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The Impact of Tobacco Use on Health and Socio-Economic Development in Africa

A Status Report

FOREWORD

Tobacco use is the single most avoidable cause of death in the world and the most important public health issue of our time.

Smoking kills more people than alcohol, AIDS, car crashes, illegal drugs, murders and suicides combined, and thousands more die from tobacco-related causes such as exposure to environmental tobacco smoke (also called passive smoking), smokeless tobacco use and fires caused by smoking.

Developing countries, especially on the African continent, have since the last decade received unparalleled attention from the World Health Organization (WHO) following a persistent increase in smoking prevalence. This increase is driven primarily by the tobacco industry's commitment to create new markets in the developing world. The drive for these new markets is a result of the declining markets faced by the tobacco industry in developed countries, where governments and anti-tobacco groups began accelerating the implementation of policies aimed at decreasing tobacco use in the mid-1990s.

The general health effects of tobacco products in Africa, as everywhere in the world, include lung cancer, cardiovascular disease, stroke, respiratory disease, and other tobacco-related diseases. The negative effects of tobacco use are not limited to users. People exposed to secondhand smoke are also at greater risk for lung cancer and coronary artery disease as well as well as other chronic health problems.

This report finds that interventions, especially the prevention of tobacco use, are excellent economic investments because, if applied early, they reduce the need for expensive treatment. Moreover, these measures can be implemented irrespective of the resource level of communities and countries. The report also examines the link between poverty and tobacco use, finding that the burden of tobacco disproportionately affects the poor.

Tobacco is a dominant cash crop for tobacco farmers in some parts of Africa, with small scale tobacco farmers in Africa supplementing their household income from tobacco farming, as tobacco often fetches higher prices in the market compared with traditional food crops. However these small-scale farmers are vulnerable to the environmental challenges and changes in the ecosystem caused by tobacco farming. These challenges effect the quantity and value of tobacco crops year to year.

As the world takes stock of the progress made against the Millennium Development Goals (MDGs) by 2015, the majority of African countries are on course to miss most of the targets. Tobacco is a contributor to the factors that continue to derail Africa's effort to attain the MDGs because it affects all facets of Africa's health, economy and development and is responsible for crippling poverty among tobacco farming communities. Tobacco control can help to achieve the MDGs in a number of ways.

Our response to tobacco use should include the implementation of specific legal and ethical obligations by AU Member States, such as the establishment of effective mechanisms of accountability. Monitoring progress must not only focus on data, but also seek to advocate for change, establishing that there are faces behind these figures.

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EXECUTIVE SUMMARY

Over the past decade the global community has made a strong commitment to tobacco control, notably in the WHO Framework Convention for Tobacco Control (FCTC), the first international health treaty. In Africa, this commitment has been reiterated at national, regional and continental levels, but tobacco control measures in Africa remain uneven and inconsistent.

As tobacco use increases in Africa, disturbing trends are present; notably the rapid increase of women and young smokers, as well as the proliferation of multiple forms of tobacco use. As the level of smoking declines in the developed world, the tobacco industry has increased its efforts to expand its market share in the developing world, most notably in Africa where tobacco consumption is rapidly increasing.

While the damaging effects of tobacco on health are well known, this vital information has not reached the general population, especially those with lower socio-economic status. These negative health effects place a heavy burden on the health systems of African countries that are already engulfed by several other challenges. Existing tobacco control measures will not be enough to counter the impact of tobacco use.

Most African countries have failed to achieve their obligations outlined in the FCTC, and several countries have not signed on as Parties. Tobacco control requires a strong national commitment with sometimes unpopular measures such as taxation or restriction of private sector activity, as well as substantial investment in the health and development sectors for cessation and crop substitution programs, respectively. It also requires a coordinated multi-sectoral government approach for prevention, in partnership with NGOs and other agencies.

Tobacco production is increasing on the continent, and several countries derive revenue in farming and exports. The processing of tobacco leaf into finished product is increasing, which holds some economic benefit for employment and revenue. However, evidence suggests that economic benefits do not reach the poor. The smallholder farmers, seasonal laborers and children who work in the industry are instead at great risk for harming their health. The revenue generated by tobacco production is largely concentrated in the hands of international traders and the government officials tasked with regulating the industry.

Tobacco kills in excess of 5 million people a year globally, and accounts for three per cent of mortality on the African continent. As tobacco use continues to increase, mortality attributed to tobacco will increase and exacerbate other health problems such as tuberculosis (TB). Africa stands at an important crossroad for tobacco control, where effective prevention can result in averting an epidemic that has engulfed other countries and regions around the world.

INTRODUCTION[1]

The World Health Organization (WHO) identifies tobacco as the leading cause of preventable death in the world and notes that, given current trends, tobacco will kill 1 billion people in the 21st century.[2] Eighty per cent of these deaths will be in low- and middle-income countries (LMICs), including those on the African continent.

It is estimated that tobacco kills one of every two users, a mortality rate higher than any other disease.[3] It is also the second largest risk factor for the global burden of disease at 6.3 per cent of global disability-adjusted life-years (DALYs).[4]

Tobacco was brought to Africa by European traders in the 16th century and grown as a trade crop for European consumption. In the mid-20th century, as the health effects of tobacco became well-known, tobacco consumption and production decreased through a combination of laws and lower demand in high-income countries (HICs). Consequently, multinational companies have sought markets elsewhere, and in the last 20 years markets have expanded to Africa, where youth are subject to aggressive targeting by the tobacco industry and tobacco cultivation has increased as a cash crop.

Over the past 60 years, information has become available on the cultivation and use of tobacco as well as its health, socio-economic and environmental impacts. This information includes the economics of tobacco and marketing of tobacco by manufacturers who in the past, have blocked efforts to raise public awareness about this information. While comprehensive data on supply, demand and effects are not readily available in Africa, research in other countries has relevance, particularly research related to health and environment. Evidence from Africa shows similar trajectories as those seen in other LMICs, indicating an epidemic-in-waiting unless effective measures are taken immediately.

Despite attempts at control both at regional and national levels, tobacco is still a highly used product, giving evidence to its high rate of addiction and the amount of marketing and political influence tobacco companies maintain. In a global effort to address the epidemic of disease and death caused by tobacco, the international community produced the WHO Framework Convention on Tobacco Control (FCTC), the first global public health treaty. Its requirements for governments to address tobacco use are suggested minimums, and states are encouraged to enact more stringent measures to restrict tobacco.

Africa holds a unique position in tobacco control where prevention can be highly effective in averting much of the tobacco epidemic. Given what is known about the addictive nature of tobacco, its serious and expensive health and environmental effects, and the social and economic disruption caused by these negative effects, comprehensive and evidence-based prevention measures would result in millions of lives and millions of dollars saved.

EPIDEMIOLOGY OF TOBACCO USE

In 1994, Lopez and colleagues outlined a four-stage model describing tobacco use and its effects based on more than 100 years of observation of smoking in HICs. The four stages are described below.

- **STAGE I:** At the beginning of the epidemic, male smoking prevalence is below 15%, and female prevalence even lower (5–10%). Tobacco-attributable deaths do not make up a high proportion of a country's mortality. As tobacco use becomes more socially acceptable, prevalence increases. This stage is often short, lasting up to 20 years.

- **STAGE II:** Male smoking prevalence rapidly increases, reaching a peak between 50–80%, and it is similar across socio-economic strata. Female prevalence lags, but also continues to increase. Mortality from tobacco use increases in men (around 10%) but is still rare in women. In particular, lung cancer rates increase substantially. This stage lasts 20 to30 years. Information regarding the effects of tobacco is not consistently disseminated to the public and is generally misunderstood, resulting in few systematic prevention and cessation strategies.

- **STAGE III:** Knowledge of the effects of smoking becomes more widespread. Male prevalence begins to decline, while female prevalence reaches a lower peak and also begins to decline a decade or so later. Disparities across socio–economic classes become apparent, as cessation takes hold among those of higher socio-economic status first. Mortality due to tobacco has increases drastically among males, from 10% to upwards of 25–30%. Female mortality is still low, but increasing; however, at the end of this stage, female mortality might reach 25%.

- **STAGE IV:** Both male and female smoking prevalence would be expected to be on the decline, and male proportionate mortality would also decline, after peaking. Female mortality, however, would continue to increase before peaking towards the end of the stage.

Lopez and colleagues note that these stages are fluid, and not every country will have the same experience, particularly as global knowledge and norms have changed over the past century. Nevertheless, without any systematic intervention to prevent smoking initiation or promote smoking cessation in the early stages, this trajectory is expected to be the most likely.[5]

The paradigm notes a two to three decade lag of attributable health effects, particularly cardiovascular and cancer, which shows both the importance and the strategic significance of intervening early, as well as the difficulty in effecting behavior change without strong policy. The model, based on the experience of HICs, does not take into account the economic and epidemiologic context of LMICs, which might have synergistic or enhanced effects.

The global climate shows that many HICs have moved into Stage 4 and are experiencing reductions in tobacco-attributable mortality consequent to health promotion reinforced by community-based and national policies restricting access to, and marketing of, tobacco products and the declining social acceptance of tobacco use.

Middle-income countries, such as China and the nations in Eastern Europe, are in Stages 2 and 3. Northern African countries are in Stages 1 and 2, and with the rest of the African continent largely in Stage 1.

The African continent, being mainly in Stage 1, presents valuable opportunities for prevention. In Singapore, where strong anti-tobacco policies were implemented while the country was still in Stage 1, tobacco prevalence among men peaked at 42% in 1978, after which prevalence declined steadily.[6] In 2007, the adult prevalence of smoking in Singapore was 13.6%, though the most recent DHS surveys have indicated an increase in smoking prevalence among the youngest age groups (including those below 18), suggesting that, for long-term reduction in smoking and its effects, even more stringent strategies might also be required.[7] Currently, LMICs experience higher rates of smoking and tobacco use than HICs, and tobacco–related mortality is expected to decline in HICs as it doubles in LMICs.[8]

The demographics of the tobacco burden exacerbate existing health disparities between genders and among different, socio-economic, age, and racial groups, and income and educational levels. More men than women smoke, and on the whole, smokers tend to be poorer, older, and less educated.[9]

TYPOLOGY OF TOBACCO PRODUCTS

While smoked tobacco accounts for the majority of tobacco consumption, other smokeless forms of tobacco are also popular. Tobacco is also differentiated by its curing process and is roughly categorized into four types:[10]

- **FLUE-CURED TOBACCO:** Used in the manufacture of cigarettes, flue-curing of tobacco takes a week and results in high sugar and medium-high nicotine content. The most common type of flue-cured tobacco is Virginia. It is the most widely grown variety in the world, requiring warmth and humidity.
- **AIR-CURED TOBACCO:** Burley is an air-cured tobacco. It is the second most popular tobacco variety in the world, and it is used in cigarettes. Burley has lower sugar content than flue-cured tobacco.
- **FIRE-CURED TOBACCO:** With a high nicotine and low sugar content, fire-cured tobacco is generally used for cigars, pipes, snuff and chewing tobacco.
- **SUN-CURED TOBACCO:** Comprising a small amount of the global market, sun-cured tobacco has low sugar and nicotine, and can be grown in poor soil. It is cured, fermented, and re-moistened, unlike other types of cured tobacco.

