



**Investment Case for  
Tobacco Control in**

# **LAO PDR**

**The case for scaling up  
WHO FCTC implementation**



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# The Case for Investing in WHO FCTC Implementation in Lao PDR

Prepared by  
Ministry of Health Lao PDR  
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December 2021



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More than **6,700** Laotians die every year due to tobacco-related illness, accounting for nearly

**15%** of all deaths in the country.

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Tobacco costs Lao PDR

**LAK 3.6 trillion**

every year, equivalent to

**2.3% of its GDP**

in 2017.

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Investing now in seven tobacco control measures will prevent more than

**25,000 deaths**

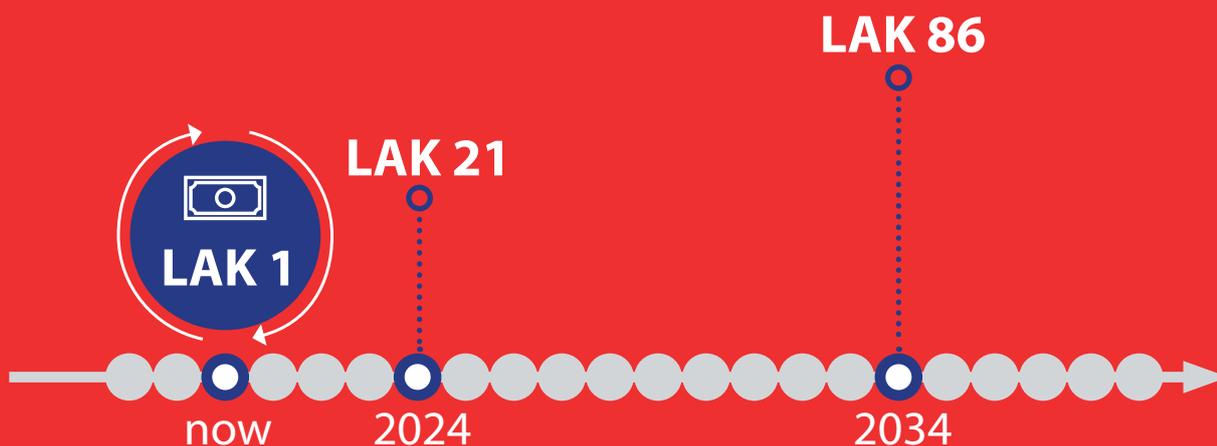
and avert

**LAK 10 trillion**

in health costs and economic losses by 2034.



For every **Lao kip** invested in the seven tobacco-control measures today, Lao PDR will receive **LAK 21** in averted costs and economic losses by 2024 and **LAK 86** by 2034.



## **Acknowledgements**

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This report recommends actionable steps, in addition to the modeled WHO WHO Framework Convention on Tobacco Control provisions, that the Government of Lao PDR can take to strengthen a whole-of-government approach to tobacco and its development consequences. Through the FCTC 2030 Project, the Convention Secretariat, UNDP and WHO stand ready to support the Government of Lao PDR to reduce the social, economic, and environmental burdens that tobacco continues to place on its country.





# 1. Executive summary

## Overview

Tobacco is a health and sustainable development issue. Tobacco consumption and production causes early death and disease, results in high health costs and economic losses, widens socioeconomic inequalities, and impedes progress across the Sustainable Development Goals. This report presents the findings of the case for investing in tobacco control in Lao PDR. In line with the WHO Framework Convention on Tobacco Control (FCTC) Global Strategy to Accelerate Tobacco Control and according to the stated priorities of the Government of Lao PDR, it measures the costs and benefits—in health and economic terms—of implementing seven priority tobacco control measures. The seven measures are:

- 1 Increase tobacco taxation to reduce the affordability of tobacco products.**  
*(WHO FCTC Article 6)*
- 2 Expand and enforce bans on smoking in public places to protect people from tobacco smoke.** *(WHO FCTC Article 8)*
- 3 Enforce rotation of graphic health warnings that cover at least 50 percent of packaging.** *(WHO FCTC Article 11)*
- 4 Implement plain packaging.**  
*(WHO FCTC Article 11: Guidelines for implementation, and Article 13)*
- 5 Promote and strengthen public awareness about tobacco control issues and the harms of tobacco use through mass media information campaigns.**  
*(WHO FCTC Article 12)*
- 6 Expand and enforce a comprehensive ban on all forms of tobacco advertising, promotion, and sponsorship.**  
*(WHO FCTC Article 13)*
- 7 Support reducing tobacco dependence and cessation by training health professionals to provide brief advice to quit smoking.**  
*(WHO FCTC Article 14)*

## Main findings

**In 2017, tobacco use cost the Lao economy LAK 3.6 trillion, equivalent to 2.3 percent of its GDP.** These annual costs include a) LAK 240 billion in healthcare expenditures, and b) LAK 3.3 trillion in lost productive capacities due to premature mortality and disability as well as workplace smoking breaks. The productivity losses from current tobacco use in Lao PDR—93 percent of all tobacco-related costs—indicate that tobacco use impedes development in Lao PDR; multisectoral engagement is required for effective tobacco control, and other sectors benefit substantially from supporting tobacco control investments through a healthier and more productive labour force.

**Every year, tobacco use kills more than 6,700 Laotians, with 61 percent of these deaths among individuals under age 70 (i.e. premature death).** More than 20 percent of lives lost from tobacco use are due to exposure to secondhand smoke.

By acting now, the Government of Lao PDR can reduce the national burden from tobacco use. The investment case findings demonstrate that enacting and enforcing the seven proven FCTC tobacco-control measures would, over the next 15 years:

**Avert LAK 10.1 trillion in economic losses.** This includes LAK 9.4 trillion in economic output losses averted. The tobacco-control measures stimulate economic growth by ensuring that fewer people 1) drop out of the workforce due to premature mortality, 2) miss days of work due to disability or sickness, and 3) work at a reduced capacity due to smoking breaks or tobacco-related health issues.

**Lead to an additional LAK 679 billion in savings through avoidance of tobacco-attributable healthcare expenditures.** Of this, the Government would save LAK 315 billion in healthcare expenditures, citizens would save LAK 329 billion in out-of-pocket health-care costs, and LAK 34 billion would be saved from other sources of healthcare expenditures.

**Save 25,269 lives and reduce the incidence of disease.** The recommended WHO FCTC tobacco control measures contribute to Lao PDR's efforts to achieve SDG Target 3.4 to reduce by one third premature mortality (under age 70) from non-communicable diseases (NCDs) by 2030. Enacting the WHO FCTC measures would prevent over 8,000 premature deaths from the four main NCDs by 2030, the equivalent of about 12 percent of the needed reduction in premature mortality to achieve SDG Target 3.4.

**Provide economic benefits (LAK 10.1 trillion) that significantly outweigh the costs of implementing the 7 WHO FCTC measures (LAK 118 billion).** Each of the WHO FCTC provisions is highly cost-effective. Increasing cigarette taxes has the highest return-on-investment (758:1), followed by expanding and enforcing comprehensive bans on tobacco advertising, promotion, and sponsorship (324:1), mass media campaigns (124:1), implementing standardized packaging of tobacco products (124:1), enforcing bans on smoking in public places (84:1), enforcing rotation of graphic health warnings (83:1), and cessation by training health professionals to provide brief advice to quit smoking (11:1).

In addition to the above analyses, this investment case separately examined a hypothetical scenario in which the Investment License Agreement (ILA), which places a moratorium on tobacco taxation increases, was never signed and implemented. In this hypothetical scenario, **tax increases over the next five years would generate nearly LAK 1.8 trillion<sup>1</sup> in revenue.** This is LAK 354 billion annually, which is equivalent to over one-fifth (22 percent) of the Government's 2018 total healthcare expenditures. In addition, tax increases would confer social benefits, particularly to the poor. Lower-income earners cease smoking at a higher rate in response to price increases than wealthier individuals, helping them to avoid illness, catastrophic healthcare expenditures and further impoverishment. **Fifty-seven percent of the deaths averted from increasing cigarette taxes would be among the poorest two income quintiles (i.e. the bottom 40 percent).** Cigarette tax increases would further benefit the poor if the resulting Government tax revenue were reinvested in national development priorities to improve conditions for the poor such as social protection measures including universal health coverage, which that the Lao government is committed to achieving.

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1 Discounted value – 3 percent discount rate

## Recommendations

The Investment case provides strong evidence in favor of implementing specific control measures to alleviate the health and economic burden caused by tobacco. By investing now in tobacco control measures, Lao PDR can accelerate its efforts towards achieving the Sustainable Development Goals, including the call for a one-third reduction in premature mortality from NCDs by 2030 as well as the goals to end poverty, reduce inequality, and grow the economy.

This report recommends actionable steps, in addition to the modeled WHO FCTC provisions, that the Government of Lao PDR can take to strengthen a whole-of-government approach to tobacco and its development consequences. Through the FCTC 2030 Project, the Secretariat of the WHO FCTC, UNDP and WHO and other partners stand ready to support the Government of Lao PDR to reduce the social, economic, and environmental burdens that tobacco continues to place on its country.

**1**

Ensure that the **Investment License Agreement (ILA) with the tobacco industry is reconsidered (but not/never to be extended beyond the current term), so that taxes can be raised**, and other tobacco control measures implemented fully, for public health and economic benefits.

**2**

Ensure that the **amendment of the 2009 Law on Tobacco Control is advocated for and approved**, prioritising the inclusion of plain packaging. Other gaps identified—such as restricting emerging products and internet tobacco sales such as e-cigarettes, internet tobacco sales, point of sale advertisement and promotion, several forms of indirect advertising and promotion, inclusion of health warnings on smokeless tobacco, and disclosure to the government and public by the tobacco industry on advertising, sponsorship, and promotion— should be included in the amendment.

**3**

Ensure that the **government has mechanisms in place to be in full control, and is well-coordinated to protect public interest and implement tobacco control effectively and transparently**. The multisectoral coordination mechanism should be proactive, and strengthened by a national tobacco control strategy to provide overall strategic directions, clear areas of action, and monitoring and accountability mechanisms. The Tobacco Control Fund must be sufficiently funded and utilized optimally for tobacco control efforts. The government must be vigilant against tobacco industry interference.

## 2. Introduction

Tobacco is one of the world's leading health threats, and a main risk factor for non-communicable diseases (NCDs) including cancers, diabetes, chronic respiratory disease and cardiovascular disease. In Lao PDR, around 1.5 million people (32 percent of adults aged 15 and older) use tobacco products [1], leading to an estimated 6,800 deaths every year [2]. Sixty-one percent of those deaths occur among those under age 70 [2].

Alongside the cost to health, tobacco imposes a substantial economic burden. In 2012, worldwide, health care expenditures to treat diseases and injuries caused by tobacco use totaled nearly six percent of global health expenditure [3]. Further, tobacco use can reduce productivity by permanently or temporarily removing individuals from the labor market due to poor health [4]. When individuals die prematurely, the labor output that they would have produced in their remaining years is lost. In addition, individuals with poor health are more likely to miss days of work (absenteeism) or to work at a reduced capacity while at work (presenteeism) [5, 6].

Tobacco use may displace household expenditure that would otherwise go to fulfilling basic needs, including food and education [7-9], contributing to pushing some families into poverty and hunger [10, 11]. It imposes health and socio-economic challenges on the poor, women, youth and other vulnerable populations [12]. Meanwhile, tobacco production causes environmental damage including soil degradation, water pollution and deforestation [13-15]. Given the far-reaching development impacts of tobacco, and the multisectoral nature of the interventions required, effective tobacco control requires the engagement of non-health sectors within the context of a whole-of-government approach.

Current tobacco use trends, in Lao PDR and around the world, are incompatible with sustainable development. Through Sustainable Development Goal (SDG) Target 3.4, the Agenda 2030 for Sustainable Development commits Member States to achieve a one-third reduction in premature mortality from NCDs (i.e. deaths between 30 and 70) by 2030. Accelerating progress on NCDs requires strengthened implementation of the WHO Framework Convention on Tobacco Control (SDG Target 3.a). Tobacco control is not just a primary means to improve population health, but also a proven approach to reduce poverty and inequalities, grow the economy and advance sustainable development broadly. Tobacco control is an SDG accelerator as it can contribute to many goals simultaneously across the economic, social and environmental spheres. However, more work must be done to reverse the tobacco epidemic including by accelerating implementation of the Convention.

Lao PDR signed the WHO Framework Convention on Tobacco Control (WHO FCTC) in 2004 and ratified it in 2006 [16]. Since that time, Lao PDR has made significant progress in tobacco control, passing the National Tobacco Control Law in 2009, which regulated smoking in public places, tobacco packaging, and tobacco advertising, as well as establishing the Tobacco Control Fund (TCF) to support implementation of the law [17].

By legislating and funding these important measures, Lao PDR is helping to curb the tobacco epidemic. Intensifying existing policies and implementing new measures can draw the tobacco use prevalence curve further downward and generate additional health and economic gains. For example, there are opportunities to raise taxes on tobacco products and implement plain packing laws. Realizing the full benefits of such measures depends on concerted and coordinated efforts from multiple sectors of government as well as high-level leadership and an informed public. It also requires due attention to protecting against tobacco industry interference in policymaking.

In 2020, the Convention Secretariat, UNDP, and WHO and Southeast Asia Tobacco Control Alliance or SEATCA undertook a joint mission to Lao PDR to initiate an investment case as part of the FCTC 2030 Project. The FCTC 2030 Project is a global initiative funded by the governments of the UK, Norway and Australia to support countries to strengthen WHO FCTC implementation to achieve the SDGs. Lao PDR is one of 24 countries worldwide receiving dedicated FCTC 2030 project support.



