PREVENTING A TOBACCO EPIDEMIC IN AFRICA

A CALL FOR EFFECTIVE ACTION TO SUPPORT HEALTH, SOCIAL, AND ECONOMIC DEVELOPMENT

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ACRONYMS

ATSA	African Tobacco Situation Analysis
AU	African Union
DALYs	Disability-Adjusted Life Years
FCA	Framework Convention Alliance
FCTC	Framework Convention on Tobacco Control
GATS	Global Adult Tobacco Survey
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IDRC	International Development Research Centre
ITGA	International Tobacco Growers' Association
NCD	Noncommunicable Disease
NGO	Nongovernmental Organizations
STEPS	STEPwise approach to Surveillance
UN	United Nations
U.S.	United States
VALD	Vision for Alternative Livelihood Development
WHO	World Health Organization

INTRODUCTION

"Although tobacco use continues to be the leading global cause of preventable death, there are proven, cost-effective means to combat this deadly epidemic."
—WHO Report on the Global Tobacco Epidemic, 2013

In April 2013, the Network of African Science Academies convened a committee of experts to discuss the evidence, obstacles, and opportunities for implementing and enforcing tobacco use prevention and control policies in Africa. The committee, consisting of 16 experts drawn from 8 countries in Africa, met for 3 days in Kampala, Uganda, with funding administered by the Campaign for Tobacco Free Kids. Each distinguished committee member was selected for his or her in-depth tobacco-specific knowledge in areas including agriculture, policy, economics, social science, health, and the environment.

The committee reviewed and assessed the evidence on the state of tobacco use and tobacco production and their detrimental health, economic, and environmental effects in Africa. The committee also reviewed efforts currently under way to prevent and control tobacco use, including the status of adoption and ratification of the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC). Based on this evidence, the committee reached consensus on actions that African leaders and other stakeholders should take to combat this growing threat. This report presents the committee's evidence-based recommendations for tobacco control in Africa. It outlines strategies that should place tobacco control policy on the African leadership agenda, and also calls upon other groups, such as civil society organizations, to share in the responsibility of protecting those most vulnerable to misleading and deceitful messaging by the tobacco industry.[1]

[1] In this report, "tobacco industry" refers primarily to large multinational companies that purchase the bulk of tobacco leaves, but may also include smaller regional or national companies that purchase tobacco leaves and manufacture tobacco products, as well as the representatives of these companies.

An Epidemic in the Making

Tobacco is estimated to kill up to one of every two users. No other risk factor carries such a high mortality rate and costs more than half a trillion dollars in economic damages annually (WHO, 2013b). As the use of tobacco has declined in high-income countries, the tobacco industry has increasingly turned to low- and middle-income countries, particularly in Africa, Asia, and Eastern Europe, to recruit new users. Without comprehensive tobacco prevention and control policies, it is estimated that smoking prevalence in the African region will increase by nearly 39 percent by 2030, from 15.8 percent in 2010 to 21.9 percent[2]– the largest expected regional increase globally (Blecher and Ross, 2013; Mendez et al., 2013). Increasing prevalence, combined with sustained economic growth and changing population dynamics, could drive tobacco consumption in Africa to double within the next 10 years (Baleta, 2010). The morbidity and mortality caused by such an increase in tobacco use and exposure could have devastating effects on health, development efforts, and economic growth in African countries.

As the use of tobacco has declined in high-income countries, the tobacco industry has increasingly turned to low- and middle-income countries, particularly in Africa, Asia, and Eastern Europe, to recruit new users.

In recognition of the threat posed by tobacco use and exposure, member states of WHO adopted the FCTC in 2003. This international treaty prescribes evidence-based, cost-effective interventions for reducing the supply of and demand for tobacco to prevent disease, disability, and mortality caused by tobacco use (see Table 1). Most countries in Africa have signed and ratified the FCTC, but they have not yet fully implemented the interventions described in the treaty's provisions (see Table 2). Until now, the comparatively low number of current tobacco users in Africa may explain the false sense of security and complacency in this area, especially in the context of other infectious and noninfectious disease priorities that African nations face. However, prompt implementation of interventions described in the FCTC could reduce projected smoking prevalence by half and mitigate the health effects, as well as the economic and development costs, of an African tobacco-related disease epidemic (Blecher and Ross, 2013; Mendez et al., 2013).

