but not exceeding ₹ 2.00	54.91	51.86	78.44	74.09	166.69	157.43	35.19
Exceeding ₹ 2.00 but not exceeding ₹ 3.00	82.37	77.79	117.67	111.13	250.04	236.15	50.15

Source: Ref. 24

as tax increases on either or both products can affect the relative price and tax burden and induce people to switch from higher priced products to lower priced products.

Smokeless tobacco taxation in India and Bangladesh

SLT taxation in India and Bangladesh needs special attention as these two countries, together account for roughly 68 per cent of the total SLT users in the world. India follows a compounded levy scheme (or presumptive taxation) to tax SLT products. This is because most SLT products in India such as chewing tobacco, *pan masala* and *gutka* are packed in pouches with the aid of packing machines. Under this system, a manufacturer is required to pay a lump sum amount of duty per packing machine installed in the production facility. The amount of duty would depend on the retail price of the pouch/pack that is produced using that packing machine. In other words, the manufacturer would pay duty on the basis of a normative assessment of production and not on the actually declared production¹⁸. This often incentivises manufactures to under-report the capacity of their machines or produce beyond the declared capacity.

Due to several limitations of this scheme and its inability to check the evasion of excise payable on SLT products, the Government of India, in its budget for FY 2015-2016, made maximum speed of packing machine as a factor for determining both the deemed production and excise duty payable under the Compounded Levy Scheme and it was applied to *pan masala*, *gutka* and chewing tobacco. Packing speed would be typically determined by a Government approved Chartered Engineer. Both deemed production and duty payable

per machine per month were notified in respect of these SLT products with reference to the speed range in which the maximum speed of a packing machine for packages of various retail sale prices falls. Table III provides a sample snapshot of a compounded levy scheme in India as taken from the FY 2016-17 budget documents. It shows the different rates of excise taxes charged on SLT products based on the speed/capacity of the machine and the retail price in which each pouch is sold which ranges from < ₹ 1 to > ₹ 50 per pouch.

An examination of excise data from SLT products¹⁹ shows that following the amendments that made the speed of packing machines as a determining factor for deemed production as well as excise duty payable, the excise tax revenue from *pan masala* and chewing tobacco increased by 66 and 48 per cent, respectively, in the FY 2015-2016. In comparison, in FY 2014-15, the excise revenue showed a decline of 0.4 and 7.8 per cent, respectively, for *pan masala* and chewing tobacco compared to the previous financial year. It indicates effective tax administration will positively impact tax revenue. According to data obtained from the Ministry of Finance, Government of India, of the total excise tax of ₹ 217.2 billion on all tobacco products collected in the FY 2016-17, only ₹ 21.5 billion (9.9%) came from SLT products alone¹⁹. However, the share of excise of SLT products in all tobacco excises has been consistently growing in the past several years - increased from about 6.8 per cent in the FY 2010-11 to 9.9 per cent in FY 2016-17- despite the decrease in SLT use indicating a possible improvement in the tax administration itself.

After the most recent Goods and Service Tax (GST) reform in India which was implemented on

Table IV. Tax rate on various smokeless products in India under goods and service tax (GST), 2017

SLT product	GST (%)	Cess (%)	NCCD (%)
Chewing tobacco (without lime tube)	28	160	10
Chewing tobacco (with lime tube)	28	142	10
Filter <i>khaini</i>	28	160	10
<i>Jarda</i> scented tobacco	28	160	10
<i>Pan masala</i> containing tobacco ' <i>gutka</i> '	28	204	10
'Homogenised' or 'reconstituted' tobacco, bearing a brand name	28	72	10
Preparations containing chewing tobacco	28	72	10
Snuff	28	72	10
Preparations containing snuff	28	72	10
Tobacco extracts and essence bearing a brand name	28	72	10
Tobacco extracts and essence not bearing a brand name	28	65	10
Cut tobacco	28	20	-
All goods, other than pan masala containing tobacco ' <i>gutka</i> ', bearing a brand name	28	96	10
All goods, other than pan masala containing tobacco ' <i>Gutka</i> ', not bearing a brand name	28	89	10

GST along with the cess and NCCD are applied on the pre-tax value of the product at every stage of value addition through the supply chain. SLT, smokeless tobacco; NCCD, National Calamity Contingent Duty; GST, Goods and Service Tax

Source: Ref. 25

July 1, 2017, the SLT products are categorized under demerit product category and are imposed the highest GST rate of 28 per cent²⁰. There is also an additional cess that varies by different SLT product varieties as shown in Table IV²⁰. A simple average of cess across all SLT products is about 104 per cent. There is also a National Calamity Contingent duty (NCCD) of 10 per cent imposed on all SLT products apart from the taxes detailed above. With all these rates, however, the effective tax of SLT products in India is estimated to be around 60 per cent (this was estimated using a 28% GST, an average of 104% cess, and 10% NCCD that are applied on most SLT products under GST as well as assuming a 10% retail margin and a retail price of about ₹ 11.4 for a 10 g SLT pouch) prior to GST²⁰. The tax burden of 60 per cent is still below the recommended rate of 75 per cent by the WHO and the World Bank¹³.