*Credit: © Zsuzsanna Schreck*

An investment case analyzes the health and economic costs of tobacco use as well as the potential gains from scaled-up implementation of WHO FCTC measures. It identifies which WHO FCTC demand-reduction measures can produce the largest health and economic returns for Lao PDR (the return on investment; ROI). In consultation with the Government of Lao PDR, the following seven key WHO FCTC provisions were selected to be modeled within the investment case:

-  **1 Beginning in 2026, increase cigarette taxation to reduce the affordability of tobacco products as soon as possible.**  
*(WHO FCTC Article 6)*
-  **2 Enforce bans on smoking in all public places to protect people from tobacco smoke.** *(WHO FCTC Article 8)*
-  **3 Enforce rotation of graphic health warnings that cover at least 50 percent of the packaging.** *(WHO FCTC Article 11)*
-  **4 Implement plain packaging.<sup>2</sup>**  
*(WHO FCTC Article 11 and Article 13 Guidelines)*
-  **5 Institute mass media campaigns against tobacco use.**  
*(WHO FCTC Article 12)*
-  **6 Expand and enforce bans on tobacco advertising, promotion, and sponsorship.** *(WHO FCTC Article 13)*
-  **7 Support reducing tobacco dependence and cessation by training health professionals to provide brief advice to quit smoking.**  
*(WHO FCTC Article 14)*

**Section 3** of this report provides an overview of tobacco control in Lao PDR, including tobacco use prevalence as well as challenges and opportunities. **Section 4** summarizes the methodology of the investment case (see **Annex** and **Technical Appendix<sup>3</sup>** for more detail). **Section 5** reports the main findings of the economic analysis. The report concludes under **Section 6** with recommendations.

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2 Involves the prohibition on the use of logos, colors, brand images, or promotional information on packaging other than brand names and product names displayed in a standard color and font style.

3 Available upon request.

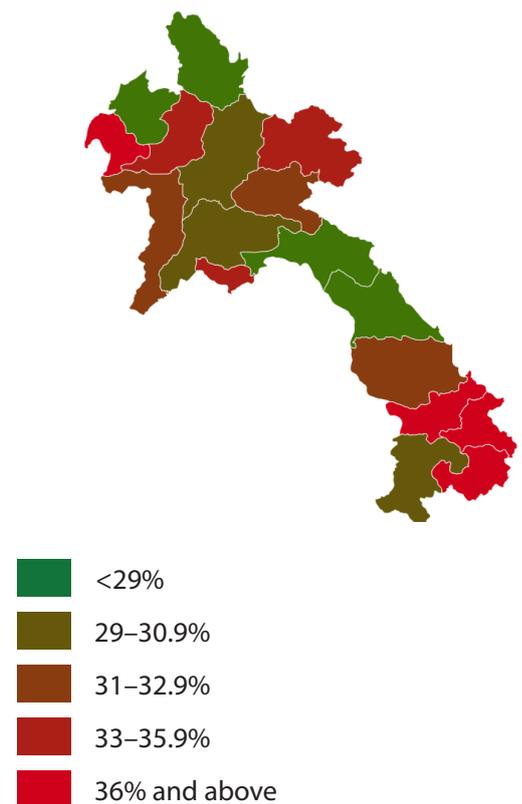
## 3. Tobacco control in Lao PDR: status and context

### 3.1 Tobacco use prevalence, social norms, and awareness-raising

Tobacco prevalence in Lao PDR is among the highest in the Southeast Asia region, driven in part by higher than average usage rates among women [1].<sup>4</sup> 51.2 percent of men and 15.4 percent of women use some form of tobacco. Tobacco use is most pronounced in the Saravane, Attapeu, and Sekong provinces in southern Lao PDR (see **Figure 1**) [18]. Tobacco use increases with age. Among individuals age 55 or older, more than six in 10 men and four in 10 women use tobacco [1]. High prevalence rates may be linked in part to cultural norms around smoking, with cigarettes often given as gifts during ceremonial events; offered to welcome visitors into homes; and linked with masculinity and male social bonding in some segments of Laotian society [19].

Cigarette use is the most prevalent form of tobacco use among men, representing 95 percent of all tobacco use [1]. Tobacco consumption is more mixed among women, with about 60 percent consuming chewing tobacco and the remainder consuming cigarettes. Over 92 percent of cigarette users smoke daily, and on average they consume over a half of pack of cigarettes each day [1].

**Fig. 1: Tobacco use prevalence, by province<sup>5</sup>**

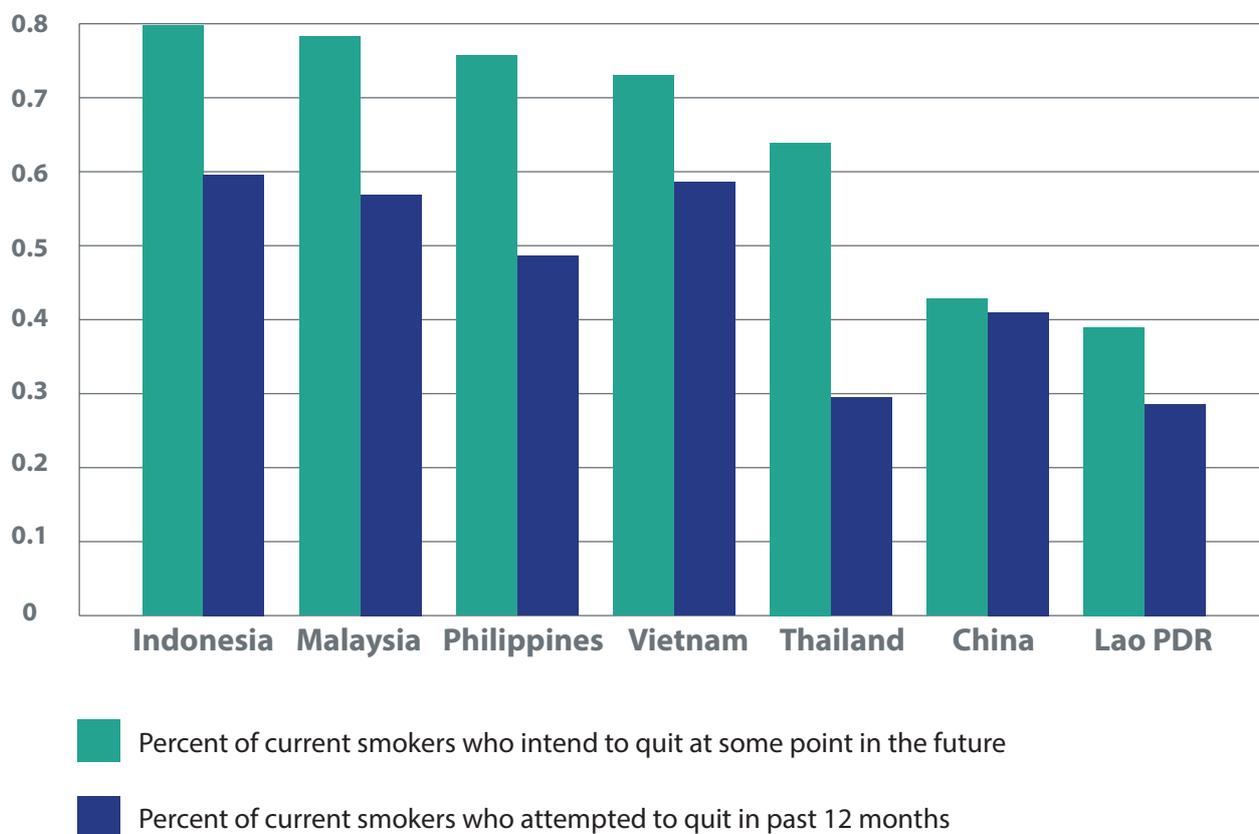


4 Cigarette smoking prevalence from highest to lowest in neighboring or near-neighboring countries: Indonesia (34.4%), Lao PDR (27.0%), China (23.8%), Malaysia (20.5%), Viet Nam (19.5%), Philippines (18.7%), Thailand (16.8%), Cambodia (16.6%), Myanmar (14.3%).

5 The source for tobacco use prevalence by province is the Lao Social Indicator Survey II 2017 (LSIS II 2017) rather than the Lao PDR National Adult Tobacco Survey used in the investment case model and cited throughout the report, resulting in slightly different prevalence figures.

**Fig. 2: Quit intentions and quit attempt rates in Southeast Asia**

Source: Lao [22]; Other southeast Asia countries - The Tobacco Atlas [20]



### 3.2. The status of FCTC Tobacco control demand-reduction measures

Strong fiscal and regulatory measures powerfully influence norms by signalling to the population that tobacco use is harmful, not just for users but also those around users including family, colleagues and workers. Evidence suggests that the Laotian government's tobacco control efforts are making a material impact. Laotian smokers who noticed anti-tobacco media messaging or health warnings on cigarette packages are almost three times as likely to make a quit attempt than those who do not notice the messaging [21]. However, the Lao PDR presents one of the lowest figures related to smoking cessation in the region (**Figure 2**).

The Lao PDR Law on Tobacco Control of 2009 and several implementing decrees regulate smoking in public places; tobacco advertising, promotion, and sponsorship (TAPS); and prescriptions on the size and content of warning labels placed on tobacco packaging [23]. To further protect the health of its population, and to honor its obligations as a Party to the WHO FCTC, Lao PDR should strengthen existing measure and implement additional measures to reduce demand for tobacco. Below, we describe the status of existing measures and the intensification level that is examined within the investment case.



### **Increase tobacco taxation to reduce the affordability of tobacco products (WHO FCTC Article 6)**

Lao PDR currently has a total tax rate on cigarettes that accounts for 18.8 percent of the retail price of the most sold cigarette brand [24]. The WHO recommends that taxes represent at least 75 percent of the retail price of tobacco products, inclusive of at least a 70 percent excise tax, and that tax rates are monitored and increased on a regular basis to ensure tobacco products do not become more affordable over time (e.g. due to growth in income). A 25-year agreement with Imperial Tobacco, which sells 90 percent of all tobacco products consumed in Lao PDR, restricts the government from raising taxes on its products [25]. Frozen tax rates—coupled with rising income—means that cigarettes are becoming more affordable [24]. In addition, the government is unable to capitalize on a valuable source of revenue. The investment case examines the impact of raising taxes to levels that would fulfill WHO tax share recommendations. Beginning in 2026 when the agreement with Imperial Tobacco expires, taxes are steadily raised, quadrupling the cost of a pack of cigarettes by 2034—a real price increase increase of LAK 21,000.



### **Implement and enforce bans on smoking in all public places to protect people from tobacco smoke (WHO FCTC Article 8)**

The 2009 Law on tobacco control bans smoking in all public places including healthcare facilities, educational facilities, universities, government buildings, workplaces, restaurants, cafes and bars, and public transit. However, compliance with the ban remains a challenge, with local experts rating overall compliance with the ban as “medium” and citing very low compliance levels in cafes and bars [24]. Indeed, more than three in 10 current and former smokers report passive smoke exposure at indoor public places during the last 30 days [21]. The investment case examines increased enforcement of the law that generates high compliance.



### **Mandate that tobacco products and packaging carry large graphic health warnings describing the harmful effects of tobacco use (WHO FCTC Article 11)**

In order to inform consumers about the harmful effects of tobacco, Lao PDR has approved six health warnings for cigarette packaging and mandates that warning labels cover 75 percent of the package (cite Tobacco Profile). The law includes requirements for the size, language, and rotation of text and graphic warning labels and establishes fines for violations. While the law specifies that warnings should be rotated every two years, in practice, tobacco companies have not complied with the mandate to rotate warning [26], resulting in “wear out” of their intended effect. The investment case examines the impact of compliance with existing law and regular rotation of warning labels.



### **Mandate plain packaging of all tobacco products (WHO FCTC Article 11: Guidelines for implementation, and Article 13)**

Plain packaging – neutral colors, without branding and logos—is currently not mandated. Plain packaging of tobacco products would enhance the impact of health warnings and eliminate the possibility of using the package as a vehicle for advertising.



### **Promote and strengthen public awareness about tobacco control issues and the harms of tobacco use through mass media information campaigns (WHO FCTC Article 12)**

No national-level anti-tobacco mass media campaigns have aired on major media platforms, such as television and radio, during the last three years. Campaigns should include all components recommended by WHO, such as target audience research, testing of materials, working with journalists to gain publicity, and evaluating the impact of the campaign. Launching a best-practice mass media campaign (examined in the investment case) would further promote and strengthen public awareness about tobacco control issues and the harms of tobacco use.



### Enact and enforce a comprehensive ban on all forms of tobacco advertising sponsorship and promotion (WHO FCTC Article 13)

Lao PDR has enacted a ban on many forms of tobacco advertising, promotion, and sponsorship (TAPS), such as banning advertising on national TV, national radio, magazines, newspapers and billboards. However, point-of-sale advertising remains legal, as do several forms of promotion and sponsorship (e.g., free distribution, promotional discounts, use of tobacco products and brands on television). Decree No. 369 does not address internet tobacco product sales, which should be prohibited according to the WHO FCTC COP Guidelines for Article 13. Evidence shows that tobacco companies exploit incomplete bans and channel resources into avenues that remain legal [27]. A comprehensive ban on all forms of TAPS (examined in the investment case) would reduce population exposure to tobacco products through marketing—especially exposure that glamorizes use of tobacco products—thereby decreasing youth smoking initiation and tobacco consumption rates, as well as increasing quit rates [27].



### Provide support for reducing tobacco dependence and cessation: Offer brief advice to quit at the primary care level (WHO FCTC Article 14)

A cross-sectional national survey administered to 855 medical doctors in provincial health facilities in northern and southern Lao PDR found that nearly all agreed that they should routinely advise smokers to quit [28]. Yet, few smokers (less than 20 percent) report having received advice from health providers to quit using tobacco [1]. The discrepancy may result in part from low levels of training among health professionals; three out of four medical doctors report that they have never received any formal training on cessation practices [28]. Supportive cessation advice from trained providers can motivate individuals to quit or increase quit attempts. The investment case examines the impact of training health providers to offer cessation advice in general practice settings.

**Table 1** summarizes the existing state of WHO FCTC demand-reduction measures and compares them against the WHO FCTC target goals for each measure. Reaching target goals can further reduce tobacco consumption. The impact of each policy measure—individually and in combination—is described in **Annex Table A1**.