[2] An increase from 15.8 to 21.9 (6.1 percentage points) represents a 38.6 percent increase in prevalence.

TABLE 1: Summary of Framework Convention on Tobacco Control Provisions

Provisions	Article
Measures to Reduce Demand	
Prevent tobacco industry interference in public policy	5.3
Price and tax measures	6
Nonprice measures to reduce the demand for tobacco	7
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	
Elimination of the illicit trade of tobacco products	15
Restriction of sales to and by minors	16
Support for economically viable alternatives for tobacco growers and farm workers	17
Protection of the Environment	
Protection of the environment and health of people	18

SOURCE: WHO, 2003a.

TABLE 2: Number of African Countries That Have Achieved Full Implementation of Selected Demand-Reducing Measures prescribed in the Framework Convention on Tobacco Control

FCTC Provision	Measure of Achievement	Countries That Have Fully Implemented FCTC Provision
Monitor tobacco use and prevention policies	Recent, representative and periodic data is available for both adults and youth	Mauritius, Togo, Swaziland
Protect from tobacco smoke	All public places completely smoke-free	Burkina Faso, Chad, Congo, Namibia, Seychelles
Offer help to quit tobacco use	National quit line, and both nicotine replacement therapy and some cessation services cost-covered	0
Warn about the dangers of tobacco: Health warning labels	Large, graphic health warnings on tobacco products	Madagascar, Mauritius, Niger, Seychelles
Warn about the dangers of tobacco: Anti-tobacco mass media campaigns	National campaign conducted with at least seven appropriate characteristics	Madagascar, Mauritius, Niger, Seychelles
Enforce bans on tobacco advertising, promotion and sponsorship	Ban on all forms of direct and indirect advertising	Chad, Eritrea, Ghana, Guinea, Kenya, Madagascar, Mauritius, Niger, Togo
Raise taxes on tobacco	Tax is greater than 75% of retail price on cigarettes	Madagascar

NOTE: To ensure consistency, the information presented in the table is based on the *2013 WHO Report on the Global Tobacco Epidemic*. Specific details about the measures of achievement are available in the report. Additional countries may have achieved full implementation of FCTC measures since the 2013 report was published.

SOURCE: WHO, 2013d.

Governance

Given the power and influence of the tobacco industry, strong national, regional, and continental commitment and leadership are required to ensure the success of tobacco prevention and control strategies. During the FCTC negotiations, African governments took leadership and initiative in drafting the treaty text (Shafey et al., 2003; WHO, 2013d). As part of the commitment to a "tobacco-free Africa," the majority of African countries have ratified or acceded to the FCTC (Eriksen et al., 2012). However, despite a strong international treaty and well-developed evidence-based policies, African countries have been slow in creating the FCTC policies they pledged to implement and in committing the financial resources necessary for effective tobacco prevention and control measures.

Competing Priorities

In the last decade, infectious diseases have been the primary causes of morbidity and mortality in Africa and have taken political and financial priority over controlling risk factors such as tobacco for noncommunicable diseases (NCDs).[3] The African Union (AU) and individual member states committed to building "an effective, African-driven response to reduce the burden of disease and disability," and there have been impressive improvements in health across the continent (AU, 2007, p. 5). The health of women and children has improved: maternal mortality declined 41 percent between 1990 and 2011, from 920 to 500 deaths per 100,000 live births (UNFPA, 2013), and the reduction in child mortality has greatly accelerated in the last 12 years (UNICEF, 2013). Deaths from HIV/AIDS have also declined—32 percent between 2005 and 2011—and 13 African countries have seen the rate of new HIV infections fall by more than 50 percent (UNAIDS, 2012). The successes around infectious diseases now need to be translated to combating growing rates of NCDs on the continent and their risk factors, particularly tobacco use.