Curing methods have implications for farming processes and inputs, as well as addictive properties. They also impact the commercialization of tobacco and the ability to mass produce tobacco (or bring tobacco production to scale).

Many types of tobacco products exist. Some are traditional forms, such as pipes, hand-rolled leaves, and forms of chewing tobacco, and others are more recent inventions, such as manufactured cigarettes, e-cigarettes and dissolvable tobacco. Some of the common types of tobacco are listed in Table 1.

Table 1: Common Tobacco Products

CIGARETTES	By far the most common form of tobacco product, manufactured cigarettes are processed at a manufacturing plant and sold as a finished product. They consist of shredded tobacco and chemicals and are lit at one end and smoked from the other, usually through a filter. Kreteks are a type of cigarette that includes cloves and other herbs.
BIDIS	Bidis are hand wrapped in tendu leaves, and lit at one end and inhaled at the other. Sticks are similar to bidis, but larger.
ROLL–YOUR–OWN	Popular in Europe, roll–your–own cigarettes consist of tobacco rolled by the user in specifically designed cigarette paper. They are unfiltered and deliver high levels of nicotine and combustion products.
PIPES	Consisting of a bowl and a stem, crushed or cut tobacco is ignited in the bowl of the pipe and inhaled through the stem. Water pipes, including hookahs, involve the use of a water bowl to filter the smoke, though exposure to carcinogenic compounds is not reduced. Hookahs often involve the use of shisha, or fruit–flavored tobacco.
CIGARS	With fermented tobacco mixed in, cigars have a higher nicotine and irritants content than cigarettes. They come in a variety of sizes, are lit at one end and smoked from the other. Some types of cigars are intended to be smoked from the lit end.
CHEW OR DIP	A form of smokeless tobacco, chewing tobacco involves placing a small amount (or plug) into the cheek, which is sucked or chewed. It often results in the user needing to spit out a combination of saliva and tobacco juices.
SNUFF	Another form of smokeless tobacco, snuff is finely ground tobacco that is inhaled, rubbed on the gums or teeth, or placed inside the cheek (usually in a pouch). It often requires the user to spit. A similar form of smokeless tobacco is "snus", from Sweden. It is processed without additives and does not require spitting.
DISSOLVABLE TOBACCO	Created to avoid the inconvenience of smoke and expectorant, dissolvable tobacco is finely ground and held together by food–grade binders in a small strip, which is placed on the tongue or in the cheek. It dissolves completely.
ELECTRONIC CIGARETTES	While not a form of tobacco, electronic cigarettes (or e–cigarettes) are touted as a possible aid in smoking cessation, and deliver nicotine while avoiding many of the additives in cigarettes. There is no clear evidence of its usefulness in cessation or lowered risk of health effects.

Source: Eriksen et al., 2012

CONSUMPTION

Given the lack of comprehensive continent-wide data, it is difficult to map a clear trend in consumption. According to conservative estimates, between 1995 and 2000, tobacco consumption rose by 2.7% in LMICs and in Africa (outside of North Africa) by 3.2%. Though the majority of governments in Africa have committed to the FCTC, tobacco control remains a low health priority, as they are faced with many other health problems.[11]

The rise in tobacco consumption is complicated by the indication that most new smokers are youth, aged 13–18 years, and often as young as 8 or 9 years.[12] Different forms of tobacco, including pipes, smokeless tobacco, and rolled leaves complicate the data. So while prevalence rates are often estimated from surveys of cigarette smoking, these figures are likely to be an underestimate of the extent of the problem.[13] Prevalence rates derived from Demographic Health Surveys in 14 African countries indicate a range of adult male smoking prevalence; from 8% in Nigeria to 27% in Madagascar (2003 data).

In general, these figures reflect regional rates as well, with lower rates in the west of the continent and the highest rates to the east. Other forms of tobacco do not have the same regional variation of use, with the highest use in Lesotho (25.1%) and fewer than 2% in a number of other countries (Ghana, Nigeria, Ethiopia, Kenya, Zimbabwe, and Tanzania). For women, only Namibia shows a rate of cigarette smoking higher than 2% (5.9%), and rates above 2% for other forms of tobacco are evident in Namibia (4.2%), Rwanda (4.3%), Mozambique (5.6%), and Madagascar (6.0%).[14] Across Africa (excluding North Africa), the estimated prevalence of smoking (age 15 and over) is 18%, while it is 21% in the Middle East and North Africa.[15] Additional data on all countries in Africa highlighting prevalence, mortality, and attributable-proportion, are available in the Tobacco Atlas, which derives its numbers from WHO analyses.

PRODUCTION

Tobacco is cultivated in most countries in Africa; however, in only three countries is tobacco grown on a significant portion of agricultural land.[16] Tobacco is processed by plants owned either by state enterprises or subsidiaries of multinational tobacco companies.[17] In many countries, tobacco leaf is produced for export.

A recent report[18] explored the revenue streams of Africa's largest tobacco growers and found:

- most tobacco leaf grown in Africa is sold as cured product to two major leaf traders, Universal Leaf Tobacco and Alliance One International, who in turn sell the product to manufacturers elsewhere (netting the traders an annual profit of $2 billion); and
- surplus in the market currently has made tobacco less economically viable in Africa.

The top five exporters by value mentioned in the report are detailed in the report:

- Malawi is currently the largest grower of burley in the world, and tobacco makes up at least 50% of the country's foreign exports.
- Zimbabwe's tobacco production has fluctuated due to political issues and changes in land policy. Tobacco is 13% of exports. The tobacco is sold at auction, increasing competitive pricing.
- Tanzania's cultivation of tobacco saw an increase in response to the fluctuations in Zimbabwe, but it comprises only 3% of total exports. All tobacco is sold under contract by smallholder farmers, and prices are guided by the Tanzania Tobacco Council.
- Mozambique benefited from the fluctuation in Zimbabwe, though some of the larger-scale farmers in Mozambique are from Zimbabwe. Having previously sold cured product at lower prices to neighboring countries, farmers now sell to a national subsidiary with a processing plant in-country. In response, the government has granted land to the subsidiary. In Mozambique, tobacco is only 6% of exports.
- Zambian tobacco cultivation also increased in the past decade, with flue-cured Virginia being grown by expelled farmers from Zimbabwe and burley grown by local smallholder farmers. Both are sold at auction, but some farming is also on contract. Tobacco accounts for only 1.6% of exports.

THE HEALTH EFFECTS OF TOBACCO USE AND SECONDHAND SMOKE

Tobacco is a major cause of death from non-communicable diseases (NCDs) such as heart disease, cancer and respiratory diseases, but also for communicable diseases such as TB which can be activated and exacerbated by tobacco use.[19] Direct tobacco use is estimated to cause 5 million deaths a year globally, with indirect exposure leading to an additional 600,000 deaths. Tobacco use also reduces life expectancy by 20–25 years.[20] Tobacco-attributable mortality in Africa is currently around 3%.

According to the US Centers for Disease Control and Prevention, smoking increases the risk of coronary heart disease, stroke, lung cancer, chronic obstructive lung diseases, peripheral vascular disease, abdominal aortic aneurysm and infertility. It also increases the risk of stillbirth and low birth weight in infants born to women who smoke during pregnancy. Tobacco use harms almost every organ in the body (see Table 2).[21] These associations are modulated by other exposures and environmental effects, and their severity is moderated by screening and early detection. Nevertheless, as populations age and the burden of non-communicable and chronic diseases increases in Africa, tobacco's impact on health would be expected to increase.

Table 2: Health Effects of Smoking

ORGAN	HEALTH EFFECT
Eyes	Blindness Cataracts Stinging, excessive tearing and blinking
Brain & Psyche	Stroke Addiction/withdrawal Altered brain chemistry Anxiety about tobacco's health effects
Chest & Abdomen	Possible increased risk of breast cancer Esophageal cancer Gastric, colon and pancreatic cancer Abdominal aortic aneurysm, peptic ulcer (stomach, duodenum, and esophagus)
Circulatory System	Buerger's disease (inflammation of arteries, veins, and nerves in the legs) Acute myeloid leukemia
Ears	Hearing loss Ear infection
Female Reproduction	Cervical cancer Premature ovarian failure, early menopause Reduced fertility Painful menstruation
Hair	Odor and discoloration
Hands	Peripheral vascular disease, poor circulation
Hearts	Coronary thrombosis (heart attack) Atherosclerosis damage and occlusion of coronary vasculature
Immune System	Impaired resistance to infection
Kidney's & Bladder	Kidney and bladder cancer
Legs	Peripheral vascular disease, cold feet, leg pain, gangrene Deep vein thrombosis (DVT)
Liver	Liver cancer
Lungs	Lung, bronchus and tracheal cancer Chronic obstructive pulmonary disease (COPD) Chronic bronchitis Respiratory infection
Male Reproduction	Infertility, sperm deformity, loss of motility, reduced number Impotence
Mouth & Throat	Cancers of the lips, mouth, throat, larynx, and pharynx Sore throat Impaired sense of taste Halitosis (bad breath)
Nose	Cancer of the nasal cavities and paranasal sinuses Impaired sense of smell
Skeletal System	Osteoporosis Hip fracture Susceptibility to back problems Bone–marrow cancer
Skin	Psoriasis Loss of skin tone, wrinkling, premature aging
Teeth	Periodontal (gum) disease, gingivitis, periodontitis Loose teeth, tooth loss Root surface caries, plaque Discoloration and staining
Wound & Surgery	Impaired wound healing Poor postsurgical recovery Burns from cigarettes and from fires cause by cigarettes

Source: Eriksen et al., 2012

The available evidence cites four main conclusions related to smoking:[22]

- Smoking harms every major organ of the human body
- Smoking cessation reduces risks for tobacco-related diseases and promotes general health
- Modified risk tobacco products (those with lower tar or nicotine) have no reduced adverse health effect
- Additional diseases are now known to be caused by smoking

Despite claims to the contrary, science increasingly shows that there is no safe level of tobacco consumption. In addition, the negative health consequences of tobacco use affect the entire body and not just the respiratory system. Given tobacco's overall contribution to poor health, its synergistic effect with other health risks warrants further research, particularly exploring the devastating effects of tobacco coupled with the burden of infectious disease and malnutrition in Africa.