**Table 1: Summary of the current state of WHO FCTC demand reduction measures in Lao PDR and target goals**

<b>Tobacco Control Policy</b>	<b>Lao PDR Baseline*</b>	<b>Modeled WHO FCTC Target</b>
<b>Increase tobacco taxation to reduce the affordability of tobacco products (WHO FCTC Article 6)</b>	Tax share equivalent to 18.8% of the retail price of the most sold brand of cigarettes.	Increase taxes on cigarettes and smokeless tobacco to at least 75% of the retail price with at least a 70% share of excise tax. Implement regular tax increases to outpace inflation and income growth. <sup>6</sup>
<b>Implement and enforce bans on smoking in all public places to protect people from tobacco smoke (WHO FCTC Article 8)</b>	Smoking is banned in all, indoor public places. Compliance with the law is described as “medium”.	Increase enforcement of the existing law to drive high compliance levels.
<b>Mandate that tobacco products and packaging carry large graphic health warnings describing the harmful effects of tobacco use (WHO FCTC Article 11)</b>	Graphic warning labels are required to cover 75% of tobacco packaging; however, tobacco companies have not complied with the regulation to rotate warning labels.	Increase enforcement of the existing law to ensure that warning labels content is regularly rotated and refreshed (at least every two years).
<b>Mandate plain packaging of all tobacco products (WHO FCTC Article 11: Guidelines, and Article 13)</b>	No law mandates plain packaging of tobacco products.	Implement a law requiring plain packaging.
<b>Promote and strengthen public awareness about tobacco control issues and the harms of tobacco use through mass media information campaigns (WHO FCTC Article 12)</b>	No national anti-smoking mass media campaigns have recently been conducted.	Implement a nationwide anti-smoking mass media campaign that is researched and tested with a targeted audience, and evaluated for impact.
<b>Enact and enforce a comprehensive ban on all forms of tobacco advertising sponsorship and promotion (WHO FCTC Article 13)</b>	Advertising is banned on major forms of media (e.g., TV, radio, internet, billboards, print); however, direct advertising at the point of sale is permitted and several forms of promotion and sponsorship remain legal.	Enact a comprehensive ban on all forms of tobacco advertising, promotion and sponsorship.
<b>Provide support for reducing tobacco dependence and cessation: Offer brief advice to quit at the primary care level (WHO FCTC Article 14)</b>	Four in five smokers have never received advice to quit using tobacco from a health provider.	Train health providers to identify tobacco users and to provide tobacco cessation advice; scale up the provision of tobacco cessation services at the primary care level.
* Unless otherwise noted, information in this column is derived from the WHO Report on the Global Tobacco Epidemic: Country profile – Lao PDR		

6 The investment case examines the impact of raising taxes to levels that would fulfill WHO tax share recommendations. Beginning in 2026 when the agreement with Imperial Tobacco expires, taxes are steadily raised, quadrupling the cost of a pack of cigarettes by 2034—a real increase of LAK 21,000

### 3.3 Tobacco use and the COVID-19 pandemic

The global COVID-19 pandemic is straining health systems worldwide, and the economic impact of the outbreak is immense. People living with pre-existing NCDs, including those caused by tobacco use, are likely more vulnerable to becoming severely ill with COVID-19 [28]. According to WHO, smokers have up to a 50 percent increased risk of developing severe disease or dying from COVID-19. However, more research needs to be conducted. Well-designed population-based studies are, however, necessary to address questions about hospitalization, COVID-19 severity and the risk of infection by SARS-CoV-2 among smokers [29].

### 3.4 National tobacco control legislation, strategy and coordination

#### ***Amendment of Tobacco Control Law***

The Ministry of Health is working on amending the 2009 Law on Tobacco Control. One of its priorities is the inclusion of plain packaging. The amended law draft is currently under review by a multisectoral review committee, which will be submitted to the cabinet and then to the National Assembly for approval, anticipated in 2021. Some key gaps identified in the current law include: i) not requiring the disclosure of the content and emission of cigarette; ii) not specifying tax on tobacco increase regularly based on income and inflation; iii) allowing of internet tobacco sales; iv) allowing of point of sale advertisement and promotion; v) allowing of reverse brand stretching; vi) not requiring health warnings on smokeless tobacco products, and; vii) not requiring the tobacco industry to disclose information on advertising, sponsorship, and promotion activities and expenditures to the government or to the public.

#### ***Multisectoral coordinating mechanisms***

The tobacco control law stipulates the establishment of the National Tobacco Control Committee, which came into force in 2012. The Committee is of multisectoral nature, chaired by the Minister of Health and co-chaired by Ministries of Finance, Industry and Commerce, and Education and Sports. The Committee meets every six months. There are also provincial tobacco control committees in 10 of the 17 provinces.

Despite the presence of the multisectoral governance mechanism, engagement from non-health ministries in tobacco control seem limited, possibly because of the absence of a national tobacco control strategy that would provide overall strategic directions, clear areas of action, and monitoring and accountability mechanisms. As part of the FCTC 2030 project, the process of supporting the development of the multisectoral national tobacco control strategy has started.

The development of a national multisectoral tobacco control strategy will provide opportunities for stronger multisectoral engagement and coordination.

Another challenge is the lack of human and financial resources for tobacco control. The Tobacco Control Fund, managed by the National Tobacco Control Committee, is designed to fund tobacco control efforts using profit tax from tobacco companies as one of the major sources. However, tobacco companies' non-compliance has resulted in underfunding, and the Fund is virtually non-functional.

### ***The Investment License Agreement (ILA) and industry interference***

Despite government efforts to renegotiate agreement terms with the tobacco industry, the Investment License agreement (2001-2026) poses a challenge to compliance with tax laws and policies. Tobacco companies use this as leverage for non-compliance with several regulations:

- i. The 2015 tax law, which stipulates tobacco tax increases to 30 percent of wholesale price in 2016-17, 45 percent in 2017-18, and 60 percent in 2020 onwards. Lao's tobacco control law mandates periodic adjustments of the price of tobacco products.
- ii. The Ministry of Finance's regulation to increase specific tobacco tax from 500 LAK to 600 LAK per pack for cigarettes – since 2019 tobacco companies have stopped complying with this.
- iii. The Prime Minister's decree to establish a tobacco control fund, to be financed by 2 percent of the tobacco industry's profit tax, and 200 LAK per cigarette pack. The tobacco companies have also interfered with certain tobacco tax calculation formula to maintain low taxes. As a result, Lao PDR has one of the lowest tobacco excise rates in the region – approximately 20 percent of the retail price and it is estimated that Lao PDR has lost nearly US\$ 144 million due to the ILA since 2001 [26].

The negative impact of the ILA seems to have transcended taxation. The restrictions it places on Lao's legislative and public health efforts are an infringement on the country's sovereignty and policy autonomy. According to the Ministry of Commerce and Industry, which is charged with enforcing the government regulation of pictorial health warnings on cigarette packs, tobacco companies are not complying with the regulation to periodically rotate the pictorial warning among six patterns. The enforcement of the pictorial health warning was also delayed for 19 months, with the deadline extended three times, due to industry interferences. Despite the challenges, the government succeeded in introducing one of the world's largest pictorial health warnings of 75 percent.



*Credit: © World Bank via Flickr*

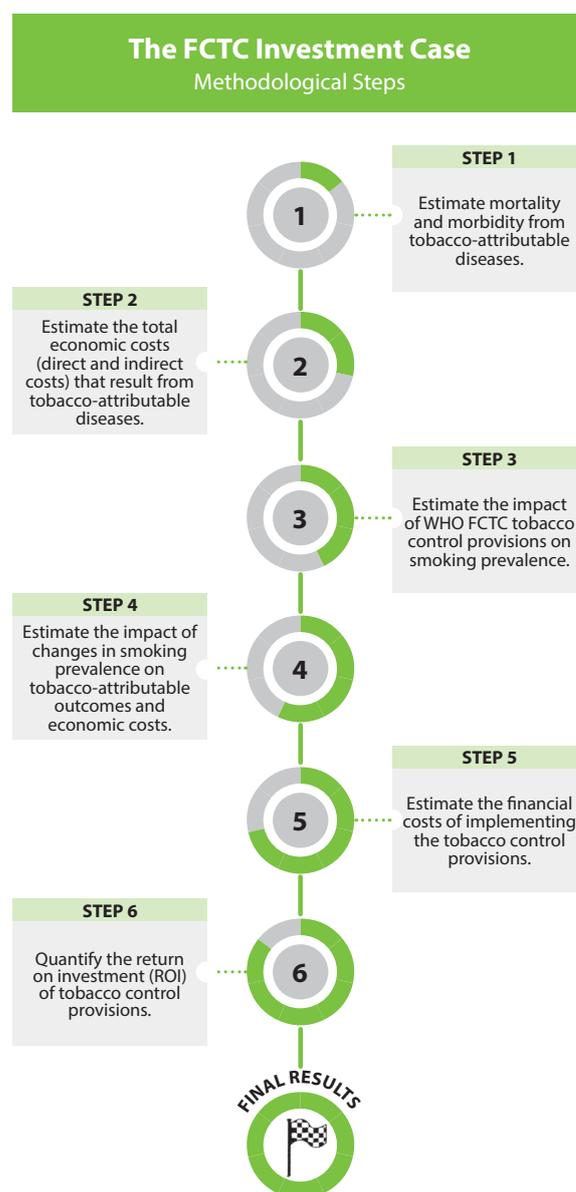
## 4. Methodology

The purpose of the investment case is to quantify the current health and economic burden of tobacco use in Lao PDR (in the context of tobacco control measures that are currently in place), and estimate the impact that implementing new tobacco control measures—or intensifying existing ones—would have on reducing this burden.

An RTI International-developed static model incorporating a population-attributable fraction approach was created to conduct the investment case and to perform the methodological steps in **Figure 3**. This methodology has been used for 15 previous national FCTC investment cases under the FCTC 2030 project. The tools and methods used to perform these steps are described in this report’s Annex. Interested readers are also referred to this report’s separate *Technical Appendix*<sup>7</sup> for a more thorough account of the methodology.

The investment case team worked with partners in Lao PDR to collect national data inputs for the model. Where data was unavailable from government or other in-country sources, the team utilized publicly available national, regional, and global data from sources such as the World Health Organization (WHO), the World Bank database, the Institute for Health Metrics and Evaluation’s (IHME) Global Burden of Disease (GBD) study, and academic literature. Within the investment case, costs and monetized benefits are reported in constant 2018 Lao kip (LAK) and discounted at an annual rate of 3 percent.

**Fig. 3: Building the FCTC investment case**



<sup>7</sup> Available upon request.

## 5. Results

### 5.1 The current burden of tobacco use: health and economic costs<sup>8</sup>

Tobacco use undermines economic growth. In 2017, tobacco use caused an estimated 6,800 deaths in Lao PDR, 61 percent occurring among those under 70 years. These deaths amount to 128,000 years of life lost, which are lost productive years in which many of those individuals would have contributed to the workforce. The economic losses in 2017 due to tobacco-related premature mortality are estimated at LAK 2.3 trillion.

While the costs of premature mortality are high, the consequences of tobacco use begin long before death. As individuals suffer from tobacco-attributable diseases (e.g. heart disease, strokes, cancers), expensive medical care is required to treat them. Spending on medical treatment for illnesses caused by smoking cost the Government LAK 111 billion in 2017 and caused Lao citizens to spend LAK 116 billion in out-of-pocket (OOP) healthcare expenditures. Private insurance and non-profit institutions serving households spent LAK 12 billion on treating tobacco-attributable diseases in 2017. In total, healthcare expenditures attributable to smoking amounted to LAK 240 billion.

In addition to healthcare costs, as individuals become sick, they are more likely to miss days of work (absenteeism) or to be less productive at work (presenteeism). In 2017, the cost of excess absenteeism due to tobacco-related illness was LAK 191 billion and the cost of presenteeism due to cigarette smoking was LAK 515 billion.

Finally, even in their healthy years, workers who smoke are more likely to suffer from productivity loss than workers who do not smoke. Smokers take an estimated ten additional minutes per day in breaks than non-smoking employees [30]. If ten minutes of time is valued at the average worker's salary, the compounding impact of 535,100 employed smokers taking ten minutes per day for smoke breaks is equivalent to losing LAK 359 billion in productive output annually.

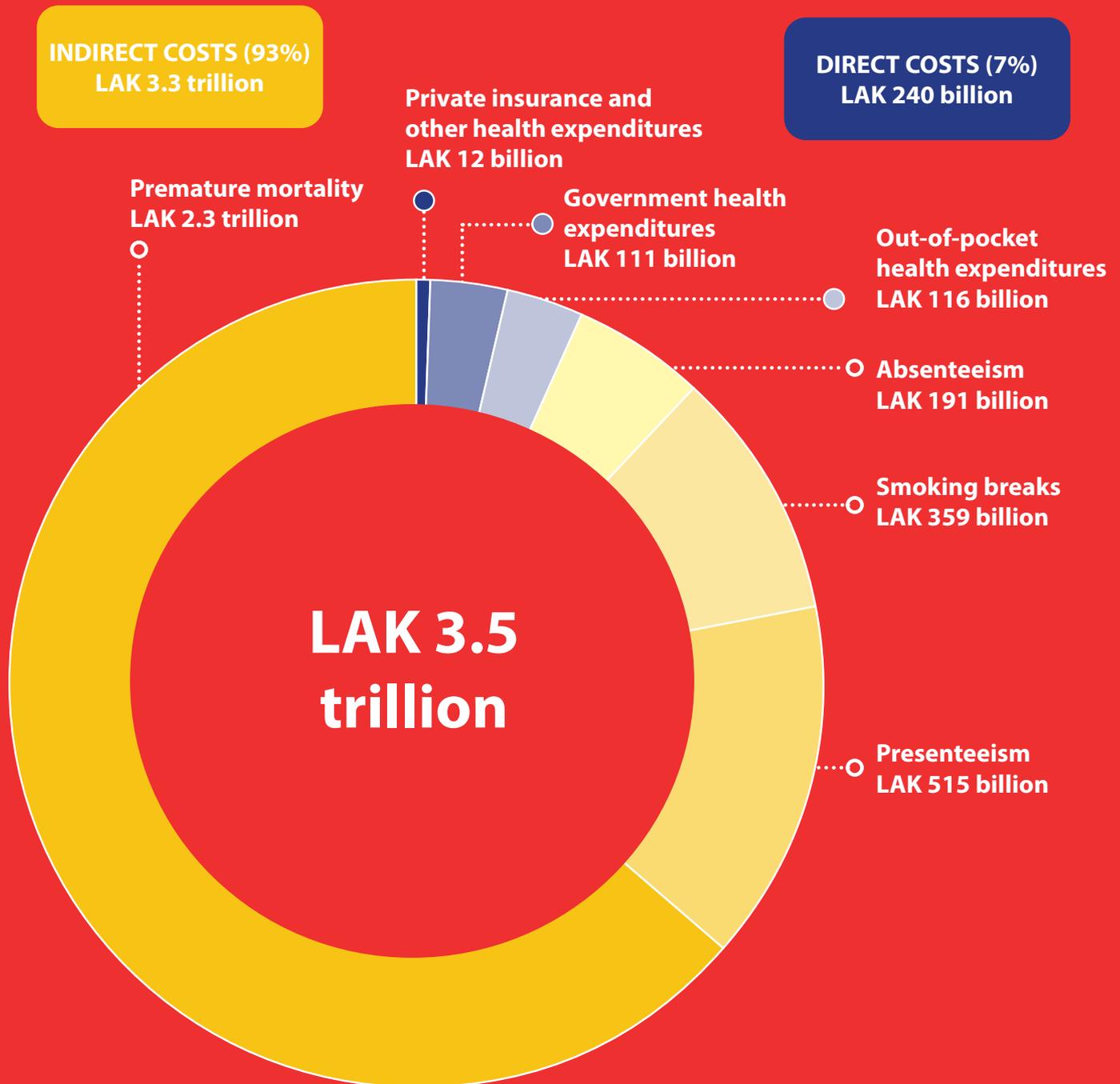
In total, tobacco use cost Lao PDR's economy LAK 3.6 trillion<sup>9</sup> in 2017, or about 2.3 percent of Lao PDR's 2017 GDP. **Figure 4** breaks down direct and indirect costs. **Figure 5** and **Figure 6** illustrate the annual health losses that occur due to tobacco use.