While tobacco use and tobacco-attributable mortality rates in Africa are currently among the lowest in the world, this situation will change as the century progresses if current trends continue. Based on the four-stage epidemiological model often used to characterize the progression of the tobacco epidemic (see Figures 1 and 2), the continued increase in cigarette smoking in Africa will be followed by a sharp increase in mortality attributable to tobacco (Lopez et al., 1994; Shafey et al., 2003).[4] Most sub-Saharan African countries are in the early stages of both male and female smoking epidemics and have valuable opportunities for intervention and primary prevention (Eriksen et al., 2012; Esson and Leeder, 2004).

[3] NCDs are the primary causes of death globally and include cardiovascular diseases, chronic respiratory diseases, cancers, diabetes, gastrointestinal diseases, renal diseases, and neurological and mental health disorders. Tobacco use is a risk factor for cardiovascular diseases, chronic respiratory diseases, and cancers (WHO, 2011a).

[4] The model, originally proposed in 1994 by Lopez and colleagues and adopted by WHO and other organizations, outlines stages of tobacco use and its effects on mortality, based on more than 100 years of observation of smoking in high-income countries (Lopez et al., 1994).

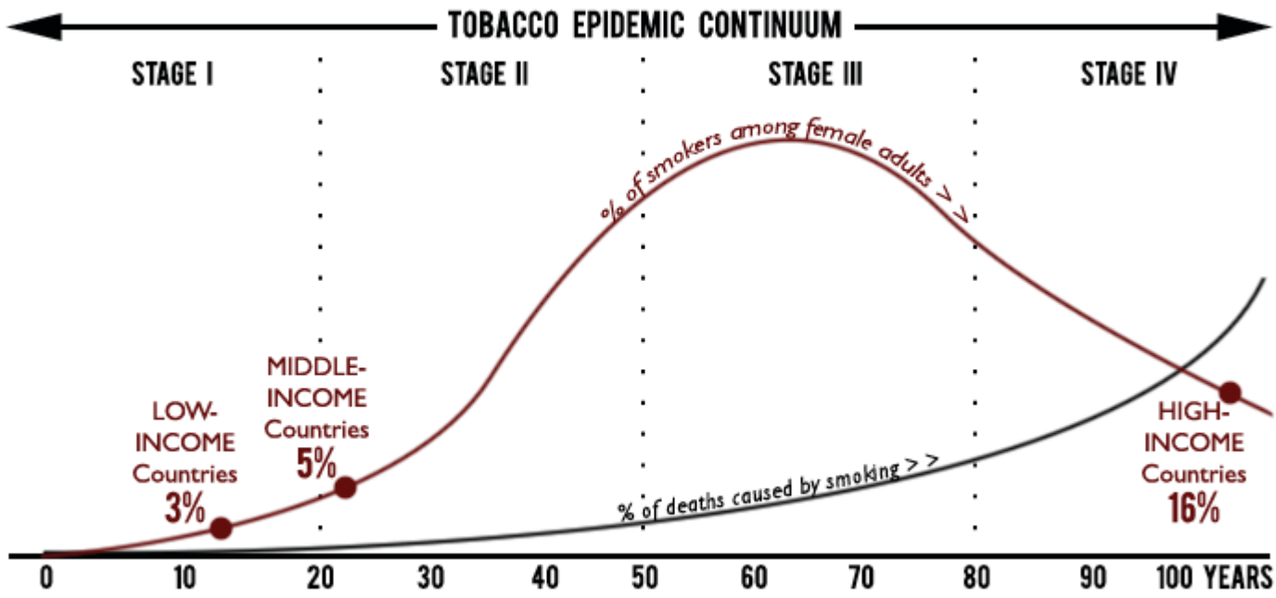

FIGURE 1: Female smoking prevalence (2010) overlaid on the tobacco epidemic continuum.
SOURCE: The Tobacco Atlas, 2013a.