In addition to the direct effects of smoking, indirect exposure, or secondhand smoke, also poses substantial health risks to those who do not smoke. Globally, 40% of children and 30% of non-smoking adults are exposed to secondhand smoke.[23] In Africa, approximately 20–30% of youth live in a residence with a smoker, and homes can often consist of multiple families or relatives.[24] Health risks for secondhand smoke include coronary artery disease and lung cancer in adults and middle ear disease, respiratory illness and distress, Sudden Infant Death Syndrome (SIDS), and low birth weight. Additionally, there is preliminary evidence that secondhand smoke also contributes to other cancers, chronic obstructive pulmonary disease, and pre–term delivery for adults and brain tumors, leukemia, lymphoma and asthma for children (see Table 3).[25]

In 2004, an estimated 600,000 individuals died of exposure to secondhand smoke, of which 53,000 were in Africa. These deaths were mostly caused by ischemic heart disease for adults and lower respiratory infections (LRIs) for children. DALYs attributed to secondhand smoke were around 10.9 million, of which 1.7 million were in Africa, most of which was due to LRIs in children.[26]

Table 3: Effects of Secondhand Smoke

	SUFFICIENT EVIDENCE	SUGGESTIVE EVIDENCE
Adults	Coronary artery disease Lung cancer	Stroke Nasal sinus cancer Breast cancer Carotid artery wall thickening Chronic obstructive pulmonary disease Pre-term delivery
Children	Middle ear disease Respiratory symptoms (cough, wheeze, breathlessness) Impaired lung function Sudden Infant Death Syndrome (SIDS) Lower respiratory illness (including infections) Low birth weight	Brain tumors Lymphoma Leukemia Asthma

Source: Eriksen et al., 2012

It is important to highlight the finding that smoking cessation improves health. At any age, quitting tobacco is associated with improved biomarkers for cardiovascular, cerebrovascular and respiratory health,[27] and quitting is an effective means of TB control.[28] However because of the highly addictive nature of tobacco,[29] quit rates are often low in countries without strong policies to promote cessation.[30] While the burden of tobacco-attributable disease is currently low in Africa, it will increase rapidly as tobacco consumption increases. Intervening now on both the supply-side (farming and marketing) and the demand side (prevention of initiation, cessation) would have a significant positive impact on the health of the population.

Box 1: Tobacco Consumption and Tuberculosis: South Africa and Morocco

SOUTH AFRICA

Studies from around the world indicate that there is a harmful synergistic effect between smoking and TB, but excess risk has not been clearly quantified. Smoking is known to affect T-cell function in the lungs, reduce cytotoxic activity and impair clearance of particles and possibly favor replication of mycobacteria.

Two studies by den Boon and colleagues examined the association between smoking and tuberculosis; the first in adults, and the second in children (passive smoking, or secondhand smoke). A sample of two urban communities in Cape Town surveyed on tobacco use and TB (via tuberculin skin test) indicated that 82% of the current or ex-smokers had a positive skin test, while 70% of the non-smokers had a positive test, yielding an odds ratio of 1.99 so the correlation between smoking and tuberculosis was statistically significant. In the second study, using the same sample, children were also administered a tuberculin skin test, while the household respondent was surveyed. Passive smoking was identified as having one active adult smoker for the past year. Several children were disqualified from the survey because they were active smokers themselves and 34% of children exposed to secondhand smoke tested positive for TB, compared to 21% of those not exposed, yielding an odds ratio of 1.89 also statistically significant.[31] The impact of both smoking and secondhand smoke on TB has strong implications for successful TB control in South Africa and it would be necessary for health officials to address both in tandem.[32]

MOROCCO

In addition to the immune-modulating effect of tobacco use on TB infection, smoking increases the rate of disease progression and relapse after successful treatment. There is also evidence suggesting that treatment failure is increased by smoking. In Morocco, smoking prevalence has increased. The incidence rate for TB is 86 per 100,000, with a relapse or treatment failure rate of 15%.

A study by Tachfouti and colleagues assessed the impact of smoking on TB treatment adherence. Patients in the study were drawn from 15 TB centers across the country, with diagnosis of active TB and in current treatment programs. After controlling for other factors such as alcohol consumption, poverty and education, smoking was significantly correlated with treatment failure with an odds ratio of 2.25. Given the rise of drug-resistant tuberculosis, treatment adherence is an important means of controlling new infection and maintaining antibiotic susceptibility. Tobacco's ability to reduce successful clearance of the bacteria can be a major barrier to TB management.[33]

THE SOCIO-ECONOMIC IMPACT OF TOBACCO

The devastating socio-economic impact of tobacco has recently been examined in terms of its relationship to the spread of NCDs. WHO estimates that by 2020, 44 million people will die of NCDs globally.[34] In Africa, these deaths are estimated to total three-quarters of the amount of communicable, maternal, perinatal, and nutritional diseases combined; by 2030, NCDs will outpace all of these at 46% of all deaths.[35]

Tobacco use causes one in six NCDs globally[36] and is responsible for 12% of deaths; 3% in Africa.[37] The leading causes of NCD deaths globally in 2008 were cardiovascular diseases (48%), cancers (21%) and respiratory diseases (12%) from a total of 36 million deaths.[38] Smoking is estimated to cause 71% of all lung cancer deaths, 42% of chronic respiratory disease and nearly 10% of cardiovascular disease.[39] It is also responsible for 7% of deaths from TB and 12% of deaths from lower respiratory infections; thus, smoking contributes to communicable disease mortality as well.[40] Unlike communicable, maternal and perinatal diseases, NCDs can have long latency. Consequently, the time lag between exposure and outcome means the most extensive health consequences and associated economic costs take years to manifest, as exposure to risk factors such as tobacco increases. In addition, since mortality from NCDs is also not immediate, morbidity and disability due to tobacco use are high.

In addition to its contribution to NCDs, tobacco has implications for development, particularly in meeting the Millennium Development Goals (MDGs), (see Table 4).

Table 4: Impact of Tobacco on the MDGS

MILLENNIUM DEVELOPMENT GOAL	IMPACT OF TOBACCO
Goal 1 **Eradicating extreme poverty and hunger**	• Mortality due to tobacco is most often among the primary wage earners in the family • Expenditure on tobacco may supersede other essential expenses • High health costs related to NCDs burden health care and social services • Smoking-related deaths tend to occur in the most productive middle-age years
Goal 2 **Achieve universal primary education**	• Impoverished families need to find employment for all household members, including children • Child labor in the tobacco industry impairs children's ability to attend school • Non-fatal and fatal effects of secondhand smoke affect children's development, which affects educational attainment
Goal 3 **Promote gender equality and empower women**	• As smoking rates among women increase, so do tobacco-related diseases including those that primarily affect women • Health care expenditure related to tobacco use reduces investment in programs and policies to reduce gender inequity
Goals 4 & 5 **Reduce child mortality and improve maternal health**	• Perinatal smoking endangers the health and lives of both mother and child • Secondhand smoke results in adverse health consequences
Goal 6 **Combat HIV/AIDS, malaria and other diseases**	• Evidence suggests smoking has an effect on the immune system, as well as potential synergistic effects on respiratory infections • Smoking is associated with TB treatment failure and relapse
Goal 7 **Ensure environmental sustainability**	• Tobacco production results in deforestation • High use of agrochemicals (fertilizers and pesticides) affects other agricultural crops and rivers and watersheds

Source: CTFK, 2010

TOBACCO USE

In 1995, the UN and other international organizations declared tobacco to be a major threat to the socio-economic development of LMICs.[41] Given the already complex burden of disease faced in LMICs, health care expenditure will be high and loss of productivity great. In Egypt, for example, productivity losses related to chronic disease are estimated to equal 12% of the country's GDP,[42] while direct health costs exceed $450 million a year.[43] Losses and expenses owing to NCDs can result in reduced labor supply and outputs, increased costs to employers from absenteeism and higher health care coverage costs, lower returns on human capital investment, reduced domestic consumption and lower tax revenues, as well as increased public health and social welfare expenditure.[44] NCDs are more expensive to treat, require multiple interactions with the health system, and call for a greater specialization of health care personnel.

Health systems in Africa, structured to address the priorities of HIV and other communicable diseases, will require significant investment, and in some cases overhaul, to contend with these new concerns. The World Bank estimates that NCDs cost countries from 1–7% of their GDP, while a comprehensive prevention package of only a few of the key strategies would cost less than 1% of GDP in African countries. World Bank findings suggest that some prevention costs can pay for themselves, such as through common taxation schemes for tobacco control.[45]

The addictive nature of tobacco compels frequent and consistent use, which can result in tobacco use becoming a costly as well as deadly habit. In most countries in Africa (where there is data), prices average $2–$4 for a brand name pack of 20 cigarettes whilst local unbranded cigarettes are cheaper. Affordability of cigarettes, based on price and income, ranges from a relative income price[46] of 2% in Gabon, to nearly 60% in DRC.[47] As people spend more money on cigarettes, they have less to spend on vital necessities that can strongly influence provision of an adequate diet and preventive health care for family members. This may result in a continuing cycle of poverty for families, especially as tobacco use tends to be higher among the poor, who have less purchasing flexibility. Preliminary data in Africa show troubling trends; in Morocco tobacco expenditure rivals education expenses; in Egypt 10% of income is spent on tobacco while in another member state, a man will work 158 minutes to pay for a pack of brand-name cigarettes, compared with 109 minutes for a kg of rice and 64 minutes for a kg of bread.[48]

The health consequences of smoking have economic impact, as cardiovascular, respiratory, and cerebrovascular diseases are more expensive to treat. Health expenditures at the household level increase, affecting essential purchases, such as food and shelter. In Malawi, for example, one month of treatment for coronary heart disease is equal to 18 days' wages, and one month of asthma treatment is equivalent to nine days' wages. Disability can also raise costs and reduce earning capacity, and many countries are not equipped to accommodate people with disabilities. In addition, those with chronic diseases experience reduced opportunity; in Egypt, employment opportunities could be 25% lower and working hours are reduced per week. NCDs have consistently been correlated with downward mobility among those of medium to low SES.[49] Given the exposure to, and impact of, secondhand smoke, the risk of NCDs exists not only for those who smoke or use smokeless tobacco but also for their family members, co-workers and close associates.