8 In assessing the 'current burden' of tobacco use, the economic costs of premature mortality include the cost of premature deaths due to any form of exposure to tobacco (including of smoking, second-hand smoke, and the use of other types of tobacco products). Only smoking-attributable (not tobacco-attributable) costs are calculated for healthcare expenditures, absenteeism, presenteeism, and smoking breaks. While other forms of tobacco may also cause losses in these categories, no data is available to pinpoint those losses.

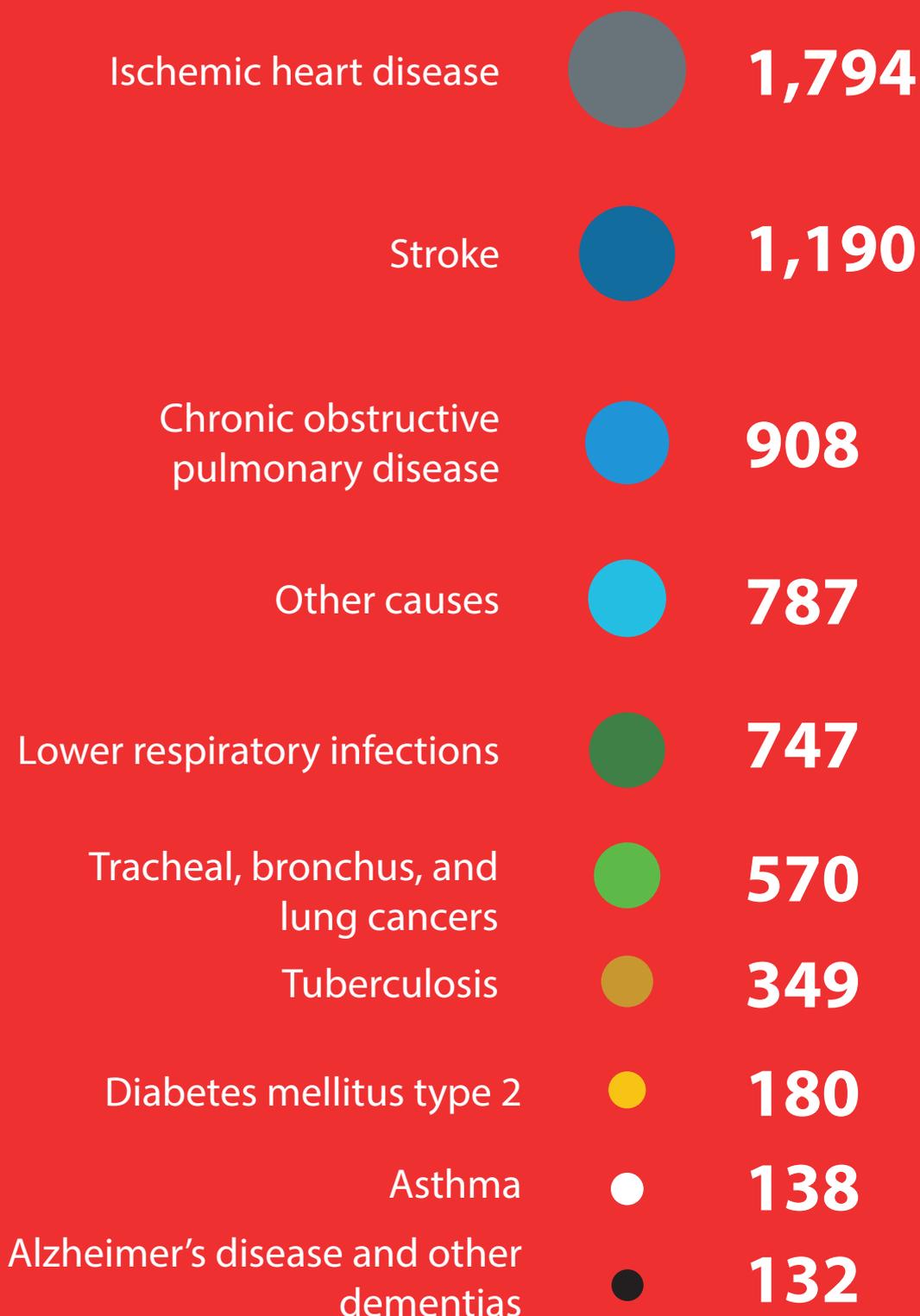
9 Component parts may not add to LAK 3.6 trillion exactly due to rounding.

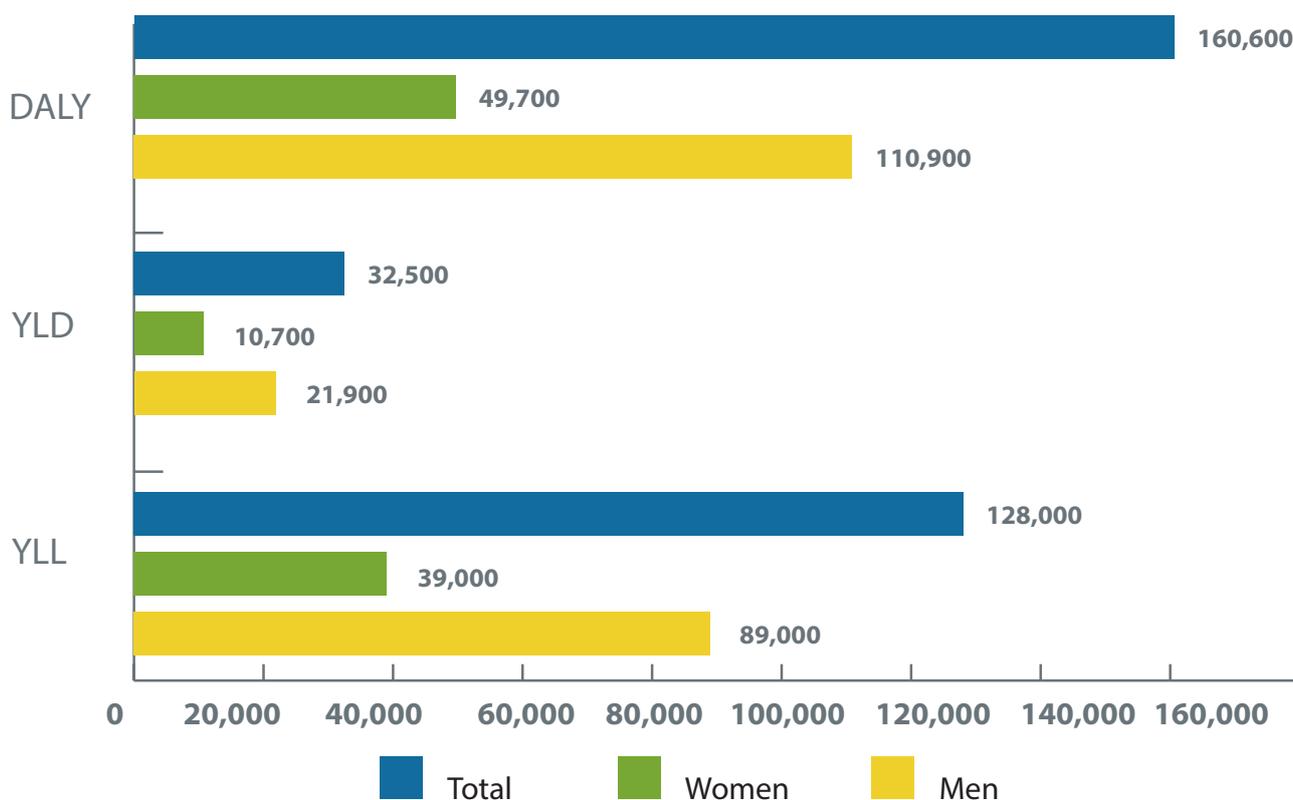
# The current burden of tobacco use

Fig. 4: Breakdown of the share of direct and indirect economic costs (LAK millions) in 2017



**Fig. 5: Tobacco-attributable deaths by disease in Lao PDR, 2017** (Source: Results are from the IHME Global Burden of Disease Results Tool. Other diseases include subarachnoid hemorrhage, peptic ulcer disease, liver cancer, stomach cancer, colon and rectum cancer, larynx cancer, leukemia, esophageal cancer, lip and oral cavity cancer, bladder cancer, cervical cancer, pancreatic cancer, aortic aneurysm, breast cancer, nasopharynx cancer, prostate cancer, other pharynx cancer, kidney cancer, atrial fibrillation and flutter, and gallbladder and biliary disease.)



**Fig. 6: Tobacco-attributable DALYs, YLDs and YLLs, 2017, by sex<sup>10</sup>**

## 5.2 Implementing policy measures that reduce the burden of tobacco use

By implementing new WHO FCTC policy measures, or intensifying implementation of existing ones, Lao PDR can secure significant health and economic returns, and begin to reduce the LAK 3.6 trillion in annual direct and indirect economic losses from tobacco use.

The next two subsections present the health and economic benefits that result from seven WHO FCTC policy actions to: 1) increase cigarette taxation to reduce the affordability of tobacco products; 2) enforce bans on smoking in public spaces; 3) enforce rotation of graphic health warnings that cover 50 percent of the packaging; 4) implement plain packaging of tobacco products; 5) institute best-practice national anti-tobacco mass media campaigns to increase awareness about the harms of tobacco use; 6) expand and enforce bans on tobacco advertising, promotion and sponsorship; and 7) support reducing tobacco dependence and cessation by training health professionals to provide brief advice to quit smoking.

<sup>10</sup> YLDs are “years lived in less than ideal health...[YLDs are] measured by taking the prevalence of a [disease] condition multiplied by the disability weight for that condition. Disability weights reflect the severity of different conditions.” YLLs are “calculated by subtracting the age at death from the longest possible life expectancy for a person at that age.” DALYs “equal the sum of YLLs and YLDs. One DALY equals one lost year of healthy life.” Source: IHME. (2018). Frequently asked questions. Retrieved from <<http://www.healthdata.org/gbd/faq#What%20is%20a%20DALY?>>

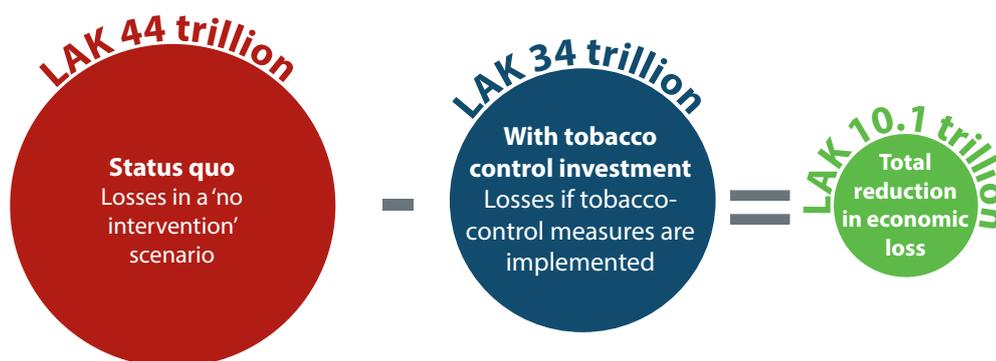
### 5.3 Health benefits—lives saved

Putting in place the full package of tobacco-control measures (inclusive of all seven of the measures listed above) would lower the prevalence of tobacco use, leading to substantial health gains. Specifically, enacting the package would reduce the prevalence of cigarette smoking by 49 percent (in relative terms) over 15 years, saving 25,300 lives from 2020-2034, or 1,700 lives annually.

### 5.4 Economic benefits—costs averted

Implementing the tobacco control policy package would result in Lao PDR avoiding 23 percent of the economic loss that it is expected to incur from tobacco use over the next 15 years. **Figure 7** illustrates the extent to which Lao PDR can shrink the economic losses it is expected to incur under the status quo.