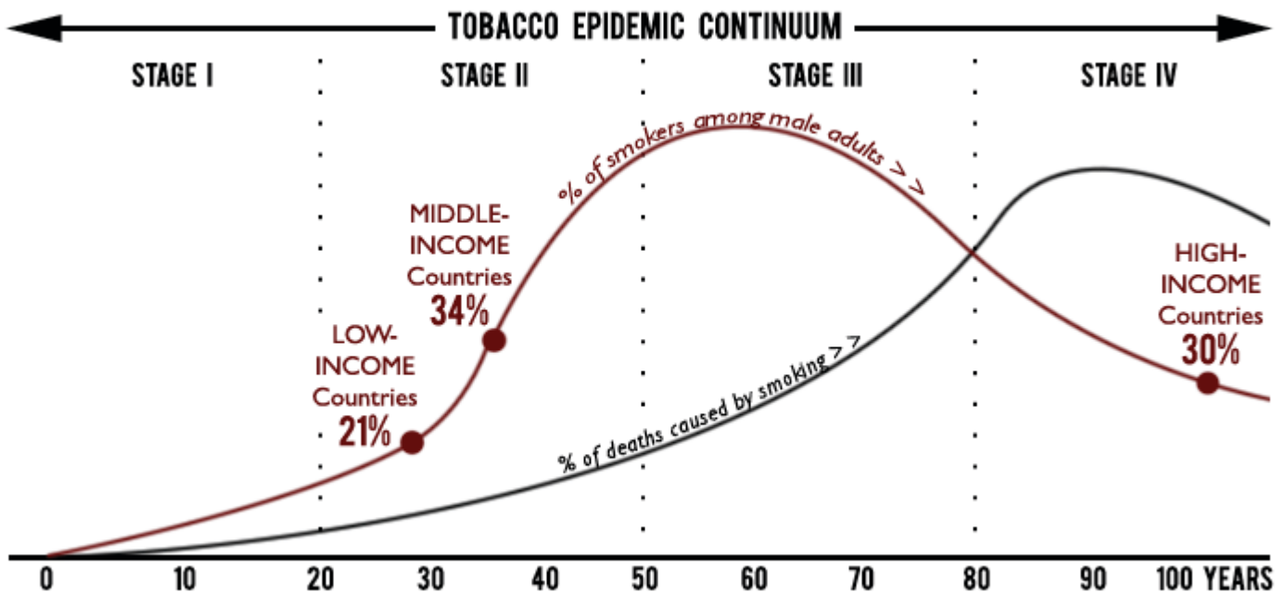

FIGURE 2: Male smoking prevalence (2010) overlaid on the tobacco epidemic continuum.
SOURCE: The Tobacco Atlas, 2013b.

FINANCIAL RESOURCES FOR TOBACCO CONTROL

Despite the fact that interventions to reduce demand for tobacco are extremely cost-effective, many countries have failed to invest the appropriate financial resources for implementation of such interventions. The median cost to implement a package of FCTC interventions (smoke-free policies, increased tobacco taxes, package warnings, advertising bans, and media campaigns) is estimated at between US$0.05 per capita per year in low-income countries and US$0.15 in upper-middle-income countries (WHO, 2011b). However, WHO estimates that only US$0.003 to US$0.011 is spent per capita per year on tobacco control in low- and middle-income countries, and only 1 percent of total development assistance for health was spent on any form of NCD prevention in 2009. More than half of this assistance came from private development partners (FCA, 2013; WHO, 2013b). In the last few years, however, civil society groups, advocates, and health professionals have propelled NCDs to the top of the global health agenda (Alleyne et al., 2013; UN General Assembly, 2011). The growing attention to NCDs has been described as "the social justice movement" of the current generation, and new public-private partnerships have been formed to focus political attention and financial support on the prevention and treatment of NCDs (Adams, 2013; Kelly et al., 2012; Quick, 2011).

The committee concludes: Strong commitment and leadership have been provided by the AU Heads of State and Government, the AU Commission, regional economic communities, and national governments in addressing large-scale health problems such as HIV/AIDS and maternal and child mortality. While African countries displayed leadership in the negotiations for the FCTC and the United Nations (UN) High Level Meeting on NCDs in 2011, and some countries have begun implementing their obligations, there has been an overall lag across the continent.

Therefore the committee recommends: The AU should build on these previous health successes by capitalizing on the momentum of the current NCD movement and leading the way in reducing tobacco use, particularly given that it is one of the largest risk factors for NCDs.

Therefore the committee recommends: The AU should encourage those countries that have not signed the FCTC to accede to the treaty, those who have signed should ratify the treaty, and all countries should begin or continue implementing high-priority tobacco prevention and control obligations.