TOBACCO PRODUCTION

Since the early 1970s, tobacco leaf production has shifted from HICs to LMICs.[50] Compared with other top producers, countries in Africa have experienced the largest increase in tobacco leaf production.[51] In the short-term, benefits such as employment and income can be attributed to tobacco production, but these are outweighed by economic and environmental issues in the long-term. Few countries rely on tobacco exports, with the exception of Malawi and Zimbabwe, but the trade liberalization of the industry in past years has resulted in oversaturation of the market, bringing prices down.[52] Because most countries in Africa sell tobacco to one or two trading companies, there is little competition in pricing, resulting in a high-risk, low-reward investment. However, because most countries are net importers, millions are lost in foreign exchange.[53] In some countries tobacco farming is a result of a direct contract between the grower and the tobacco company, eliminating middlemen and reducing costs. The contract commits the farmer to produce a particular crop using specific techniques under an agreed pricing scheme. It leaves little flexibility for the farmer to adapt to changing climate, economic, or agricultural conditions, and creates an imbalance of power in which the tobacco company controls land management. These contracts can leave farmers impoverished and reinforce continued cycles of indebtedness, as the companies make high-interest loans and sell agricultural inputs to farmers to increase yield. The companies benefit twice; first from the sale of pesticides and fertilizers plus the interest on the loan for equipment and supplies, and again in the final sale of the finished product where profit margins are much higher than for raw or minimally processed product.[54]

THE ENVIRONMENTAL IMPACT OF TOBACCO CULTIVATION

A literature review in *Tobacco Control* (2011) noted that the two main effects of tobacco farming, forest depletion and soil degradation, are well-known and result from two main practices: the use of agrochemicals (fertilizers and pesticides) and land-clearing. The effects have an immediate impact on livelihoods and communities, reducing the carrying capacity of the land for food crops, limiting the amount of arable land available for other crop production both for food and livelihood, and reducing resources in forests essential for other uses such as construction and firewood. Tobacco farming also has deeper systemic effects: soil erosion and river sedimentation, overexploitation of land, ecosystem disruption, species extinction and climate change.[55]

Because tobacco is mono-cropped and not grown in conjunction with other crops, it is vulnerable to weather and pests, resulting in more use of pesticides, fertilizers and water. Pesticides and fertilizers are less regulated in LMICS than in HICs, resulting in dangerous use by handlers, exposure to vulnerable populations such as children or pregnant women, and run-off to delicate watersheds. Pesticides such as DDT, with known deleterious human and environmental health effects, are commonly sprayed on tobacco crops. These health effects are not limited to sprayers, Pesticide poisoning can affect harvesters and others with indirect exposure. Green tobacco sickness (GTS), related to the handling of wet uncured tobacco, has been well-documented among tobacco farmers, but data on its prevalence in Africa is limited. Nonetheless, unsafe handling practices at any stage of the farming and production process contributes to risk of adverse health effects.[56]

WHO estimates that the wood required to cure tobacco accounts for 12% of deforestation in Southern Africa. Reforestation efforts by tobacco companies in Southern and East Africa have failed to materialize in any significant way.[57]

Box 2: Tobacco Production in Tanzania and Malawi

TANZANIA

In a study comparing four countries around the world, Geist and colleagues noted that the environmental impact of tobacco farming is well-known in Tanzania, where 15% of arable land a year is cleared for tobacco. This has resulted in an average of 3.5% deforestation annually for growing, and another 3% for curing (barn construction and fuel), as farmers require new land to increase yields because agrochemical means can be too expensive. This brings into question tobacco industry-promoted assertions that tobacco farming is sustainable. The authors identified children as one of the largest groups of laborers on smallholdings, raising issues of child labor and the lost opportunity cost of education. One major concern highlighted in the study is the use of direct contractual arrangements between leaf growers and tobacco companies, giving national governments less recourse to promote diversification and locking farmers into tobacco production.[58]

MALAWI

Geist and other colleagues assessed the impact of tobacco globalization. Tobacco from Malawi is used by almost all the major manufacturers of cigarettes consumed worldwide. Thus, tobacco plays an important role in Malawi as a cash crop that supports farmers' livelihoods, but for historical reasons, it is mainly a source of income for an elite few. Data on the environmental impact of tobacco farming in Malawi is clear: remote sensing has shown a vegetation cover loss of almost 50% because of the conversion of land for tobacco production and the wood as fuel for curing. While tobacco companies support some reforestation attempts, these are mostly to replenish the wood burned during the curing process. In traditional agricultural areas, nearly 20% of land has been converted to tobacco and the carrying capacity (the ability to sustain a population) of the region has been significantly diminished, further affecting food security and resource management. Given the importance of food security and resource management in Malawi, careful consideration must be given to the full impact of tobacco production and its true long-term effects.[59]

"Tobacco is the only legally available consumer product which kills people when used entirely as intended." — Walton et al., 1994

Tobacco is a highly addictive substance, with strong physiological responses in the body; mostly neurobiological and socio-psychological factors related to availability and status. While previously considered simply a matter of personal choice, tobacco use is now seen as a mix of factors, including addiction, lack of understanding about the harms of tobacco use, ease of availability, cost and social norms. The impetus to intervene to restrict tobacco use rests on these ideas.[60]

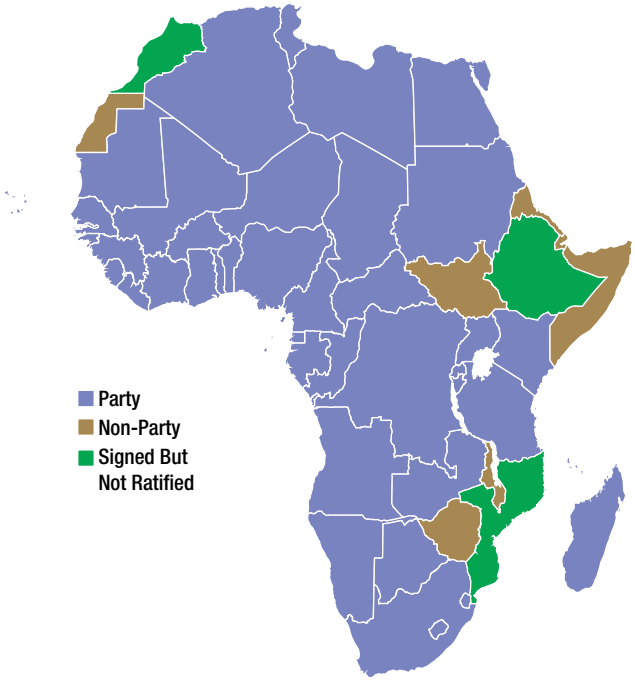
FRAMEWORK CONVENTION ON TOBACCO CONTROL

Strong African leadership, as part of a commitment to a "tobacco-free Africa" and in partnership with several NGOs in the region, helped shape the creation of the WHO Framework Convention on Tobacco Control (FCTC). The commitment started in 1999 and intensified during inter-governmental meetings in the following years, leading to a unified voice in Africa committing to tobacco control and improved public health.[61]

The success in negotiating the treaty text was duplicated in other regions, and in 2005, the FCTC became a force for tobacco control. Currently the treaty has 146 signatories and 176 parties. In Africa, non-parties include Mozambique, Ethiopia, and Morocco (countries that have signed but not ratified the treaty) and Malawi, Eritrea, Somalia, South Sudan, Zimbabwe, and Western Sahara. The treaty is intended to provide the global community with collective means to advocate for, and implement, evidence–based tobacco control measures and affirm national commitments to reducing tobacco use.

Articles 5–19 of the FCTC (see Table 5) address the two main areas: reductions of the demand for tobacco and the supply of tobacco. Measures include implementing tax measures, protecting against exposure to secondhand smoke, promoting plain packaging, labeling and health warnings, banning advertising, limiting lobbying, restricting sales to minors, reducing illicit sales, regulating products and raising public awareness. Additional articles cover research and information-sharing among signatories, and Article 17 specifically highlights the need to provide those who rely on tobacco for livelihood with suitably sustainable alternatives and reduced barriers to livelihood transition.[62] Although many countries have signed and ratified the FCTC, challenges remain in the adoption, implementation and enforcement of effective tobacco control legislation.

Figure 1: Parties and Non-Parties to the FCTC



Source: WHO, 2005

Table 5: Summary of FCTC Measures

MEASURES TO REDUCE DEMAND	ARTICLE
Prevent tobacco industry interference in public policy	5.3
Price and tax measures	6
Protection from exposure to environmental tobacco smoke	8
Regulation and disclosure of the contents of tobacco products	9, 10
Packaging and labeling (including the use of graphic warning labels)	11
Education, communication, training, and public awareness	12
Comprehensive ban and restriction on tobacco advertising, promotion, and sponsorship	13
Tobacco dependence and cessation measures	14
MEASURES TO REDUCE SUPPLY	**ARTICLE**
Elimination of the illicit trade of tobacco products	19
Restriction of sales to and by minors	15
Support for economically viable alternatives for growers	17

Source: WHO, 2005

As follow-up to the FCTC, WHO created MPOWER, a package of six tobacco reduction measures that can be used to fulfill obligations under the treaty.

The MPOWER acronym stands for:

- Monitor tobacco use and prevention policies
- Protect people from tobacco smoke
- Offer help to quit tobacco use
- Warn about the dangers of tobacco
- Enforce bans on tobacco advertising, promotion and sponsorship
- Raise taxes on tobacco products

Over half the world's population is covered by at least one of these highly effective measures through country-level policies enacted under the auspices of MPOWER.[63] WHO continues to assess MPOWER efforts and provide information on best practice and opportunities for information-sharing among Parties.