**Fig. 7: Tobacco-related economic losses over 15 years: What happens if Lao PDR does nothing else, versus if the Government strengthens tobacco control measures to reduce demand for smoking?**



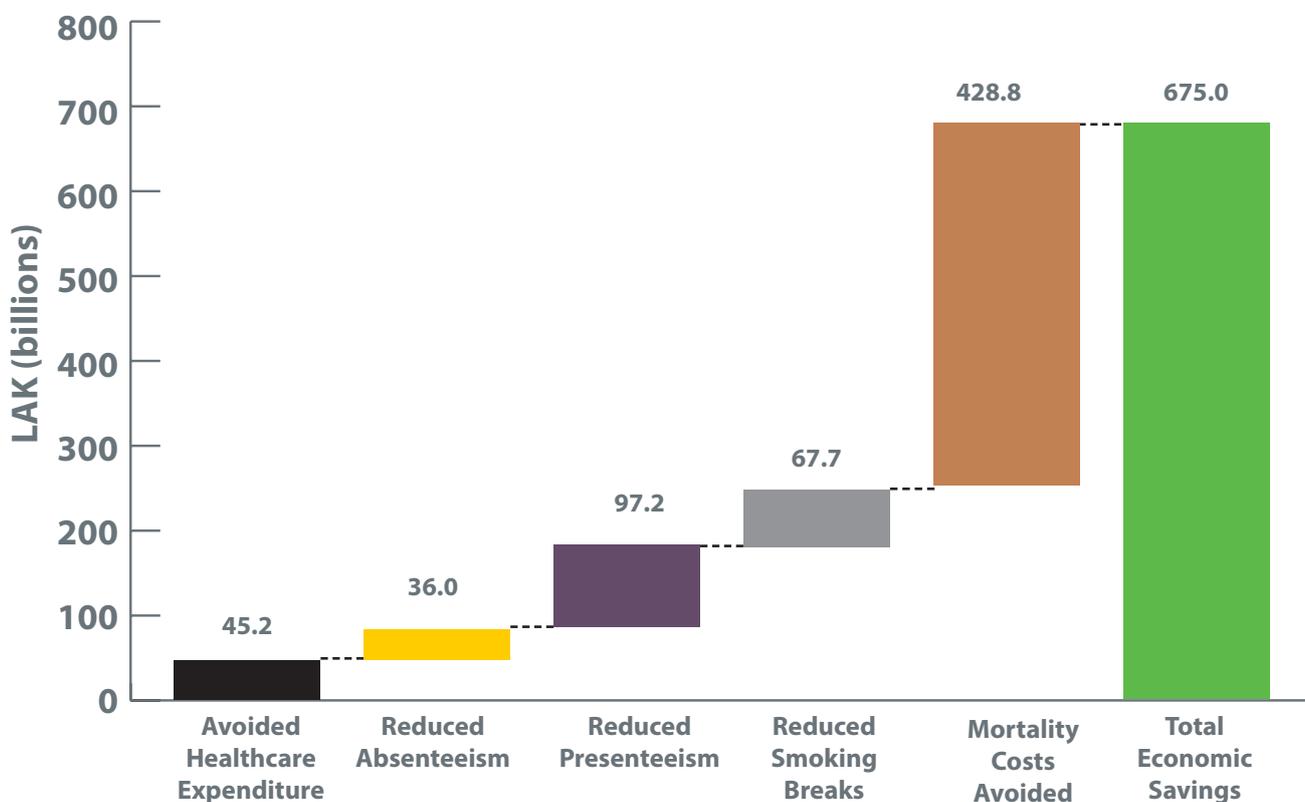
**In total, over 15 years Lao PDR would save about LAK 10.1 trillion** that would otherwise be lost if it does not implement the recommended package of tobacco control measures. These savings are equivalent to about LAK 7 billion in annual avoided economic losses.

With better health, fewer individuals need to be treated for complications from disease, resulting in direct cost savings to the government and to citizens. Better health also leads to increased productivity. Fewer working-age individuals leave the workforce prematurely due to death. Laborers miss fewer days of work (absenteeism) and are less hindered by health complications while at work (presenteeism). Finally, because the prevalence of smoking declines, fewer smoke breaks are taken in the workplace.

In addition to the savings from avoiding healthcare and productivity losses, increasing tobacco taxation would generate significant additional revenue that could be allocated to both the tobacco control measures recommended in this report, as well as broader efforts to achieve the Sustainable Development Goals. The 2015 Addis Ababa Action Agenda on financing for development [31] specifies that price and tax measures on tobacco represent a revenue stream to finance development in many countries. This report does not model the additional tax revenue Lao PDR would gain by increasing taxes, particularly excise taxes, on tobacco products. However, experiences across the world demonstrate that governments reliably increase revenue through raised tobacco taxes, despite tobacco industry myths intended to protect its profits and preserve the status quo.

**Figure 8** breaks down the sources from which annual savings accrue as a result of implementing the tobacco control policy package. The largest annual savings result from avoiding premature mortality (LAK 429 billion). The next highest source of annual savings is reduced presenteeism (LAK 97 billion), followed by reduced numbers of smoking breaks (LAK 68 billion), avoided healthcare expenditures (LAK 45 billion), and reduced absenteeism (LAK 36 billion).

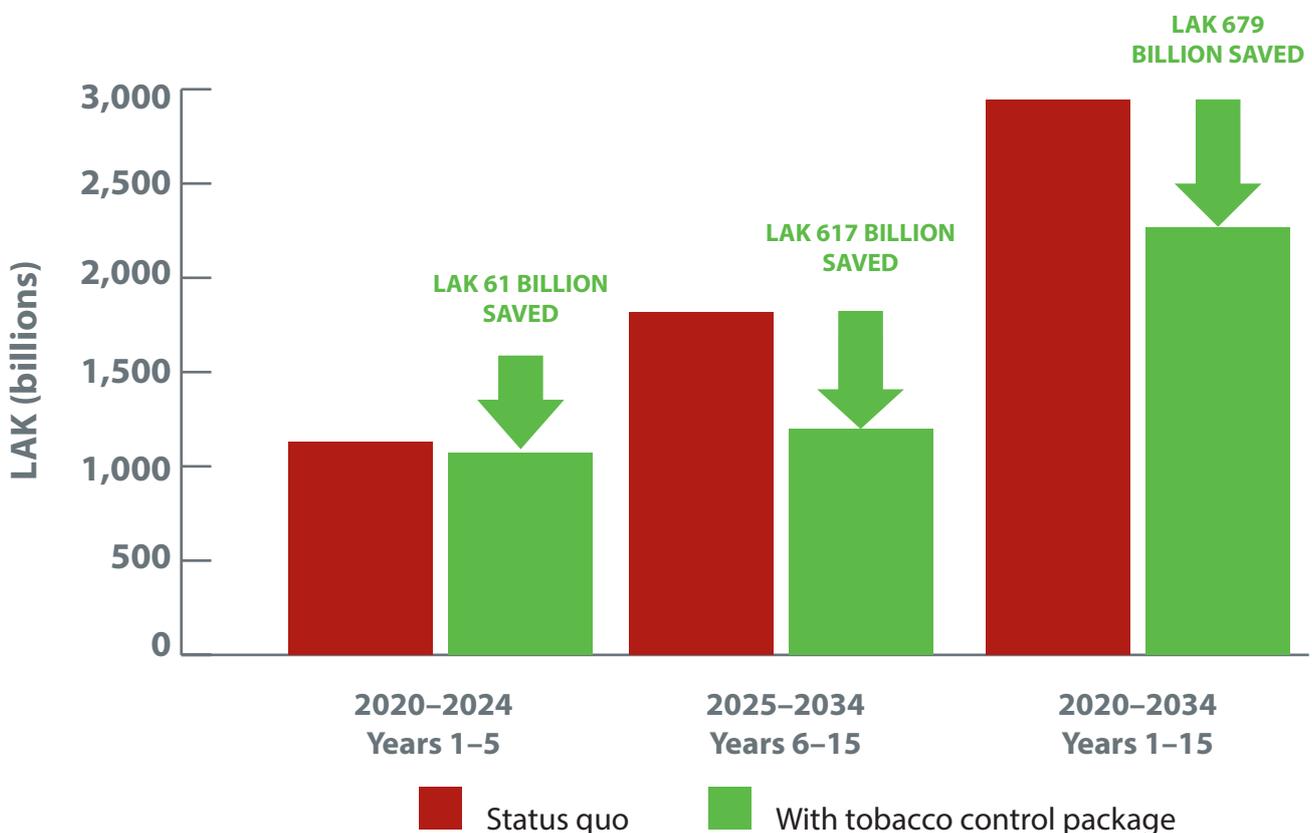
**Fig. 8: Sources of annual economic savings as a result of implementing the tobacco control policy package**



Implementing the package of tobacco control measures reduces medical expenditure for citizens and the Government. Presently, total private and public annual health care expenditures in Lao PDR is about LAK 3.4 trillion, 7.0 percent of which is directly related to treating disease and illness due to tobacco use [3] ( $\approx$  LAK 239.7 billion).

Year-on-year, the package of interventions lowers tobacco use prevalence, which leads to less illness, and consequently less healthcare expenditure (see **Figure 9**). Over the 15-year time horizon of the analysis, the package of interventions averts LAK 678.6 billion in healthcare expenditures, or LAK 45 billion annually. Of this, 46 percent of savings accrue to the Government and 49 percent accrue to individual citizens who would have had to make out-of-pocket payments for healthcare. The remainder of savings goes to private insurance and other sources of healthcare expenditures. Thus, from reduced healthcare costs alone, the Government stands to save about LAK 315 billion over 15 years. Simultaneously, the Government would successfully reduce the health expenditure burden tobacco imposes on Lao PDR's citizens, supporting efforts to reduce economic hardship on families. Rather than spending on treating avoidable disease and routinely spending on tobacco products, these families would be able to invest more in nutrition, education and other productive inputs to secure a better future.

**Fig. 9: Public and private healthcare savings over the 15-year time horizon**



## 5.5 The return on investment (ROI)

An investment is considered worthwhile from an economic perspective if the gains from making it outweigh the costs. A return on investment (ROI) analysis measures the efficiency of the tobacco investments by dividing the economic benefits that are gained from implementing the WHO FCTC tobacco control investments by the costs of the investments. For the Lao PDR investment case, the ROI for each intervention was evaluated in the short-term (period of five years), to align with planning and political cycles, and in the medium-term (period of 15 years) to align with the SDGs. The ROI shows the return on investment for each intervention, and for the full package of measures. Total benefits are a measure of which interventions are expected to have the largest impact.

**Table 2** displays costs, benefits and ROIs by intervention, as well as for all interventions combined. With the exception of taxation (which is not increased during the first five years), all interventions deliver a ROI greater than one within the first five years, meaning that even in the short-term the benefits of implementing the interventions outweigh the costs. Depending on the intervention, over the first five years, the Government will recoup anywhere from 1.5 to 87 times its investment. The ROIs for each intervention continue to grow over time, reflective of the increasing effectiveness of policy measures as they move from planning and development stages, to full implementation.



Credit: © World Bank via Flickr

**Table 2: Return on investment, by tobacco control measure (LAK billions)**

Return on investment, by tobacco control measure (LAK billions)	First 5 years (2020–2024)			All 15 years (2020–2034)		
	Total Costs (billions)	Net Benefits (billions)	ROI	Total Costs (billions)	Net Benefits (billions)	ROI
<b>Tobacco control package*</b> (combined interventions)	44	913	<b>21</b>	118	10,125	<b>85</b>
<b>Raise Cigarette Taxes</b> (WHO FCTC Article 6)	2.3**	0.0	<b>0.0</b>	7.2	5,460	<b>758</b>
<b>Bans on Advertising, Promotion, and Sponsorship</b> (WHO FCTC Article 13)	3.5	315	<b>89</b>	7.6	2,447	<b>324</b>
<b>Mass media campaign</b> (WHO FCTC Article 12)	7.2	299	<b>42</b>	18.7	2,328	<b>124</b>
<b>Plain packaging</b> (WHO FCTC Article 11 and Article 13 Guidelines)	3.6	119	<b>33</b>	7.6	935	<b>124</b>
<b>Protect People from Tobacco Smoke</b> (WHO FCTC Article 8)	7.4	158	<b>21</b>	14.8	1,242	<b>84</b>
<b>Warning Labels</b> (WHO FCTC Article 11)	3.6	80	<b>22</b>	7.6	631	<b>83</b>
<b>Cessation: Brief Advice to Quit</b> (WHO FCTC Article 14)	12.3	19	<b>1.6</b>	44.7	490	<b>11</b>

\* The combined impact of all interventions is not the sum of individual interventions. To assess the combined impact of interventions, following Levy and colleagues' (2018), "effect sizes [are applied] as constant relative reductions; that is, for policy i and j with effect sizes PR<sub>i</sub> and PR<sub>j</sub>, (1-PR<sub>i</sub>) × (1-PR<sub>j</sub>) [is] applied to the current smoking prevalence [32, p. 454]. The costs of the tobacco package include the costs of the examined policies, as well as programmatic costs to implement and oversee a comprehensive tobacco-control program.

\*\* While Lao PDR is restricted from increasing tobacco taxes due to a deal signed with tobacco companies, it is eligible to increase taxes at the end of the five-year period. Two years of "planning" costs are included in the analysis in the first five years in anticipation of beginning implementation of tobacco tax increases in year six.

Over the 15-year period, raising cigarette taxes are expected to have the highest return on investment (758:1).<sup>11</sup> Bans on tobacco advertising, promotion, and sponsorship have the next highest ROI (324:1), followed by mass media campaigns (124:1), implementing plain packaging (124:1), protecting people from tobacco smoke in public places (84:1), enforcing rotation of graphic health warning that cover 50 percent of the packaging (83:1), and training health professionals to provide brief advice to quit smoking (11:1).

11 Rounded to the nearest whole number

## 6. Examining additional impacts: Equity, tax revenue, and the SDGs

Lao PDR stakeholders expressed interest in analyzing other outcomes that can result from increasing tobacco taxes. The investment case examines the impact that increasing taxes has on low-income smokers, as well as the impact that it can have on increasing government revenue. In addition, Section 6.3 describes the contributions that tobacco control measures make to Lao PDR's fulfillment of the Sustainable Development Goals.