THE ROLE OF CIVIL SOCIETY ORGANIZATIONS AND INTERNATIONAL DEVELOPMENT PARTNERS

Given the scarcity of resources and competing priorities in the health sectors of many African countries, there is a role for civil society organizations, nongovernmental organizations (NGOs), and international development partners in supporting tobacco control. Article 4.7 of the FCTC notes that "the participation of civil society is essential in achieving the objectives of the Convention and its protocols" (WHO, 2003b, p. 6). To support this participation and general implementation of the FCTC, the Framework Convention Alliance (FCA) was formed among several hundred NGOs from around the globe, including Africa. The FCA's goals are to serve a watchdog function, develop capacity, and support tobacco control measures. NGOs and other entities in civil society can fill these roles and others, such as data collection, monitoring and evaluation, and other research functions, given adequate will and support. NGOs can also be useful in developing and carrying out public awareness and education campaigns, mobilising financial and technical resources, advocating for adoption and enforcement of effective legislation, and serving as "whistleblowers" for tobacco industry tactics (Yach and Bettcher, 2000).

Civil society organizations are groups that represent the needs of their communities. They can reach populations that governments cannot, and they are independent from government and less sensitive to political priorities than governments. They can serve as gatekeepers and collaborating platforms as well, increasing access to difficult-to-reach and vulnerable groups and preventing redundancy. In Ghana, Vision for Alternative Livelihood Development (VALD) is one such organization. VALD works to educate the public on the harmful effects of tobacco use, and also builds capacity for effective implementation and enforcement of national tobacco control policies (GNA, 2013; VALD, 2010). Two resource centers working on tobacco control in Africa are the Center for Tobacco Control in Africa and the Africa Tobacco Control Alliance. These centers partner with a wide range of regional and country stakeholders to offer support, resources, technical assistance, and guidance for the implementation of effective tobacco control.

International development partners have played a role in offering financial and technical assistance for tobacco prevention and control in Africa. The three largest international development partners are the Bloomberg Philanthropies, the Bill and Melinda Gates Foundation, and the Canadian International Development Research Centre (IDRC). In 2008, Michael Bloomberg and Bill Gates partnered to commit $500 million through their organizations to assist developing countries in implementing effective tobacco control policies. One target of this combined initiative is to support Africa and help prevent a tobacco epidemic from "taking

root" (BMGF, 2008, p. 1). The goal of the initiative is to support and increase the speed of implementation and uptake of the proven strategies of the MPOWER package. The MPOWER package, introduced by WHO in 2008, provides countries with practical, cost-effective strategies for implementing and monitoring the measures called for in the FCTC (WHO, 2008). In 2008, IDRC, a Canadian Crown corporation, partnered with the Bill and Melinda Gates Foundation to support an initiative, the African Tobacco Situation Analysis (ATSA) project, focused on understanding the determinants of tobacco control in Africa, including opportunities, obstacles, capacity, and status (IDRC/CRDI, 2013). Beyond this support, IDRC funds additional tobacco control research and initiatives in Africa.

Therefore the committee recommends: Tobacco prevention and control stakeholders should develop appropriate mechanisms for greater coordination and collaboration within and between the continental, national, and local levels:

- The AU Heads of State and Government should provide leadership in continental tobacco prevention and control, with a central coordinating mechanism housed at the AU Commission that allows member states to share their progress, challenges, opportunities, and requests for assistance on a yearly basis.

- African government leaders should initiate a whole-of-government approach under the auspices of a central body in accordance with FCTC Article 5.2(a) to coordinate national tobacco prevention and control efforts, including those of civil society and other nonstate actors.

- Civil society organizations, NGOs, academic institutions, and research organizations should cultivate multisectoral partnerships, in conjunction with local and national governments, to build community-level support and incentives for reducing access and exposure to tobacco.

If tobacco control efforts are to be successful, the AU and African governments will need to understand, avoid, and overcome the variety of tactics used by the tobacco industry to undermine Africa's health, economy, and development.