POLICIES AND INTERVENTIONS

Policies and interventions designed to restrict tobacco use tend to have one or more of the following goals in mind:

- **CESSATION:** Quitting tobacco brings significant health benefits, including reducing the risk of lung cancer by 90% and the reduction of other extant health effects. These benefits are most evident if cessation occurs by age 50. To reduce tobacco-attributable deaths by 2050, cessation among current smokers will be necessary.[64]
- **PREVENTION:** Creating barriers to the uptake of tobacco in rapidly growing (and youthful) populations can have hugely beneficial effects. Only 6% of smokers successfully quit for their lifetime (relapses are common), so preventing new smokers from starting may have greater effect.[65]
- **REDUCTION OF PASSIVE TOBACCO SMOKE:** Exposure to secondhand smoke (also known as passive smoking or involuntary smoking) affects not only family members, friends, and associates, but also those who work in public places where smoking is permitted, such as retail and food service venues.
- **REDUCTION OF SUPPLY:** Having fewer tobacco items for sale raises a barrier to consumption and can be accomplished at multiple stages in the supply chain, from cultivation to manufacture to importation to point-of-sale.

MPOWER provides effective measures to reduce tobacco that are evidence-based and well-developed in a number of countries. Parties to the FCTC are required to implement such measures (at minimum), and most have done so to varying degrees. Following the MPOWER framework, these interventions include:

- **P**rotect people from tobacco smoke: completely smoke-free environments in education and health care, as well as all indoor public places (such as retail stores and restaurants)
- **O**ffer help to quit tobacco use: quit phone lines, smoking cessation programs in primary care, and low-cost pharmaceutical treatment if necessary
- **W**arn about the dangers of tobacco: package warning labels, anti-tobacco advertising and media campaigns
- **E**nforce bans on tobacco advertising, promotion and sponsorship: prohibit both direct and indirect advertising and promotion
- **R**aise taxes on tobacco products: tax rates that keep pace with inflation and surpass consumer purchasing power, more effective tax structure to combat illicit trade.[66]

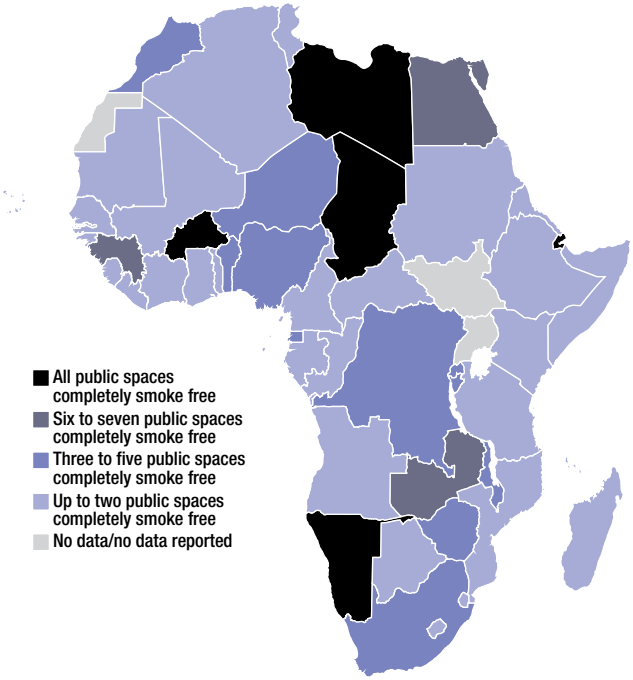
There is a large body of evidence on the effectiveness of individual MPOWER strategies, as detailed in the Disease Control Priorities Project, multiple WHO reports, World Bank reports, and peer-reviewed literature; though these strategies are most successful when enacted as a comprehensive package. While less data exist on the effectiveness of the full package, one study estimated the effect of full implementation on smoking prevalence in 2020 and 2030. This study began with the assumption of no additional MPOWER implementation after 2010, and calculated global and regional prevalence for 2020 and 2030. While global prevalence was estimated to decrease by 2030, it was notable that the WHO African Region (which covers the majority of AU member states) showed the highest increase of all the regions, from approximately 16% to 22%. With the MPOWER package implemented and including a 100% tax increase, the estimated prevalence in 2030 in the WHO African Region would be 11%. Thus, full implementation of the MPOWER package would reduce prevalence by half in 20 years, resulting in huge cost-savings. The WHO Eastern Mediterranean Region (which includes Somalia, Djibouti, Egypt, Tunisia, and Morocco) was the only region to show an increase in prevalence by 2030, from about 22% to almost 24%. However, with the full implementation of the MPOWER package, estimated prevalence drops to 13%, a decrease with associated cost-savings.[67]

The following summarizes WHO's MPOWER guidelines on its successful strategies.[68]

SMOKE-FREE ENVIRONMENTS

Given that there is no safe level of exposure to tobacco smoke and that secondhand smoke has its own adverse health consequences, the MPOWER strategies stress the need to institute smoking bans in public places and protect vulnerable populations from exposure. WHO also recognizes that all people have a right to breathe clean air. Data on smoke–free environments show that: a) the most effective policy requires 100% smoke-free environments and b) exceptions (e.g., ventilation) do not protect from smoke. The tobacco industry has lobbied to prevent smoke-free legislation, but experience and research has shown that smoking bans protect employees of public establishments, lead to a reduction in overall smoking prevalence, increase social norms supportive of not smoking in public, do not hurt businesses, and have widespread support in the general public. However, in order to be most effective, smoking bans must be enforced, at least initially.[69]

Figure 2: Implementation of Smoke-Free Measures in Africa, 2010

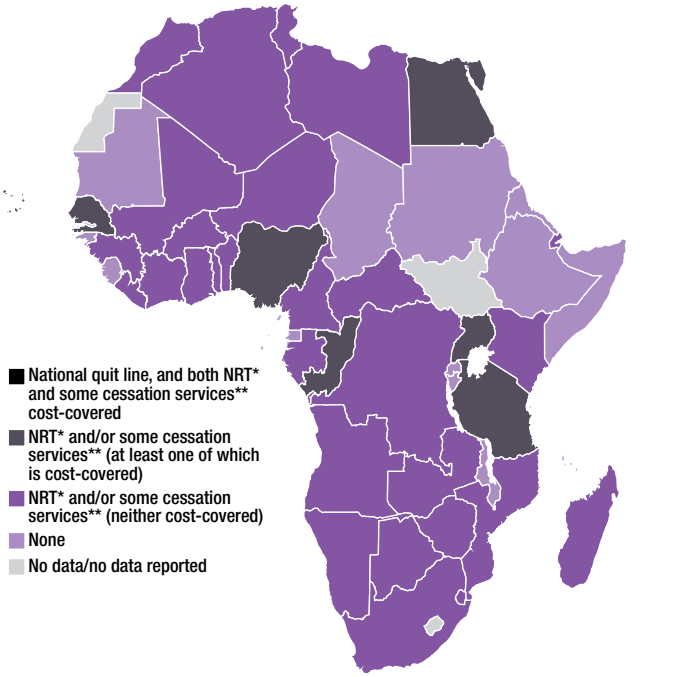


Source: Compiled from WHO GHO, 2010

SMOKING CESSATION

There are three main elements of smoking cessation programs: advice incorporated into primary care, quit lines, and access to free or low-cost pharmaceutical cessation aides. Cessation requires a health-systems approach with adequate health personnel training and education. Health professionals themselves should be encouraged to quit (if they have not already) and be trained to offer cessation services during routine consultations. Quit lines should be free of charge and be staffed by live, trained operators. While cessation programs can be costly, they can be financed by tax revenue.[70]

Figure 3: Implementation of Smoking Cessation Measures in Africa, 2010.



* *Nicotine replacement therapy*

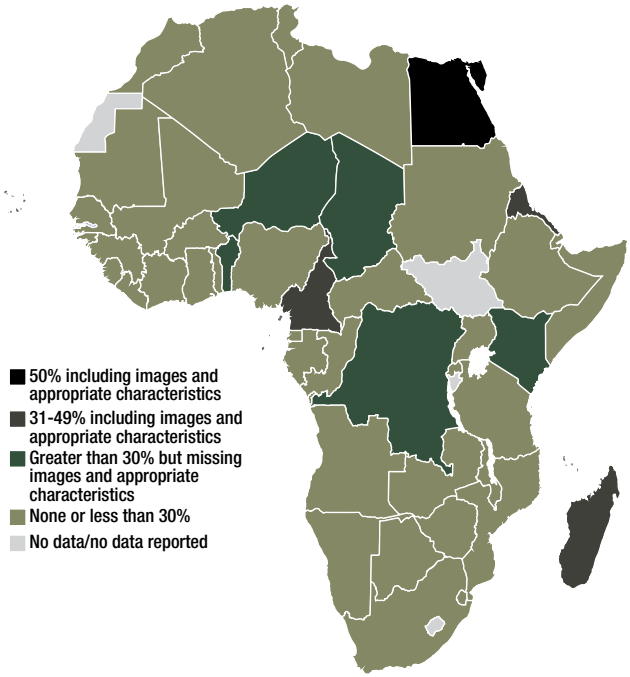
** *Smoking cessation support available in any of the following places: health clinics or other primary care facilities, hospitals, office of a health professional, the community*

Source: Compiled from WHO GHO, 2010

WARN AGAINST THE HARMS OF TOBACCO USE

The full consequences of smoking and other tobacco use are not fully recognized by the general public, including the addictive nature of tobacco and the physiological changes that might occur before symptoms present. Public education, warning labels, and bans on misleading labels such as "light" and "low-tar" (which falsely convey that some cigarettes are less harmful than others) should be implemented. Effective warning labels should be at least 50% of the package (but no less than 30%) and should include accurate descriptions and graphic pictures. They should also be written in the local language.