### 6.1 Equity analysis: the impact of increasing cigarette taxes on low-income populations

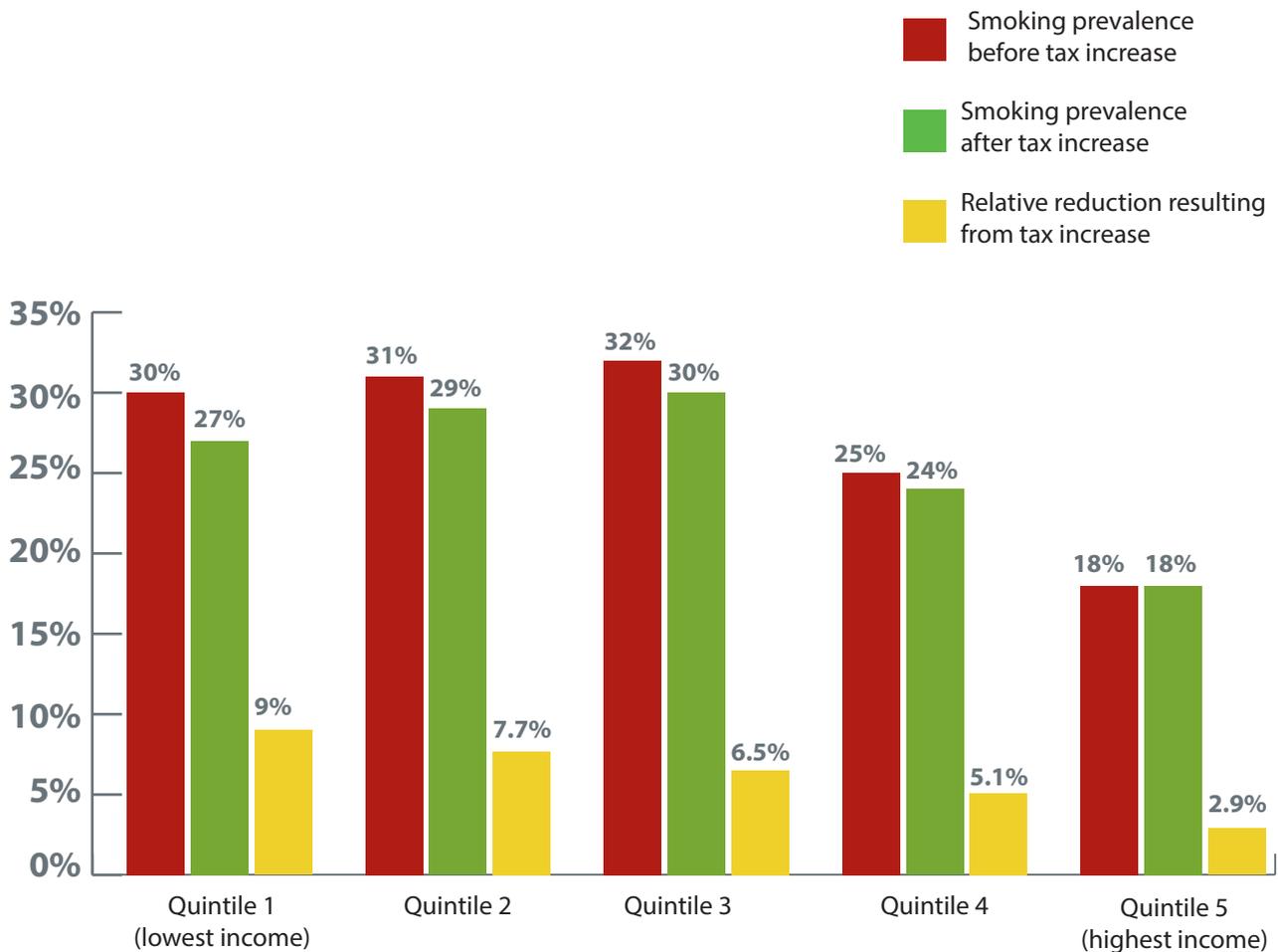
A common misperception is that taxes on tobacco products may disproportionately impact poor tobacco users, since the tax burden represents a higher proportion of their income than that of wealthier tobacco users. However, evidence shows that the poor actually stand to benefit most from raised cigarette taxes [33]. Relative to richer smokers, poorer smokers are more likely to quit smoking when taxes are increased [34], meaning they benefit from subsequent decreases in tobacco-related health problems, and resulting medical costs. In Lebanon [35], for example, a 50 percent increase in cigarette prices was projected to prevent 23,000 new cases of poverty over 50 years, and that same level of increase was found to avert 2.1 million catastrophic health expenditures in India, 440,000 in Bangladesh, and 250,000 in Vietnam [36].

To examine the extent to which a cigarette tax increase could be considered pro-poor in Lao PDR, the investment case undertakes an equity analysis. The analysis divides Lao PDR's population into five equal groups, by income, where quintile 1 is composed of the poorest 20 percent of people, and quintile 5 is composed of the wealthiest 20 percent. Within each income group, the analysis examines the impact of a hypothetical one-year tax increase that raises the price of the average pack of cigarettes by about 23 percent (LAK 1,640, or about US\$ 0.18). This is representative of the level of recommended tax increase that could have been implemented in 2021 had Lao PDR not committed to a moratorium on tobacco taxation increases. Average tobacco-income elasticities from a set of low- and middle-income countries are employed to assess how different economic groups react to changes in price.

In Lao PDR, the low- and middle-income quintiles smoke cigarettes at relatively similar rates, with the highest prevalence seen in the middle-income quintile (32 percent) [18]. The results from the analysis show that all income quintiles reduce smoking in response to the tax measures but, because people with lower incomes are more responsive to changes in price, and because the low-

and middle-income quintiles smoke at higher rates in Lao PDR, the tax increase causes the largest drop in smoking prevalence among the poorest income quintiles. **Figure 10** shows the smoking prevalence in each income quintile before and after the tax increase, as well as the relative change in smoking prevalence.

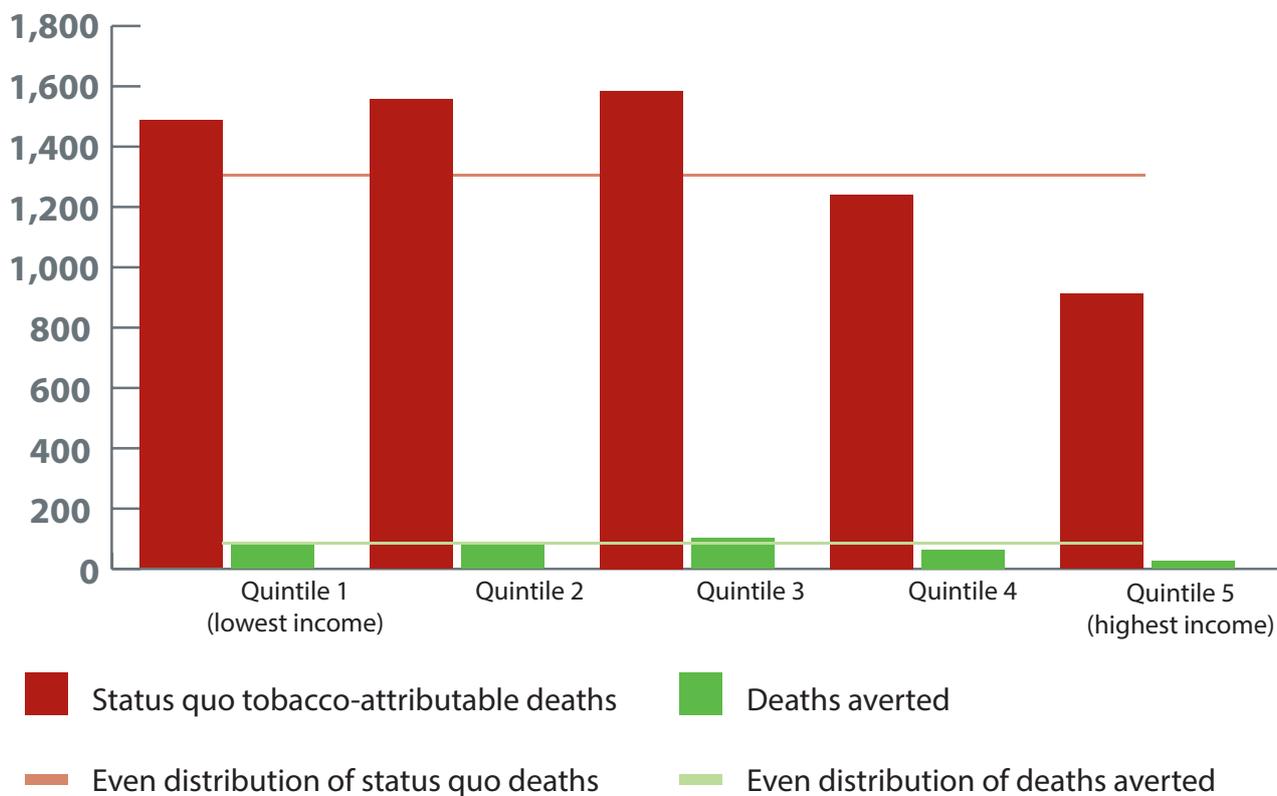
**Fig. 10: Smoking prevalence before and one year after tax increase, by income quintile**



Lower rates of smoking translate to health gains. Prior to the tax increase, of the over 6,700 smoking- and secondhand smoke-attributable deaths observed in 2017, 45 percent occurred among the poorest 40 percent of the population (quintiles 1 and 2). However, because the tax increase causes smoking prevalence to fall the most in the two poorest quintiles. In terms of health gains, the poor benefit more than the rich.

The equity analysis finds that 57 percent of the 445 deaths that could be averted due to the cigarette tax increase would be among the poorest 40 percent of the population, as shown in **Figure 11**.

**Fig. 11: Status quo deaths and deaths averted by tax increase, by income quintile<sup>12</sup>**



## 6.2 Cigarette taxes: Government revenue projections

In line with the Addis Ababa Action Agenda on Financing for Development [23], price and tax measures on tobacco “represent a revenue stream for financing for development in many countries”. In Lao PDR, a 25-year agreement with Imperial Tobacco, which sells 90 percent of all tobacco products consumed in Lao PDR, restricts the government from raising taxes on its products [25]. Given this agreement, the government is largely unable to capitalize on a valuable source of revenue.

This section includes analysis of a hypothetical scenario in which the agreement ended in 2020, and the government of Lao PDR chose to raise taxes by an average of LAK 940 over the years from 2021-2025, pulling the share of taxes up from 19 to 53 percent, and increasing the retail price of cigarettes by 75 percent in real terms over present-day levels. The resulting revenue gains demonstrate that tobacco taxation can be leveraged not only to reduce the health burden of tobacco use, but also to generate significant revenue: a win-win for government.

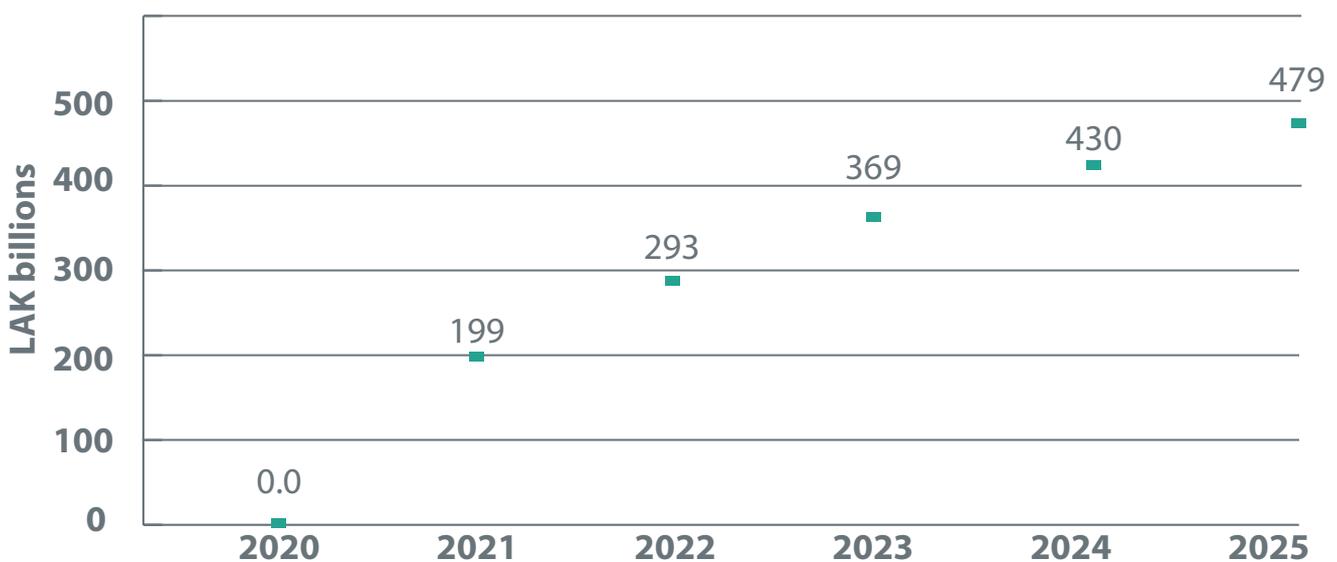
<sup>12</sup> The dark red horizontal line shows what the number of status quo deaths would be if they were evenly distributed among the quintiles, and the dark green line demonstrates the number of averted deaths if they were distributed evenly among quintiles.

Revenue gains occur because reducing the affordability of tobacco products leads some people to quit smoking or reduce consumption, but many more people continue to smoke—largely because of the addictive nature of tobacco—paying higher taxes to the government each time they purchase cigarettes.

Evidence from low-and middle-income countries of the Asia-Pacific region shows that in countries with gross national income per capita similar to Lao PDR, a 10 percent increase in price is expected to result in a 4.9 percent decrease in consumption [37]. Thus, purchases of cigarettes remain relatively unresponsive to price changes. In Lao PDR, under the described tax increase pattern and elasticity, licit cigarette consumption would drop from the present amount of about 153 million packets annually,<sup>13</sup> to 114 million over the period from 2020 to 2025.

Even though fewer cigarettes are being consumed, they are being purchased at higher tax rates. Thus, government revenue increases. **Figure 12** shows the additional estimated tax revenue that Lao PDR would collect each year, with the government of Lao PDR adding an expected LAK 1.8 trillion<sup>14</sup> in revenue during the first five years after the changes. This is LAK 354 billion annually, which is equivalent to over one-fifth (22 percent) of the Government's 2018 total healthcare expenditures [43]. Tobacco taxation has the potential to play a meaningful health financing role as the government seeks to fulfill its commitments to universal health coverage.