UNDERSTANDING AND OVERCOMING THE TOBACCO INDUSTRY'S TACTICS

Global, national, and household economies benefit from tobacco prevention and control policies, but tobacco companies have always opposed efforts to reduce tobacco use and consumption. There is significant evidence of the illegal and legal tactics they have employed to thwart tobacco prevention and control efforts and to offset the impact of existing regulations (Lee et al., 2012; Moodie et al., 2013). Globally, the tobacco industry has pursued economic, political, and targeted marketing strategies to achieve its goals. If tobacco control efforts are to be successful, the AU and African governments will need to understand, avoid, and overcome the variety of tactics used by the tobacco industry to undermine Africa's health, economy, and development.

Economic Tactics of the Tobacco Industry

To increase profits, the tobacco industry has routinely employed both illegal and legal economic strategies to increase markets for tobacco so as to promote tobacco consumption (Lee et al., 2012). Globalization and economic liberalization have provided new opportunities for the tobacco industry to consolidate power through transnational mergers and acquisitions. The industry is now controlled largely by four multinational corporations that have amassed significant financial, political, and social influence: British American Tobacco, Imperial Tobacco Group, Japan Tobacco International, and Philip Morris International (Joossens and Gilmore, 2013; Lee et al., 2012). In an increasingly globalized world, many low- and middle-income countries have adopted more liberal economic policies and trade agreements, resulting in more open markets, while global economic development has simultaneously increased low- and middle-income countries' purchasing power (Taylor et al., 2000). As cigarettes have become increasingly affordable in these countries, the strategies of the tobacco industry have been successful. From 1997 to 2009, tobacco sales increased 2 percent annually in these countries, as opposed to 0.1 percent in high-income countries (Li and Guindon, 2013; Moodie et al., 2013).

Across the African continent, international tobacco companies convinced many governments that tobacco production and the manufacture of tobacco products would lead to economic development. 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, and one of the strongest arguments used by the tobacco

industry is its economic benefit (Jha and Chaloupka, 2000; Lee et al., 2012). Tobacco companies have established agricultural lobbies, such as the International Tobacco Growers' Association (ITGA), to promote the economic viability of tobacco farming in transitional economies (Otañez et al., 2009). On the surface, tobacco as a cash crop appears to be a lucrative income generator in countries that rely on agriculture, but deeper examination exposes questions around contracting practices; environmental impact; exploitation; and negative health effects, such as green tobacco sickness (Lecours et al., 2012; Yach and Bettcher, 2000). Today, African countries that are dependent on tobacco are among the world's poorest, and tobacco companies continue to exploit African farmers while driving communities and households further into poverty (ASH, 2008; Otañez, 2008).

Historically, tobacco companies actively participated in illegal smuggling of tobacco products to the African continent as a tactic for penetrating markets in countries, such as Uganda and Malawi, that restricted tobacco imports and for creating demand for their products (ASH, 2008; Joossens and Gilmore, 2013; Lee et al., 2012). Illicit trade in tobacco products—which includes smuggled goods as well as illegally manufactured goods—continues to be a challenge for African countries by undermining efforts to improve public health and circumventing customs revenue (an important source of income for many African governments) (Lee et al., 2012; Legresley et al., 2008; Transcrime, 2012). Limited data are available on the extent of illicit trade in Africa, as illegal activities are difficult to measure, but recent estimates on the illegal trade of cigarettes suggest that approximately 6–12 percent of their consumption in low- and middle-income countries is illicit (Jha et al., 2006; Joossens and Raw, 2012). Some tobacco companies have pledged to help curb illicit trade of tobacco products, but since these same companies have a history of disregarding national borders and laws to maximize profits, these promises should be viewed with caution (Joossens and Gilmore, 2013; Legresley et al., 2008).

Article 6 of the FCTC requires Parties to consider prohibiting or restricting the sale and import of tax-free and duty-free tobacco products (WHO, 2003a), and in November 2012, Parties to the FCTC adopted the Protocol to Eliminate Illicit Trade In Tobacco Products to address this issue more comprehensively. Measures include adopting effective control and tracking regulations, increasing national authorities tasked with detecting and deterring illicit trade, cooperating to share information and technology and enhance law enforcement, and providing financial resources as necessary (UN, 2012). The Protocol is currently open for signature and has yet to be entered into force.

> **The committee recommends:** Countries should sign and ratify the Protocol to Eliminate Illicit Trade in Tobacco Products.