Figure 4: Implementation of Labeling and Packaging Measures in Africa, 2010



Source: Compiled from WHO GHO, 2010

At the same time, countries should engage in public awareness campaigns to warn of the dangers of both smoking and secondhand smoke. Several media strategies that can be used, but generating "earned media" coverage of information about tobacco harms and requiring national broadcasters to allocate a certain amount of time to such education are two useful mechanisms.[71] Additional strategies, such as the inclusion of social marketing in awareness and media campaigns, can bolster the positive impact of public campaigns.[72]

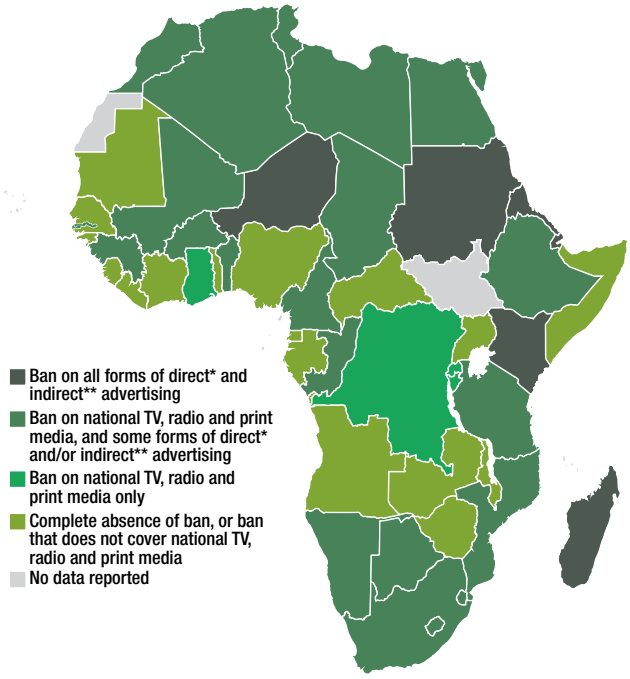
Advertising often targets vulnerable groups such as the poor and young people, and also women and girls. Thus advertising is more common in poorer communities, in college settings and among students. Marketing in countries where advertising is banned resorts to advertising and promotion through social interactions where tobacco company representatives distribute free samples. Often such representatives are chosen from among leaders in a peer group of young people—individuals who are perceived to be "cool", and who young people emulate. Smoking is promoted as a sign of maturity or rebelliousness —attributes to which adolescents aspire. Advertising is often "below the line" with "product placement" in movies and TV where desirable characters are seen to smoke, without any of the long-term harms to health associated with their actions highlighted. Permiting such marketing cannot be perceived to be promoting social justice, but exactly the opposite.

Some countries such as Australia have gone even further to legislate for plain packing for all cigarette packs, in addition to the warning labels and graphic images of smoking-related disease that these packs carry. South Africa is considering following suit.

BANS ON ADVERTISING, PROMOTION, AND SPONSORSHIP

The tobacco industry spends billions of dollars on advertising, promotion and sponsorship (APS) worldwide, using skilled marketing tactics to normalize cigarettes and enhance their desirability. In addition to direct advertising, companies use a variety of other mechanisms such as sponsorship of events and entertainment, product placement, and branded merchandise. They also incorporate new media and social responsibility programs to increase their reach. Banning all forms of APS has been shown to reduce prevalence by 7% (and in some countries more), but such bans must be complete and enforced. APS bans should not only cover manufacturers and other companies, but the point-of-sale retailers as well. The industry often opposes advertising bans, often claiming that they violate rights of free speech, or the industry argues it can self-regulate on APS.

Figure 5: Implementation of Advertising Bans in Africa, 2010



* *Direct advertising bans include national television and radio, local magazines and newspapers, billboards and outdoor advertising, and point-of-sale.*

** *Indirect advertising bans include free distribution of tobacco products in the mail or through other means, promotional discounts, non-tobacco products identified with tobacco brand names (brand extension), brand names of non-tobacco products used for tobacco products, appearance of tobacco products in television and/or films, sponsored events.*

Source: Compiled from WHO GHO, 2010

TAXATION

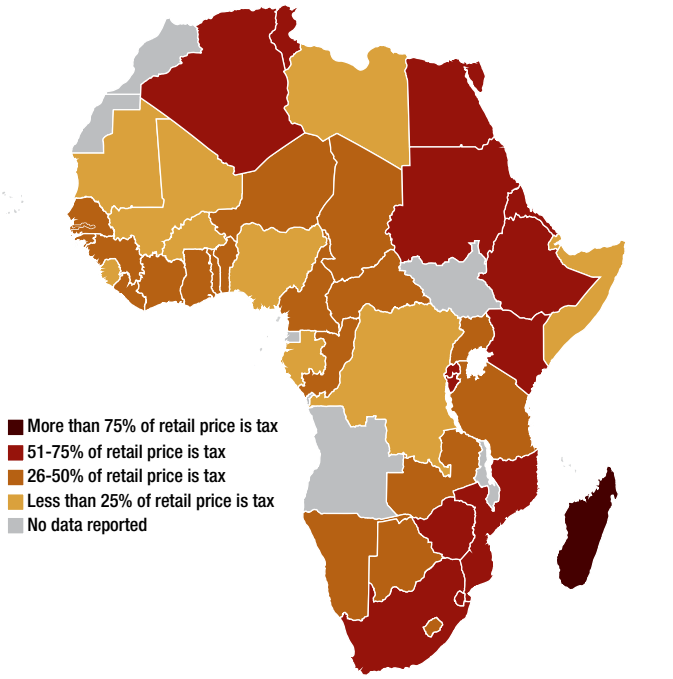
Tax levies are the most effective means of preventing tobacco use, by raising the barrier to initiation. It also leads to reduced consumption, as the opportunity cost of an expensive habit competes with other needs.

There are two types of taxes:

1. Specific taxes on a given quantity of a product (e.g., a tax paid on each pack of cigarettes sold); and
2. Ad valorem taxes as a percentage of price.

Some countries use both to maintain steady revenue as a barrier to tobacco industry influence on retail price and to keep up with inflation. Regardless of the mechanism, taxes should increase to keep costs above consumer purchasing power and inflation. At the same time, it is important to ensure that taxes are levied on all products, including those that are less expensive, to avoid substitution. Revenue earned through taxation can be used for other tobacco control measures; a use that often enjoys high approval among the general public.[73] Studies find that a 10% increase in tobacco price would result in a 6% decrease in tobacco consumption in LMICs.[74] WHO recommends that tobacco excise taxes be at least 70% of retail sales price. Few, if any, countries in Africa have achieved this best practice.

Figure 6: Implementation of Taxation Measures in Africa, 2010



Source: Compiled from WHO GHO, 2010

SUPPLY-FOCUSED INTERVENTIONS

Other types of interventions, particularly on the supply side, include age restrictions on purchases, crop substitution and diversification to reduce cultivation, higher tariffs on imports, and better tracking through the supply chain.[75] Based on current evidence, the MPOWER strategies have proved effective, while supply-side policies and interventions have had mixed results. Despite industry claims that reducing the supply of tobacco would have detrimental effects on employment and income, most independent studies show that money spent on cigarettes would be diverted to other retail and services-based outlets. In addition, appropriate crop diversification programs would prevent loss of income in the agricultural sector.

IMPLEMENTATION IN AFRICA

Implementation of these strategies has not been equal across all Parties to the FCTC, but most have implemented at least one strategy. In Africa, uptake has been variable:

- **PROTECT PEOPLE FROM TOBACCO SMOKE:** Few countries have policies on smoke-free environments. Libya, Egypt, Chad, Seychelles, Burkina Faso, and Namibia have relatively stronger policies compared with Guinea, Zambia, and Mauritius where the policies appear weaker. However, compliance within countries tends to be low.
- **OFFER HELP TO QUIT TOBACCO USE:** Most countries have some form of smoking cessation programs available, such as nicotine-replacement therapy (NRT), though costs are not always covered. Congo, Egypt, Cape Verde, Ethiopia, Mauritius, Lesotho, Senegal, Nigeria, Tanzania, and Uganda have at least one program cost-covered.
- **WARN ABOUT THE DANGERS OF TOBACCO:** Few countries have appropriate warnings on the health effects of smoking, either on packaging or in the media. Egypt is one member state that meets the highest level for both packaging and media campaigns, and Eritrea and Madagascar have instituted both packaging labels and media campaigns that meet most of the requirements. Mauritius and Djibouti have implemented large warnings on packaging, while Niger and Morocco have conducted comprehensive media campaigns.
- **ENFORCE BANS ON ADVERTISING, PROMOTION, AND SPONSORSHIP:** Chad, Eritrea, Kenya, Madagascar, and Niger all have complete bans on all forms of advertising, both direct and indirect. Several other countries have some forms of ban to varying degrees. Compliance with bans is variable.
- **RAISE TAXES ON TOBACCO PRODUCTS:** Almost all countries have some level of taxation with the highest tax levels are in Madagascar (76%) and Egypt (74%), and the lowest in Libya (2%), Somalia (10%), and Sao Tome and Principe (11%). However Malawi, Morocco, Angola, and Equatorial Guinea have no reported data.

Several countries have no reported tobacco control measures except taxation: Somalia, Burundi (56%), Guinea-Bissau (44%), Malawi, Mauritania (20%), São Tome and Principe, and Sierra Leone (39%). Most African countries who are Parties to the FCTC have plans to expand tobacco control, though full compliance with the FCTC with comprehensive tobacco control across the continent requires further effort (see Table 6).

Table 6: Status of Comprehensive Tobacco Control Legislation in Africa

COUNTRY	TOBACCO CONTROL LEGISLATION
BOTSWANA	Tobacco Products Control Bill (currently considered), 2012
BURKINA FASO	Implementation decrees to the 2010 Tobacco Control Act, January 2012
CAMEROON	Tobacco Control Bill (Currently considered by the President)
CHAD	Tobacco Control Act, May 2010
COMOROS	Tobacco Control Act amended, March 2011
CONGO	Tobacco Control Act adopted, July 2012
GHANA	Public Health (Tobacco Control Measures) Act, 2012
KENYA	Tobacco Control Act, September 2007; National Tobacco Control Action Plan, 2010
MALI	Tobacco Control Act, July 2010
MAURITIUS	Public Health Regulations (Restrictions on Tobacco Products), 2008
NAMIBIA	Tobacco Products Control Act, April 2010
NIGERIA	National Tobacco Control Bill passed by the Senate, March 2011
SENEGAL	Tobacco Control Bill (currently being finalized), 2013
SEYCHELLES	Tobacco Control Act, August 2009
SOUTH AFRICA	Regulations on Reduced Ignition Propensity (RIP) Cigarettes, May 2011; Regulations on Smoking in Public Places March, 2012; and on the Display of Tobacco Products at the Point of Sale, August 2012
SWAZILAND	Tobacco Products Control Bill, 2010
TOGO	Tobacco Control Act, December 2010
UGANDA	Tobacco Control Bill (submitted to Cabinet), 2012

Source: Correspondence with Tih A. Ntiabang, AFRO Regional Coordinator, Framework Convention Alliance

Box 3: Tobacco Control: Ghana

GHANA

Ghana has a partial ban on smoking in public spaces, and has had a complete ban on tobacco advertising since 1982. Most packaging warnings are small and smoking cessation programs, while they exist, are not state-funded. In addition, smoking prevalence in Ghana is currently low.