**Fig. 12: Additional annual tax revenue (discounted) in comparison to the baseline scenario, 2020-2025**



13 According to the Lao PDR WHO Tobacco Country Profile, in 2017, total excise revenue (ad valorem and specific) was 103,806,645,734 LCU. Assuming that the tax share of the most sold brand of cigarettes is relatively representative of the market, we divide the total excise revenue by the excise taxes per pack of cigarette to approximate that approximately 153 million packs of cigarettes are licitly sold each year in Lao PDR.

14 Discounted value – 3 percent discount rate

### 6.3 The Sustainable Development Goals and the WHO FCTC

Enacting and strengthening seven measures designed to reduce demand for tobacco will support Lao PDR in fulfilling SDG Target 3.A to strengthen implementation of the WHO FCTC. Moreover, acting now will contribute to Lao PDR’s efforts to meet SDG Target 3.4 to reduce by one-third premature mortality from NCDs by 2030. These health gains will support development more broadly, including reduction of poverty and inequalities (SDGs 1 and 10, respectively) and economic growth (SDG 8).

In Lao PDR in 2017, nearly 18,000 premature deaths between the ages of 30 to 70 were caused by the four main NCDs (CVD, diabetes, cancer, and COPD) [2]. Roughly 19 percent of these premature deaths occurred due to tobacco use [2]. Enacting the WHO FCTC measures identified in the Investment Case would reduce tobacco use prevalence—a key risk factor driving NCD incidence—preventing 8,072 premature deaths from the four main NCDs over the next 11 years (2020 to 2030). Preventing those deaths contributes the equivalent of about 12 percent of the needed reduction in premature mortality for Lao PDR to achieve SDG Target 3.4.



## Achieving SDG Target 3.4 by 2030

**By 2030 the WHO FCTC measures would...**



**Lower the prevalence of tobacco use** by over 46% from present day levels.

**Reduce economic costs** due to tobacco use by LAK 7.3 trillion, including saving LAK 487 billion in healthcare expenditures.

**Lead to savings** (LAK 7.1 trillion) that significantly outweigh the costs (LAK 99 billion), with an overall return on investment of 74:1.

## 7. Conclusion and recommendations

Each year, tobacco use costs Lao PDR 3.6 trillion in economic losses and causes substantial human development losses. Fortunately, the investment case shows that there is an opportunity to reduce the social and economic burden of tobacco in Lao PDR. Enacting the recommended multisectoral tobacco control provisions would save over 1,600 lives each year and reduce the incidence of disease, leading to savings from averted medical costs and averted productivity losses. In economic terms, these benefits are substantial, adding to LAK 10.1 trillion over the next 15 years. Further, the economic benefits of strengthening tobacco control in Lao PDR greatly outweigh costs of implementation (LAK 10.1 trillion in benefits versus just LAK 0.1 trillion in costs). By investing now to intensify implementation of the seven proven tobacco control measures modeled under this investment case, Lao PDR would not only reduce tobacco consumption, improve health, reduce government health expenditures and grow the economy, it would also reduce hardships among Laotians, particularly among low-income populations. Many countries reinvest savings from healthcare expenditures and revenue from increased tobacco taxes into national development priorities such as social protection including universal health coverage, which the Lao government is committed to achieve.

The investment case has identified strong tobacco control investments. It offers compelling economic and social arguments to implement core WHO FCTC measures. The full benefits of the investment case are more likely to be realized if the following actions are pursued:



### **Increase tobacco taxes.**

The Investment License agreement (ILA) prevents Lao PDR from implementing one of the most effective measures for public health. Raising tax is the single most important measure, as is evidenced in the Investment Case. Over the 15-year period, raising cigarette taxes are expected to have the highest return on investment (758:1). Furthermore, the equity analysis shows that raising taxes are pro-poor, and taxes can not only reduce the health burden of tobacco use, but generate significant revenues for the government. The investment case provides strong evidence for reconsidering the ILA with tobacco industry as soon as possible because it paralyzes national tobacco control efforts. At a minimum, there should be a commitment not to extend the agreement beyond its current term. It is contrary to the public health interest of Lao people, it undermines the country's national sovereignty and policymaking autonomy and it prevents Lao PDR from honouring its international commitment (WHO FCTC), resulting in a huge missed opportunity on potential revenue for development.



## **Strengthen the tobacco control legislative framework and enforcement.**

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Lao PDR has made significant progress in tobacco control, passing the National Tobacco Control Law in 2009, which regulated smoking in public places, tobacco packaging, and tobacco advertising, as well as establishing the Tobacco Control Fund (TCF) to support implementation of the law. By legislating and funding these important measures, Lao PDR is helping to curb the tobacco epidemic. Intensifying existing policies and implementing new measures can draw the tobacco use prevalence curve further downward and generate additional health and economic gains. For example, there are opportunities to raise taxes on tobacco products and implement plain packaging laws.

The amendment for the 2009 Law on Tobacco Control needs to be advocated for and approved, prioritising the inclusion of plain packaging. Other gaps identified such as restricting internet tobacco sales, point of sale advertisement and promotion, inclusion of health warnings on smokeless tobacco, and disclosure to the government and public by the tobacco industry on advertising, sponsorship, and promotion, should be included in the amendment.



## **Strengthen multisectoral coordination and planning.**

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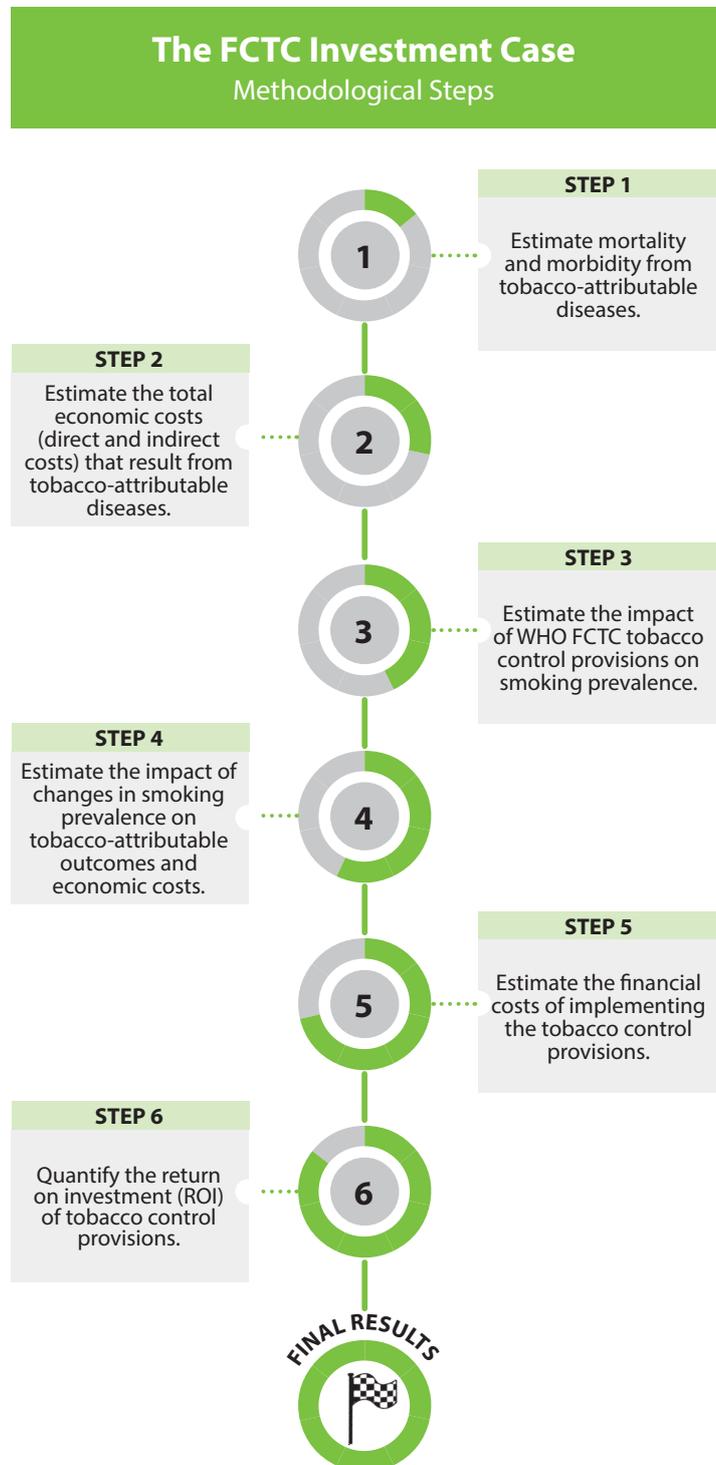
Ensure that the government has in place mechanisms with adequate financial and human resources, to be in full control and well-coordinated to protect public interest and implement tobacco control effectively and transparently. The multisectoral coordination mechanism should be proactive, and strengthened by a developed national tobacco control strategy that provides overall strategic direction, clear areas of action, and monitoring and accountability mechanisms. The Tobacco Control Fund must be utilized for tobacco control efforts. The government must be vigilant against tobacco industry interference.

## 8. Methodology annex

### 8.1 Overview

The economic analysis consists of two components: 1) assessing the current burden of tobacco use and 2) examining the extent to which FCTC provisions can reduce the burden. The first two methodological steps depicted in **Figure A1** are employed to assess the current burden of tobacco use, while methodological steps 3-6 assess the impact, costs, and benefits of implementing or intensifying WHO FCTC provisions to reduce the demand for tobacco. The tools and methods used to perform these methodological steps are described in detail on the next pages.

**Fig. A1: Steps in the FCTC investment case**



**8.2 COMPONENT ONE:  
CURRENT BURDEN**

The current burden model component provides a snapshot of the current health and economic burden of tobacco use in Lao PDR.



**STEP 1**

Estimate mortality and morbidity from tobacco-related diseases.

The investment case model is populated with country-specific data on tobacco attributable mortality and morbidity from the 2017 Global Burden of Disease Study (GBD) [39]. The study estimates the extent to which smoking and secondhand tobacco smoke exposure contribute to the incidence of 37 diseases, healthy life years lost, and deaths, across 195 countries.



**STEP 2**

Estimate the total economic costs (direct and indirect costs) that result from tobacco-attributable diseases.

Next, the model estimates the total economic costs of disease and death caused by tobacco use, including both direct and indirect costs.<sup>15</sup> *Direct* refers to tobacco-attributable healthcare expenditures. *Indirect* refers to the value of lives lost due to tobacco-attributable premature mortality, and labor-force productivity losses: absenteeism, presenteeism, and excess breaks due to smoking.

**Direct costs** — Direct costs include tobacco-attributable public (government-paid), private (insurance, individual out-of-pocket), and other healthcare expenditures. The proportion of healthcare costs attributable to smoking was obtained from Goodchild et al. (2018), who estimate the smoking attributable fraction (SAF) of healthcare expenditures for most countries [3]. The Goodchild paper estimates that 7 percent of total healthcare expenditures are attributable to smoking in Lao PDR. To calculate the share of smoking-attributable healthcare expenditures borne by public, non-profit, and private entities, it was assumed that each entity incurred smoking-attributable healthcare costs in equal proportion to its contribution to total health expenditure, as obtained from the National Health Accounts Report Fiscal Year 2018 – from which government

<sup>15</sup> In assessing the current burden of tobacco use, the economic costs of premature mortality include the cost of premature deaths due to any form of exposure to tobacco (including of smoking, secondhand smoke exposure, and the use of other types of tobacco products). Only smoking-attributable (not tobacco-attributable) costs are calculated for healthcare expenditures, absenteeism, presenteeism, and smoking breaks. While other forms of tobacco may also cause losses in these categories, no data is available to pinpoint those losses.

is shown to cover 46 percent of total health expenditures, households cover 49 percent through out-of-pocket expenses, and private and other entities cover 5 percent [39].

**Indirect costs** — Indirect costs represent the monetized value of lost time, productive capacity, or quality of life as a result of tobacco-related diseases. Indirect costs accrue when tobacco use causes **premature death**, eliminating the unique economic and social contributions that an individual would have provided in their remaining years of life. In addition, tobacco use results in productivity losses. Compared to non-tobacco users, individuals who use tobacco are more likely to miss days of work (**absenteeism**); to be less productive at work due tobacco-related illnesses (**presenteeism**); and to take additional breaks during working hours in order to smoke.

- *The economic cost of premature mortality due to tobacco use* — Premature mortality is valued using the human capital approach, which places an economic value on each year of life lost. Using GBD data on the age at which tobacco-attributable deaths occur, the model calculates the total number of years of life lost due to tobacco, across the population. Each year of life is valued at 1.4 times GDP per capita, following the “full income approach” employed by Jamison et al (2013) [40].
- *Productivity costs* — Productivity costs consist of costs due to absenteeism, presenteeism, and excess work breaks due to smoking. The model incorporates estimates from academic literature on the number of extra working days missed due to active smoking (2.9 days per year) [41]. Presenteeism losses are obtained similarly, under research that shows that smokers in China, the US, and five European countries experience about 22 percent more impairment at work because of health problems compared to never-smokers [42]. Lost productivity due to smoking breaks is valued under the conservative assumption that working smokers take ten minutes of extra breaks per day [30].

**8.3 COMPONENT TWO:  
POLICY/INTERVENTION  
SCENARIOS**

This component estimates the effects of FCTC tobacco control measures on mortality and morbidity, as well as on total economic costs (direct and indirect) associated with tobacco use.

The investment case employs a static model to estimate the total impact of the tobacco control measures, meaning that aside from smoking prevalence, variables do not change throughout the time horizon of the analysis. The model follows a population that does not vary in size or makeup (age/gender) over time in two scenarios: a status quo scenario in which smoking prevalence remains at present day rates, and an intervention scenario in which smoking prevalence is reduced according to the impact of tobacco control measures that are implemented or intensified. Published studies have used similarly static models to estimate the impact of tobacco control measures on mortality and other outcomes [43, 44].

Within the investment case, the mortality and morbidity, as well as economic costs that are computed in the intervention scenario are compared to the status quo scenario to find the extent to which tobacco control measures can reduce health and economic costs.



**STEP 3**

Estimate the impact of FCTC tobacco control provisions on smoking prevalence.