Political Tactics of the Tobacco Industry

To counter tobacco prevention and control strategies, the tobacco industry actively participates in national and transnational politics, deliberately spreads misinformation, and has financed biased research to deceive and misinform the public about the effects of tobacco (Lee et al., 2012; Moodie et al., 2013). Within countries, local and international tobacco companies often lobby policy makers to oppose tobacco regulations, and in some countries, tobacco company executives hold high-level positions within the government or national advisory bodies (Goma et al., 2011; KTSA Consortium, 2011; Ouedraogo et al., 2011). The tobacco industry spends millions of dollars every year to influence legislation and has formed "front groups" to oppose tobacco control policies from a seemingly independent perspective (Eriksen et al., 2012). In Zambia, one tobacco company is known to provide incentives to policy makers, and has even proposed less stringent regulations in place of tobacco control policies (Goma et al., 2011). In Kenya, tobacco companies have filed lawsuits to challenge the implementation of tobacco control legislation (KTSA Consortium, 2011). To erode voter support for tobacco control regulations, the industry has also paid scientists and health professionals to publish biased research to counter information on the negative health effects of tobacco (Lee et al., 2012). In the 1990s, the Chief of Health Services in Malawi wrote an article for a journal run by a consultant for the tobacco industry that claimed "tobacco-related deaths and illnesses are primarily problems of affluent societies" (Eriksen et al., 2012, p. 63).

Tobacco companies frequently deceive consumers and take great strides to boost their public image. Publicly, tobacco companies have claimed to recognize their products as "risky" and appear to agree with the need to prevent youth from taking up smoking, while privately continuing to explore new ways to exploit the addictive properties of tobacco. In some African countries, such as Zambia and Eritrea, tobacco companies provide charitable donations and highlight their corporate social responsibility to deflect attention from the harmful effects of their products (Goma et al., 2011; Tsighe et al., 2011).

While national-level strategies that oppose the tobacco industry's economic and political efforts to undermine tobacco control can have strong effects within a country, addressing these efforts globally requires collaboration and coordination at the multinational and regional levels, such as the AU and the UN (Yach and Bettcher, 2000).

> **Therefore the committee recommends:** Governments should recognize that there is an irreconcilable conflict of interest between public health and the tobacco industry. In accordance with Article 5.3 of FCTC and its implementing guidelines, they should "act to protect [public health] policies from commercial and other vested interests of the tobacco industry," including, but not limited to, divesting from the tobacco industry; ensuring transparency in any communication or interaction between governments and tobacco companies; requiring lobbying, financial, and marketing disclosures from tobacco companies; and refusing voluntary contributions, tobacco-industry-drafted legislation, or corporate social responsibility schemes from tobacco companies.

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Targeting Women and Youth

Women

Given that the profits of the tobacco industry depend on the number of people who use tobacco regularly, recruitment of new users is essential to increase profits. In Africa, the tobacco industry has targeted women and youth to recruit new smokers (Lee et al., 2012; Njoumemi et al., 2011; Pampel, 2008). Historically, tobacco companies have designed their products and advertising to make cigarettes seem trendy and socially acceptable, and increasingly have sought to grow their market share by appealing to groups with traditionally low smoking rates.

Women in particular have been a target of tobacco marketing that has psychological and social appeal. In an assessment of tobacco industry documents and ads, researchers noted that marketing specialists identified core values such as "social acceptability," "private time," and "female camaraderie" and marketed specific brands with those messages (Anderson et al., 2005, p. 128). More recently, in low- and middle-income countries in particular, the tobacco industry has associated its brands with Western ideals and upward mobility (WHO, 2007), appealing to a new generation of women with greater purchasing power and more exposure to globalization.

> **The committee concludes:** Women not only are disproportionately affected by tobacco (as discussed later in the report), but also are targets of covert messaging from the tobacco industry that is designed to mainstream smoking behavior as an element of women's empowerment and evolving social norms.