In a study by Owusu-Dabo and colleagues, a representative sample of residents of the Ashanti region of Central Ghana were surveyed on tobacco control measures. Questions addressed awareness of public education campaigns, smoking risks, tobacco advertising, no-smoking policies, and smoking cessation. The study results indicated that there is strong support for smoke-free legislation and programs, as well as smoking cessation programs, though few people claimed they had access to the latter, particularly in rural areas. There was also limited understanding of health effects in some segments of the population, but overall knowledge was high. The majority of respondents had never witnessed tobacco advertising, but 35% recalled hearing an ad on the radio or television. This reflects potentially, a failure to enforce the ban completely on smaller stations or broadcast networks. In addition, it is possible some of these advertisements were on channels or stations from neighboring countries, highlighting a need for regional approaches to control. Given the knowledge base and favorable support for tobacco control, coupled with lower prevalence of smoking, systematic and comprehensive tobacco control measures could be implemented at low cost and with great success.[76]

OBSTACLES TO TOBACCO CONTROL

While the global community has committed to tobacco control through the FCTC, obstacles remain for adequate implementation and provision. Financial hurdles, such as the economic benefit of production and the high cost of cessation programs, have stymied some efforts. Poverty and lower income are also barriers to access to cessation programs. They also inhibit access to knowledge about the harms of smoking which, despite considerable evidence, has not disseminated fully to the general public and sometimes even to policy makers. At the same time behavior and knowledge of health care providers, particularly those who smoke themselves, together with the influence of policymakers and politicians can be an impediment to successful tobacco control. A significant amount of misinformation also still persists regarding effects of tobacco control on the economy and development.

TOBACCO INDUSTRY

At direct odds with tobacco control, the tobacco industry loses when effective measures to prevent initiation and increase cessation are implemented. Thus, the tobacco industry engages in strategies to prevent reduction in demand, including marketing, misinformation, and government lobbying. At the international level, tobacco companies have long attempted to influence transnational bodies such as WHO, FAO, and The World Bank. Marketing, liberalization of trade, and to some extent illicit trade in tobacco, have bolstered tobacco industry attempts to resist tobacco control. While national level strategies can have strong effect within a country, addressing these global issues requires collaboration and coordination at multinational and regional levels, such as the AU and the UN.[78]

In documents revealed in a series of lawsuits in the US, tobacco industry tactics to increase tobacco use and thwart tobacco control have come to light. Publicly companies have claimed to recognize their products as "risky" and appear to agree with the need to prevent youth from taking up smoking. Privately, they have emphasized the addictive qualities of tobacco and the need to explore new ways to exploit these properties. The shift from marketing in HICs to LMICs is a result of seeking new markets, as barriers to uptake have been raised in HICs. Tobacco companies more recently have explored the establishment of agricultural lobbies, to promote the economic viability of tobacco farming in transitional economies. On the surface, tobacco as a cash crop seems a lucrative income generator in countries that rely on agriculture, but deeper examination exposes questions around contracting practices, environmental impact, and exploitation.[79]

Across the African continent, international tobacco companies have engaged in a number of practices to increase their presence, from buying local plants to building new ones, sponsoring concerts and sporting events, incorporating tobacco products in disaster relief packets, and placing much emphasis on supporting agricultural development and employment programs.[80] Tobacco companies continue to promote the idea of "green gold"—tobacco as a sustainable cash crop, as well as the idea that large numbers of people are employed in tobacco production although neither assertion is necessarily true. Nonetheless, one of the strongest arguments used by the tobacco industry is its economic benefit.[81]

ILLICIT TRADE

Data on the illicit trade of cigarettes are difficult to obtain, as illegal activities are hard to measure. Some proxies for measurement in the past have included the discrepancy between exports and imports, with the assumption that the cigarettes unaccounted for have disappeared into the black market. In 1996, that gap was estimated to be 42% and attributed to traditional large-scale smuggling, though this is a crude number that fails to take into account a number of other factors unrelated to illegal trade. In recent years, that gap has been reduced, but the nature of the trade has changed, most notably, the production of "cheap whites" or "illicit whites" which are legally produced by manufacturers but generally intended for illegal importation into another area. "Illicit whites" are easier to produce and trade than counterfeit products and are a growing segment of the market in some African countries. Currently, illegal trade of cigarettes amounts to approximately 6–12% of consumption in LMICs.[82]

Illicit trade in cigarettes poses a challenge to tobacco control because illegal cigarettes tend to be lower in price, an issue that could be overcome by lowering the price of legitimate cigarettes but which would undermine tobacco control efforts. Evidence shows that the illegal importation of cigarettes tends to be higher in countries with weaker state structures, higher levels of corruption and other contraband activity, regardless of taxation level. Illicit trade in tobacco is also associated with other black market and contraband items and other global issues such as money laundering and the financing of terrorist activities.[83] It also reduces revenue generated by legitimate trade, and increases availability of cigarettes to the general population and to youth. Measures to combat illicit trade in tobacco needs to be regional and transnational, and are being considered under the auspices of the FCTC.

GAPS AND NEXT STEPS

Many African Union Member States have made the commitment to reduce tobacco use and mitigate the health consequences. In order to achieve these ends, some further effort in the following areas is needed:

- **ADDITIONAL FULFILLMENT OF FCTC OBLIGATIONS.** While some progress has been made towards FCTC commitments, some measures need bolstering and others need to be implemented to ensure a full package that yields the maximum benefit. In particular, implementation of Article 5.3 of the FCTC would strongly counter the aggressive tactics of the tobacco industry.
- **REGIONAL COLLABORATION ON TOBACCO CONTROL.** Because of the global nature of tobacco use and trade, regional commitment needs to be reinforced and supported. Having previously committed to this issue, African leaders and the AU can play a crucial role in prioritizing tobacco control across the continent, and instituting processes to streamline FCTC compliance.
- **MORE ROBUST AND COMPREHENSIVE LOCAL DATA AND RESEARCH EFFORTS.** In order to fully determine the impact of tobacco use and farming (and promulgate such information to the public), more data need to be collected and analyzed at the country level. DHS surveys collect some of this data, and the Africa Tobacco Control Center supports some of this effort, but larger longitudinal studies could reveal vital information.
- **CONTINUED COUNTRY-LEVEL SITUATIONAL ANALYSIS.** The Africa Tobacco Control Center provides crucial information regarding each country's progress on tobacco control, and such information needs further analysis and consideration. As well, continued monitoring and needs assessment would provide useful information as to where research, funding, and implementation gaps lie.
- **INCREASE PUBLIC AWARENESS TO CHANGE BEHAVIOR.** Public awareness campaigns coupled with behavior change communication techniques are essential to begin the process of changing both attitudes and behavior about smoking and tobacco use. National and local health promotion campaigns can take place in public spaces such as schools as well as on radio and television. Promoting a desirable healthy and attractive non-smoking image is key to social marketing.
- **RENEWED COMMITMENT FROM THE GLOBAL COMMUNITY.** Again, given that the trade of tobacco is worldwide, investment from international players and HICs towards alternative agricultural practices and reduced cigarette production would have a collective benefit.

ENDNOTES

1. Traditionally, most research on tobacco focused on cigarette use, as that is predominant in high-income countries (HICs). While also common in low- and middle-income countries (LMICs), other forms of tobacco are also prevalent. However, most data that exist reflect statistics on cigarettes, which can serve as a proxy for other forms of tobacco, and it can be assumed that cigarette data reflect a conservative estimate of all-tobacco use. There are a few countries where cigarette use is not the predominant form of tobacco use, though this is also rapidly changing. It should also be noted that validated, population-based data, which take time and resources to collect and verify, are often several years out of date. Where possible, data from small-scale studies or reports in Africa have been included.
2. CTFK, 2013
3. Peto et al., 1992
4. Lim et al., 2012
5. Lopez et al., 1994; Thun et al., 2012
6. Lopez et al., 1994
7. Khoo et al., 2010
8. Mathers and Loncar, 2006
9. Cabrera and Gostin, 2011
10. ITGA, 2012
11. Gates Foundation, 2011
12. BAT, 1991; Peltzer, 2011
13. Shafey et al., 2003
14. Pampel, 2008
15. Jha et al., 2006
16. Eriksen et al., 2012
17. Stanford University Global Tobacco Prevention Research Initiative, 2012
18. Drum Commodities, 2012
19. WHO TFI, 2012
20. Jha et al., 2006
21. CDC, 2012
22. HHS, 2004
23. Eriksen et al., 2012
24. Eriksen et al., 2012
25. Eriksen et al., 2012
26. WHO TFI, 2011
27. Abdallah and Husten, 2004
28. Underner and Perriot, 2012
29. Tobacco dependence is a recognized disease in both the International Classification of Diseases (ICD)–10 and the Diagnostic and Statistical Manual of Mental Disorders (DSM)–IV.
30. Abdallah and Husten, 2004
31. den Boon et al., 2005
32. den Boon et al., 2007
33. Tachfouti et al., 2011
34. WHO, 2011a
35. WHO, 2011a; World Bank, 2011
36. Beaglehole et al., 2011
37. WHO, 2011a WHO, 2011b
38. WHO, 2011a
39. WHO, 2011a
40. WHO TFI, 2012
41. Geist et al., 2009
42. World Bank, 2011
43. WHO TFI, 2004a
44. World Bank, 2011
45. World Bank, 2011
46. Relative income price is the percentage of per capita GDP required to purchase 100 packs of cigarettes. It is the inverse of affordability.
47. Eriksen et al., 2012
48. WHO TFI, 2004b
49. World Bank, 2011
50. FAO, 2003
51. Ericksen et al., 2012
52. WHO TFI, 2004a
53. WHO TFI, 2004a
54. Lecours et al., 2012
55. Lecours et al., 2012
56. Lecours et al., 2012
57. WHO TFI, 2004a
58. Geist et al., 2009
59. Helmut Geist et al., 2008
60. Jha et al., 2006
61. Shafey et al., 2003
62. WHO, 2005
63. WHO, 2011b
64. Jha et al., 2006
65. IOM, 2012
66. WHO, 2008
67. Méndez et al., 2013
68. WHO, 2008
69. WHO, 2008
70. WHO, 2008
71. WHO, 2008
72. Thornley and Marsh, 2010
73. WHO, 2008
74. CFTK, 2012
75. Jha et al., 2006
76. Owusu–Dabo et al., 2011
77. Abdullah and Husten, 2004
78. Yach and Bettcher, 2000
79. Yach and Bettcher, 2000
80. Shafey et al., 2003
81. Jha and Chaloupka, 2000
82. Joosens and Raw, 2012; Jha et al., 2006
83. Joosens and Raw, 2012

REFERENCES

ASM Abdullah and Husten CG. 2004. Promotion of smoking cessation in developing countries: a framework for urgent public health interventions. Thorax 59:623–630

OA Cabrera and Gostin L. 2011. Human rights and the Framework Convention on Tobacco Control: mutually reinforcing systems. International Journal of Law in Context. 7(3):285–303.