Selection of priority WHO FCTC measures modeled within the investment case align with the Global Strategy to Accelerate Tobacco Control developed following a decision at the Seventh session of the Conference of the Parties (COP7) to the WHO FCTC. Under Objective 1.1 of the Strategy, Parties seek to accelerate WHO FCTC implementation by setting clear priorities where they will be likely to have the greatest impact in reducing tobacco use. This includes priority implementation of price and tax measures (WHO FCTC Article 6) and time-bound measures of the Convention, including bans on smoking in all public places (WHO FCTC Article 8), health warnings and plain tobacco packaging (WHO FCTC Article 11 and Article 13 Guidelines), and comprehensive bans on tobacco advertising, promotion and sponsorship (WHO FCTC Article 13). In addition, given the importance of awareness in behavior change and shaping cultural norms, the investment cases include instituting mass media campaigns against tobacco use (WHO FCTC Article 12) as a measure modeled. The impacts of implementing the WHO FCTC provisions are obtained from the literature. The impact of enforcing smoke-free air laws, implementing plain packaging, intensifying advertising bans, and conducting mass media campaigns are derived from

Levy et al. (2018) [38] and Chipty (2016) [45], as adapted within the Tobacco Use Brief of Appendix 3 of the WHO Global NCD Action Plan 2013-2020 [46], and adjusted based on assessments of Lao PDR's baseline rates of implementation.

Within the analysis, it is assumed that implementation or intensification of new tobacco control measures does not take place until year three. With the exception of taxes—the impact of which is dependent on the timing of increases in tax rates (described below)—the full impact of the measures is phased in over a five-year period. The phase-in period follows WHO assumptions [47] that two years of planning and development are required before policies are up and running, followed by three years of partial implementation that are reflective of the time that is needed to roll out policies, and work up to full implementation and enforcement. **Table A1** displays the impact sizes used within the investment case analysis. Additional information on their derivation can be found in the Technical Appendix.<sup>16</sup>

**Tobacco taxes.** The impact of cigarette tax increases on prevalence is estimated using an Excel-based tool developed to analyze the impact of tax increases on a fixed population cohort over 15 years. The tool is populated with data, including on current cigarette smoking prevalence, the tax structure and applied tax rates, cigarette prices, prevalence elasticity, and inflation projections. As reported in its WHO Tobacco Country profile, the price of the most sold brand of cigarettes in Lao PDR is LAK 7,000, with three tax types—a specific excise tax, an ad valorem tax, and a value added tax (VAT)—comprising about 19 percent of the cost. The investment case team did not receive additional information on the tax structure or rates, meaning it could not project conditions under the existing tax structure. Therefore, a hypothetical scenario was constructed in which it was assumed that the tax structure is modified to a uniform specific excise tax<sup>17</sup> and VAT only (dropping the ad valorem) component.

A tax increase scenario was constructed to accord with meeting FCTC and WHO targets (taxes equivalent to at least 75 percent of the retail price of tobacco products, and specific excise taxes equivalent to 70 percent of the retail price) by 2034. A 25-year agreement with Imperial Tobacco, which sells 90 percent of all tobacco products consumed in Lao PDR, restricts the government from raising taxes on its products until 2026 [25]. Therefore, in 2026 a large increase in the specific excise tax (LAK 4,300) is enacted, followed by additional year-over-year increases averaging about LAK 1,000 until 2034. These increase quadruple the price of cigarettes—a real increase of LAK 21,000. The pass-through rate of taxes to the consumer is assumed to be 100 percent.

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<sup>16</sup> Available upon request.

<sup>17</sup> At baseline, the specific excise tax is assumed to be equivalent to LAK 679, or the equivalent of the specific and ad valorem taxes reported in the WHO Tobacco Country Profile.

The prevalence impact of the annual increases in cigarette taxes depends on the prevailing prevalence elasticity: the extent to which individuals cease smoking as a result of changes in the price of tobacco product. No recent evidence on prevalence elasticity is found in Lao PDR. However, in low- and- middle income countries in the Asia-Pacific region with gross national incomes (GNI) similar to Lao’s current GNI, price-elasticity is found to be -0.48 [37], within the range (-0.4 to -0.8) commonly cited for developing countries [48]. We assume that prevalence elasticity is approximately one-half of price elasticity (-0.24) [49].

Changes in the prevalence of tobacco use are calculated following Joosens and colleague’s (2009) [51], who use a log-log function to ensure that large price increases do not result in implausible reductions in prevalence.

$$\Delta SP_i = SP_{(i-1)} * ((EXP(\epsilon_p * LN(op\_np))) - 1)$$

Where:

SP = smoking prevalence (# of smokers) in year i

$\epsilon_p$  = prevalence elasticity

Op\_np = the ratio of the old price of a pack of cigarettes to the new price after tax increases

**Table A1: Impact size: Relative reduction in the prevalence of current smoking by tobacco control policy/intervention, over a period of 15 years**

WHO FCTC Measure	Relative reduction in the prevalence of current smoking	
	First 5 Years (2020–2024)	Over 15 Years (2020–2034)
<b>Tobacco Control Package (all policies)</b>	<b>14.4%</b>	<b>48.7%</b>
Increase taxes on cigarettes (WHO FCTC Art. 6)	0.0%	30.8%
Strengthen compliance with the ban on smoking in public places and workplaces (WHO FCTC Art. 8)	2.5%	4.3%
Mandate that tobacco product packages carry large health warnings (WHO FCTC Art. 11)	1.2%	2.1%
Plain packaging of tobacco products (WHO FCTC Article 11 and Article 13 Guidelines)	1.8%	3.2%
Run a mass media campaign to promote awareness about tobacco control (WHO FCTC Art.12)	4.7%	8.1%
Enact comprehensive bans on advertising, promotion, & sponsorship (WHO FCTC Art. 13)	<b>4.9%</b>	<b>8.5%</b>
Cessation: Brief advice to quit tobacco use (WHO FCTC Art. 14)	<b>0.4%</b>	<b>3.2%</b>

\* The combined impact of all interventions is not the sum of individual interventions. Following Levy and colleagues’ (2018) “effect sizes [are applied] as constant relative reductions; that is, for policy i and j with effect sizes PR<sub>i</sub> and PR<sub>j</sub>, (1-PR<sub>i</sub>) x (1-PR<sub>j</sub>) [is] applied to the current smoking prevalence” [32, p. 454].



#### STEP 4

Estimate the impact of changes in smoking prevalence on tobacco-attributable health outcomes and economic costs.

To analyze the impact of policy measures on reducing the health and economic burden of smoking, the investment case calculates and compares two scenarios. In the status quo scenario, current efforts are 'frozen', meaning that, through the year 2034 (end of the analysis), no change occurs from the tobacco control provisions that are currently in place. In the 'intervention' scenario, Lao PDR implements new tobacco measures or intensifies existing ones, to reduce the prevalence of smoking. The difference in health and economic outcomes between the status quo and intervention scenarios represents the gains that Lao PDR can achieve by taking targeted actions to reduce tobacco use.

The marginal effects of the policies are calculated using the status quo scenario as the comparison group. To calculate marginal effects, the model subtracts the outcome (risk factor attributable deaths, healthcare expenditures, etc.) under the intervention scenario from the same outcome under the status quo scenario. The difference between the two outcomes is the amount of change in the outcome associated with the policy.

$$\text{Marginal Effects} = \text{Outcome Base Scenario} - \text{Outcome Intervention Scenario}$$

Marginal effects are calculated as follows for each outcome:

- **Health outcomes:** To calculate the reductions in mortality and morbidity due to implementation of the policy measures, forecasted changes in smoking prevalence are applied directly to the GBD risk factor attributable outcomes from the status quo scenario. This means that the model adjusts the risk factor attributable outcomes for mortality and morbidity as reported by GBD based on year-over-year relative changes in smoking prevalence for each outcome.
- **For healthcare expenditures,** the model applies forecasted annual relative changes in smoking prevalence for each intervention scenario to the SAFs. SAFs are adjusted in proportions equal to the relative change in smoking prevalence for each intervention scenario.
- **Workplace smoking outcomes** are recalculated substituting actual (status quo) smoking prevalence for estimated annual smoking prevalence for each of the intervention scenarios that are modeled.

**STEP 5**

Estimate the financial costs of implementing the tobacco control policies and interventions modeled, both individually and collectively.

The financial costs to the government of implementing new measures—or of intensifying or enforcing existing ones—is estimated using the WHO NCD Costing Tool. Full explanations of the costs and assumptions embedded in the WHO NCD Costing tool are available [47].

The Tool uses a ‘bottom up’ or ‘ingredients-based’ approach. In this method, each resource that is required to implement the tobacco control measure is identified, quantified, and valued. The Tool estimates the cost of surveillance, human resources—for program management, transportation, advocacy, and enacting and enforcing legislation—, trainings and meetings, mass media, supplies and equipment, and other components. Within the Tool, costs accrue differently during four distinct implementation phases: planning (year 1), development (year 2), partial implementation (years 3-5), and full implementation (years 6 onward).

Across these categories, the Tool contains default costs from 2011, which are sourced from the WHO CHOICE costing study. Following Shang and colleagues, the Tool is updated to reflect 2017 costs by updating several parameters: the US\$ to local currency unit exchange rate (2017), purchasing power parity (PPP) exchange rate (2017), GDP per capita (US\$, 2017), GDP per capita (PPP, 2017), population (total, and share of the population age 15+, 2017), labor force participation rate (2017), gas per liter, and government spending on health as a percent of total health spending (2015) [51, p. 5]. Unless government or other in-country parameters are received, data is from the World Bank database, with the exception of data on the share of government health spending and population figures. The share of government spending on health as a percent of total health spending is derived from the WHO Health Expenditures database, and population figures are from the UN Population Prospects.



## STEP 6

Quantify the return on investment (ROI) for the various tobacco control policies and interventions modeled, both individually and collectively.

The return on investment (ROI) analysis measures the efficiency of tobacco control investments by dividing the discounted monetary value of health gains from investments by their discounted respective costs.

$$\text{Return on investment (ROI)} = \frac{\text{Benefits of Intervention/Policy}}{\text{Costs of Implementing Intervention/Policy}}$$

ROIs were calculated for each of the four tobacco control policies modeled, and for the four interventions together as a package. Estimates from steps 3, 4, and 5 were used to calculate ROIs at 5- and 15-year intervals.

### 8.4 Tax revenue analysis

A separate tax increase scenario is developed for the tax revenue analysis. The current 25-year agreement with Imperial Tobacco restricts the government from raising taxes on its products until 2026 [25]. In a hypothetical scenario, the tax revenue analysis analyzes the potential increases in revenue that could have accrued in the absence of the agreement. In the scenario, the government of Lao PDR raises taxes by an average of LAK 940 over the years from 2021-2025, pulling the share of taxes up from 19 to 53 percent, and increasing the retail price of cigarettes by 75 percent in real terms over present-day levels.

No information was available on the annual number of licitly sold packs in Lao PDR. The investment case leveraged information in the Lao PDR WHO Tobacco Country profile to provide a rough estimate of baseline consumption. According to the profile, in 2017, total excise revenue (ad valorem and specific) was LAK 103,806,645,734. Assuming that the tax share of the most sold brand of cigarettes is relatively representative of the market, we divide the total excise revenue by the excise taxes per pack of cigarette to estimate that 153 million packs of cigarettes are licitly sold each year in Lao PDR.

The tax module and price elasticity measures described in Section 8.3 are leveraged to estimate the impact of tax increases on consumption, and the resulting impact on revenue. All revenue projections are discounted at a rate of three percent.

## 8.5 Equity analysis

To assess how increased taxation affects different income groups, different income groups responses to changes in price were estimated, i.e. their elasticity of smoking participation. No studies were identified that examine the elasticity of smoking participation in Lao PDR. Instead, an average from low- and middle-income countries identified by the International Agency for Research on Cancer’s Handbook of Cancer Prevention Volume 14: Effectiveness of Tax and Price Policies for Tobacco Control [52]. Some of the studies in **Table A2** below did not report elasticity by income quintile, instead reporting by income tertile, for example. In order to construct this table, adjustments to the data were made as needed. In the case of tertiles, tertile 1 was assigned to quintile 1, tertile 2 to quintile 3, and tertile 3 to quintile 5. Then, quintile 2 was given as the average of tertiles 1 and 2, and quintile 4 was given as the average of tertiles 2 and 3.

**Table A2: Elasticity of smoking participation studies**

Country	Author	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Myanmar	Kyaing [53]	-1.09	-1.25	-1.41	-1.38	-1.24
Nepal	Karki [54]	-0.31	-0.26	-0.35	-0.35	-0.31
Vietnam	Kinh [55]	-0.65	-0.65	-0.54	-0.42	-0.42
Bangladesh	Nargis [56]	-0.33	-0.47	-0.27	-0.21	-0.14
Sri Lanka	Arunatilake [57]	-0.37	-0.35	-0.31	0.02	0.06
Sri Lanka	Arunatilake [58]	-0.17	0.17	0.21	0.01	0.34
Ukraine	Krasovsky [59]	-0.19	-0.20	-0.21	-0.17	-0.12
Ukraine	Krasovsky [59]	-0.14	-0.15	-0.17	-0.12	-0.08
China	Mao [60]	-0.95	-0.67	-0.39	-0.07	0.26
China	Mao [61]	-0.08	-0.04	-0.01	0.06	0.13
Egypt	Nassar [62]	-0.30	-0.33	-0.33	-0.33	-0.32
Thailand	Isra [63]	-0.50	-0.18	-0.07	-0.05	-0.02
Thailand	Isra [63]	-0.25	-0.03	-0.02	-0.08	-0.04
Indonesia	Adioetomo [64]	-0.03	0.03	0.09	0.15	0.20
South Africa	van Walbeek [65]	-0.70	-0.57	-0.55	-0.54	-0.41
Turkey	Onder [66]	-0.12	-0.32	-0.11	-0.02	0.15
<b>Average</b>		<b>-0.38</b>	<b>-0.33</b>	<b>-0.28</b>	<b>-0.22</b>	<b>-0.12</b>

Overall cigarette smoking prevalence was taken from the Lao PDR National Adult Tobacco Survey [22] and applied to the income quintile prevalence distribution reported in the Lao PDR Social Indicator Survey II 2017 (LSIS II) [18].



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