Bangladesh, on the other hand, historically chose not to tax SLT products, unlike cigarettes. Only in 2008-2009, the government of Bangladesh recognized SLT as a manufacturing industry rather than a cottage industry². SLT was brought under the tobacco control mechanism for the first time in 2008 with the imposition of 15 per cent value-added tax (VAT) on *zarda* (chewing tobacco) and *gul* (oral powder) which

are the most common forms of SLT products in the country¹⁶. A 10 per cent supplementary duty on the ex-factory price of *zarda* and *gul* was also introduced in 2009. In the years 2010-2011 and 2011-2012, the supplementary duty was further revised to 20 and 30 per cent, respectively¹⁶. These supplementary duties were again revised to 60 per cent and later to 100 per cent in the years 2015-2016 and 2016-2017, respectively²¹. The tax base was however, shifted from ex-factory prices to a pre-determined tariff value from the year 2017-18²².

Affordability of smokeless tobacco

Available data¹² suggest cigarettes are becoming less affordable in developed countries and much more affordable in developing countries. Data on the affordability of SLT across countries is, however, limited. Earlier studies⁷ in India showed that SLT products became more affordable over the period 2001 to 2007. Studies¹⁷ using data for 2006-2012 also suggested that SLT products were becoming more affordable in India. The study observed that despite a higher increase in the price of SLT compared to general prices, the SLT products became more affordable due to a higher increase in the per capita GDP. Using data from 2009 to 2015, a recent study²³ from Bangladesh showed that the affordability of SLT products remained

unchanged between 2011-2012 and 2014-2015. The study also observed that ‘despite the increase in price in real terms, affordability did not change due to offsetting income growth of SLT users’¹⁸. It also suggested the ‘growth in affordability of cigarettes relative to SLT may have induced switching from SLT use to cigarette smoking resulting in the higher prevalence of cigarette smoking and lower prevalence of SLT use in recent years in Bangladesh’¹⁸.

Affordability studies on SLT products from both India and Bangladesh underlined the need to increase taxes on tobacco products regularly to keep up with growth in income and purchasing power to make tax measures for SLT control more meaningful and effective. It is also important to decrease the affordability of all tobacco products in a country to discourage switching from relatively unaffordable products to more affordable products.

Conclusions

There are approximately 346 million adult SLT users in the world and the Southeast Asian region accounts for nearly 86 per cent of them⁴. India and Bangladesh are the two major countries that constitute much of the SLT user base. The literature on price and tax measures to control SLT use has not been well developed unlike the case of cigarettes. This is primarily because SLT consists of a wide range of heterogeneous products and finding a standard unit for quantification is challenging. It was found that, by volume, 91.3 per cent of the SLT products sold worldwide are sold in traditional markets dominated by Southeast Asia⁴.

In this study it was found that in both India and Bangladesh, the prevalence of SLT use declined by 17 per cent from 2010 to 2016-2017 and 23 per cent from 2009 to 2012, respectively. The global user base of SLT may be revised down to 335 million as a result. However, together, India and Bangladesh continue to contribute about 68 per cent of the total SLT user base in the world and about 79 per cent of the SLT users in the Southeast Asian Region⁴. The prevalence as well as the number of SLT users are relatively much higher in low and lower-middle-income countries. More than 93 per cent of the SLT users live in either LICs or LMICs.