BAT (British American Tobacco Ltd.). 1991. The Cigarette Market in Nigeria—Qualitative Consumer Behavior and Brand Status Study. http://tobaccodocuments.org/landman/503886993-7036.html. Accessed: 20 March, 2013.

R Beaglehole, Bonita R, Horton R, Adams C, Alleyne G, et al. 2011. Priority actions for the non–communicable disease crisis. Lancet 377(9775): 1438–1447

CTFK (Campaign for Tobacco Free Kids). 2010. The Millennium Development Goals and Tobacco Control. http://global.tobaccofreekids.org/files/pdfs/en/MDGs_en.pdf Accessed: 20 March 2013.

CTFK (Campaign for Tobacco Free Kids). 2012. Taxation and Price. http://global.tobaccofreekids.org/files/pdfs/en/TAX_essential_facts_en.pdf Accessed: 20 March 2013.

CTFK (Campaign for Tobacco Free Kids). 2013. Toll of Tobacco around the World. http://www.tobaccofreekids.org/facts_issues/toll_global/ Accessed: 1 March 2013.

CDC (Centers for Disease Control and Prevention). 2012. Health Effects of Cigarette Smoking. http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/. Accessed: 1 March 2013.

S den Boon, van Lill SWP, Borgdorff MW, Verver S, Bateman ED, Lombard CJ, Enarson DA and Beyers N. 2005. Association between smoking and tuberculosis infection: a population survey in a high tuberculosis incidence area. Thorax 60:555–557

S den Boon, Verver S, Marais BJ, Enarson DA, Lombard CJ, Bateman ED, Irusen E, Jithoo A, Gie RP, Borgdorff MW and Beyers N. 2007. Association between passive smoking and infection with mycobacterium tuberculosis in children. Pediatrics 119(4): 734–739

SG Dolwick, Guindon E, and Shafey O. 2003. Tobacco Control Country Profiles. Atlanta, Georgia: American Cancer Society.

Drum Commodities. 2012. An African Tobacco Production Perspective: An Executive Summary. Somserset, England: Drum Resources Limited.

M Eriksen, Mackay J and Ross H. 2012. The Tobacco Atlas. 4th edition. Atlanta, GA: American Cancer Society; New York, NY: World Lung Foundation. Also available at www.TobaccoAtlas.org.

FAO (Food and Agriculture Organization). 2003. Projections of Tobacco Production, Consumption and Trade to the Year 2010. Rome, Italy: FAO.

Gates Foundation. 2011. Tobacco Strategy Overview. http://docs.gatesfoundation.org/topics/documents/tobacco–strategy–overview–1123.pdf. Accessed: 1 March 2013.

HHS (U.S. Department of Health and Human Services). 2004. The Health Consequences of Smoking: A Report of the Surgeon General. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

HJ Geist, Otañez M, and Kapito J. 2008. "The Tobacco Industry in Malawi: A Globalized Driver of Local Land Change" In Land Change Science in the Tropics: Changing Agricultural Landscapes. Millington A and Jepson W, eds. New York, New York: Springer.

HJ Geist, Chang KT, Etges V and Abdallah JM. 2009. Tobacco growers at the crossroads: towards a comparison of diversification and ecosystem impacts. Land Use Policy 26:1066–1079.

IOM (Institute of Medicine). 2012. Scientific Standards for Studies on Modified Risk Tobacco Products. Washington, DC: National Academies Press.

ITGA (International Tobacco Growers; Association). 2012. Tobacco Types. http://www.tobaccoleaf.org/conteudos/default.asp?ID=18&IDP=5&P=5. Accessed: 1 March 2013.

P Jha and Chaloupka FJ, eds. 2000. Tobacco Control in Developing Countries. Oxford: Oxford University Press.

P Jha, Chaloupka FJ, Moore J, Gajalakshmi V, Gupta PC, Peck R, Asma S and Zatonski W. 2006. "Tobacco Addiction" In Disease Control Priorities in Developing Countries, 2nd edition. Jamison DT, Breman JG, Measham AR, Alleyne G, Claeson M, Evans D, Jha P, Mills A, and Musgrove P, eds. Washington, DC: World Bank.

L Joossens and Raw M. 2012. From cigarette smuggling to illicit tobacco trade. Tobacco Control 21(2):230–234.

D Khoo, Chiam Y, Ng P, Berrick AJ and Koong HN. 2010. Phasing–out tobacco: proposal to deny access to tobacco for those born from 2000. Tobacco Control 19(5):355–360.

N Lecours, Almeida G and Abdallah J. 2012 Environmental health impact of tobacco farming: a review of literature. Tobacco Control 21:191–6.

S Lim, Vos T, et al. 2012. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990—2010: a systematic analysis for the Global Burden of Disease Study 2010. The Lancet 380(9859):2224–2260.

AD Lopez, Collishaw N and Piha T. 1994. A descriptive model of the cigarette epidemic in developed countries. Tobacco Control 3:242–247.

CD Mathers and Loncar D.2006. Projections of Global Mortality and Burden of Disease from 2002 to 2030. PLoS Medicine 3(11):e442.

D Méndez, Alshanqeety O, Warner KE. 2013. The potential impact of smoking control policies on future global smoking trends. Tobacco Control 22(1):46–51.

E Owusu-Dabo, Lewis S, McNeill A, Gilmore A, and Britton J. 2011. Support for smoke-free policy, and awareness of tobacco health effects and use of smoking cessation therapy in a developing country BMC Public Health 11: 572.

F Pampel. 2008. Tobacco use in sub-Sahara Africa: Estimates from the demographic health surveys. Social Science & Medicine 66(8):1772–1783.

K Peltzer. 2011. Early smoking initiation and associated factors among in-school male and female adolescents in seven African countries. African Health Sciences. 11(3): 320–328.

R Peto, Lopez AD, Boreham J, Thun M and Heath C. 1992. Mortality from tobacco in developed countries: indirect estimation from national vital statistics. Lancet 339(8804):1268–1278.

O Shafey, Dolwick S and Guindon GE, eds. 2003. Tobacco Control Country Profiles, 2nd edition. Atlanta, Georgia: America Cancer Society.

Stanford University Global Tobacco Prevention Research Initiative. 2012. Cigarette Citadels. http://TobaccoResearch.Stanford.edu. Accessed: 1 March 2013.

N Tachfouti, Nejjari C, Benjelloun MC, Berraho M, Elfakir S, El Rhazi K and Slama K. 2011. Association between smoking status, other factors and tuberculosis treatment failure in Morocco. International Journal of Tuberculosis and Lung Disease 15(6):838–843.

L Thornley and Marsh K. 2010. What Works in Social Marketing to Young People? New Zealand: Quigley and Watts Ltd.

M Thun, Peto R, Boreham J and Lopez AD 2012. The tobacco epidemic today: stages of the cigarette epidemic on entering its second century. Tobacco Control 21:96–101.

M Underner and Perriot J. 2012. Smoking and tuberculosis. La Presse Médicale. 41(12):1171–1180.

JN Walton, Barondess JA and Lock A. 1994. The Oxford Medical Companion. New York, New York: Oxford University Press.

World Bank. 2011. The Growing Danger of Non-Communicable Diseases: Acting Now to Reverse Course. Washington, DC: World Bank.

WHO (World Health Organization). 2005. WHO Framework Convention on Tobacco Control. Geneva, Switzerland: WHO.

WHO (World Health Organization). 2008. MPOWER: A Policy Package to Reverse the Tobacco Epidemic. Geneva, Switzerland: WHO.

WHO (World Health Organization). 2011a. Global Status Report on Noncommunicable Diseases. Geneva, Switzerland: WHO.

WHO (World Health Organization). 2011b. WHO Report on the Global Tobacco Epidemic: Warning about the Dangers of Tobacco. Geneva, Switzerland: WHO.

WHO GHO (World Health Organization Global Health Observatory). 2010. Situation in WHO African Region. http://www.who.int/gho/tobacco/policies/region_africa/en/index.html. Accessed: 1 March 2013.

WHO TFI (World Health Organization Tobacco Free Initiative). 2004a. Tobacco Increases the Poverty of Countries. http://www.who.int/tobacco/communications/events/wntd/2004/tobaccofacts_nations/en/index.html. Accessed: 1 March 2013.

WHO TFI (World Health Organization Tobacco Free Initiative). 2004b. Tobacco Increases the Poverty of Individuals and Families. http://www.who.int/tobacco/communications/events/wntd/2004/tobaccofacts_families/en/index.html. Accessed: 1 March 2013.

WHO TFI (World Health Organization Tobacco Free Initiative). 2011. Global Estimate of the Burden of Disease from Second-hand Smoke. Geneva, Switzerland: WHO.

WHO TFI (World Health Organization Tobacco Free Initiative). 2012. WHO Global Report: Mortality Attributable to Tobacco. Geneva, Switzerland: WHO.

D Yach and Bettcher D. 2000. Globalisation of tobacco industry influence and new global responses. Tobacco Control 9:206–216.

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