Available studies on price elasticities of SLTs from India and Bangladesh concluded that the elasticity of SLT products fell in the inelastic range of <1 and, as a result, taxation can be used as an effective tool to reduce the consumption of SLT products as well as a tool to generate more tax revenue. A review of price and tax

incidence of SLT products across 35 countries revealed that in general, prices were higher where high tax rates on SLT prevailed and vice versa, although there were individual countries with exceptions. The retail prices (international PPP dollars) as well as tax burden, were lower for SLT products in LICs and LMICs and higher in HICs and UMICs, on an average. In four of the five LICs and nine of the 13 LMICs, the unit prices of cigarettes was at least two PPP \$ larger than that of SLT leading to possible substitution opportunities to lower priced SLTs in the event of tax increases on cigarettes. Special examination of SLT taxation system in India revealed that the introduction of compounded levy scheme and the amendments introduced in 2015-2016 saw tax revenue from SLT products going up substantially compared to previous year. The share of excise of SLT products in all tobacco excises has been consistently growing in the past several years and was 9.9 per cent in FY 2016-2017. The tax burden of SLT under GST, however, still remains at 60 per cent which is below the recommended rate by the WHO²⁰. In Bangladesh, it was learnt that SLT was brought under the tobacco control mechanism for the first time only in 2008 with the imposition of 15 per cent value-added tax (VAT) on *zarda* (chewing tobacco) and *gul* (oral powder), two most common forms of SLT use in the country¹¹. A supplementary duty on the ex-factory price was also introduced in 2009 which was at 100 per cent as of FY 2017-2018 and the tax base was shifted to a predetermined tariff value instead of ex-factory prices²².

Available studies indicated that SLT products in India have become increasingly affordable largely because per capita GDP has increased more than the increase in the price of SLT products during the period 2006-2012. Data from Bangladesh, on the other hand, suggest that the affordability has remained the same during the period 2011-2012 to 2015.

While data on prevalence of SLT use are available through different rounds of GATS, GYTS, Demographic and Health Survey and other generic health and household surveys in several countries and readily available to assess the trends on prevalence and number of users in a given country, similar data either on the price of these products or the quantity consumed in each country are hardly available. Based on an unpublished report in 2017 compiled by a team of experts at the WHO FCTC Global Knowledge Hub on SLT located in the National Institute of Cancer Prevention and Research, Noida, India, of the 179

Parties in the Conference of the Parties, 33 Parties had either not defined SLT or provided no definition of tobacco products and 11 Parties' laws were not available in English language. According to the WHO report on the global tobacco epidemic in 2015¹² and 2017¹³, only about 28 countries were imposing some kind of taxes on SLT products. Most countries do not report either the price or the quantity consumed of various SLTs. In a 2014 report by the NCI and Centers for Disease Control and Prevention⁴, the volume of total SLT available globally was quoted as 710.2 billion tonnes, about 91.3 per cent (648.2 billion tons) of which was in the traditional market⁴. However, this volume information appeared to be highly overstated, was sourced from the Euromonitor, a global market information database, and could not be verified as the methods used by Euromonitor were not transparent. It is of critical importance to know that there are no data at the country level on the volume of production, sales or consumption which are necessary to carry out meaningful analysis of the impact of tax and prices on SLTs. Parties should make reporting such data on SLT mandatory to facilitate meaningful economic research on SLT in future.

It is evident that taxation is an effective tool to reduce the use of SLT products. However, how tax is implemented is crucial to make the best use of this tool. Taxation should be as simple as possible, and it should be efficient to meet both public health and fiscal needs. Determining a standard unit for taxation can be challenging for SLT products due to its heterogeneous nature. Unit for taxation of SLT can be either the retail price of pouch/pack in which the product is sold, the weight of the pack/pouch, or weight of dry tobacco leaf used in the product. The experience in India shows that taxation based on the pre-notified capacity of packing machine that takes into account the speed of these machines can be effective. Continuous monitoring of the supply chain (from manufacturing to retail distribution) of SLT products should be in place to make taxation effective.

Taxation of SLT products should follow the following principles: (i) tax should be revised upwards frequently (at least once a year) to keep the affordability of SLT products low taking into account both the inflation and income growth for that year; (ii) tax should not make the SLT products cheaper than the alternative tobacco products such as cigarettes, *bidis* or other smoked tobacco products available in a country. This should be of particular concern

in countries where risk of substitution with other tobacco products exist; (iii) tax should be such that the minimum price per pouch/pack of SLT will be at least as high as a pack of alternative smoked tobacco products available in the same market; (iv) given that SLT products are already much cheaper than cigarettes in most LICs and LMICs where SLT is sold, the incremental changes in SLT tax need to be much larger than that of cigarettes to bring about parity in taxation and retail price across tobacco products; and (v) it is important to set a minimum floor price on all tobacco products including SLT that are sold in a country. The minimum floor price per the lowest unit of the tobacco product sold should be harmonized across all tobacco product categories. To harmonize the minimum floor price, first, loose sale of all tobacco products should be prohibited and second, manufacturing/production of all tobacco products should be standardized at a unit level based on its weight, size and/or dimensions.

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