Youth

Enticing youth to smoke ensures a new generation of consumers who will likely be lifetime buyers (Doku, 2010); youth who start smoking before age 14 are less likely to quit smoking and thus more likely to continue smoking into adulthood than those who start smoking after age 16 (Breslau and Peterson, 1996). In several countries in Africa, tobacco ads specifically target youth by associating cigarettes with trends such as film, sex appeal, well-being, and sports (WHO, 2011a). Tobacco logos can be found on basketball courts and football fields, and "cigarette girls" (usually young and sexy) market cigarettes at nightclubs (Doku, 2010, p. 202; Ouedraogo et al., 2011). Movies and television shows often contain scenes in which smoking is shown to be attractive by trendy individuals (Doku, 2010). While some countries ban advertising, both direct and indirect, tobacco promoters continue to

find covert ways of reaching women and youth in attempts to increase their market share in those groups (Njoumemi et al., 2011; WHO, 2011a). Most African countries do not have comprehensive bans on tobacco advertising, and youth often report hearing ads on radio or seeing billboards, seeing sponsorships at public events, or even receiving cigarettes from company representatives (CDC, 2013a,b). A BBC report in 2008 indicated a number of bans and laws being circumvented, with local tobacco promoters endorsing sales of single sticks; advertising at musical events; and collaborating with celebrities on branded clothing in Malawi, Mauritius, and Nigeria (BBC News, 2008).

The Preamble of the FCTC notes that Parties to the Convention have the right (and the obligation under Article 12 of the International Covenant on Economic, Social and Cultural Rights and the Convention on the Rights of the Child) to protect public health, and they are concerned about the increasingly earlier age of smoking initiation. Thus, Article 4 of the FCTC suggests that "every person should be informed of the health consequences, addictive nature and mortal threat posed by tobacco consumption and exposure to tobacco smoke" (WHO, 2003a, p. 5). Although the evidence of tobacco's effects on health is overwhelming and its other impacts are increasingly noticeable, this information has not reached all segments of society (Dillon and Chase, 2010; Nsereko et al., 2008; Owusu-Dabo et al., 2011; Salaudeen et al., 2011). A study on early smoking initiation in seven African countries found that 15.5 percent of schoolchildren had tried a cigarette before the age of 14 (Peltzer, 2011b). Adolescents and youth have the right to information regarding tobacco's negative effects, as well as the tactics used by the tobacco industry to promote misinformation. While the literature is unclear regarding the effects of tobacco prevention programs in schools (Thomas and Perera, 2008), interventions that solely provide information have not been effective means of changing health-related behaviors (Jepson et al., 2010; Robertson, 2008). Nonetheless, knowledge is an essential component of broader programs designed to elicit behavior change (NCI, 2008; Wakefield et al., 2010). Some health education programs have been shown to improve knowledge about the harmful effects of tobacco and to change attitudes and beliefs in ways that can help denormalize the acceptability of tobacco and the tobacco industry (Lotrean et al., 2010; Salaudeen et al., 2011). Evidence suggests that media campaigns have a strong influence in reducing youth uptake of smoking, and the effect may be stronger when combined with youth-specific interventions, such as in schools (Wakefield et al., 2010). In a climate in which the tobacco industry invests heavily in recruiting new smokers, providing consistent information from multiple sources about tobacco's negative effects offers youth the tools to make informed health decisions.

ADOLESCENTS AND YOUTH HAVE THE RIGHT TO INFORMATION REGARDING TOBACCO'S NEGATIVE EFFECTS, AS WELL AS THE TACTICS USED BY THE TOBACCO INDUSTRY TO PROMOTE MISINFORMATION.

The committee concludes: Youth represent the largest potential market for tobacco, and youth levels of smoking will continue to rise as tobacco marketing encourages the uptake of smoking.

Therefore the committee recommends: Civil society organizations (except the tobacco industry and its allies) should collect concrete data exposing tobacco companies' attempts to target women and youth and use such data to counter tobacco industry tactics and raise awareness among vulnerable populations of the harms of tobacco use. This information should be acted upon by governments to strengthen their tobacco control efforts.

HEALTH AND DEVELOPMENT

Scientific evidence overwhelmingly shows that tobacco use is a major cause of poor health and mortality from both communicable diseases, such as tuberculosis and lower respiratory infections, and NCDs, including cardiovascular diseases, chronic obstructive pulmonary disease, and several types of cancer (Rigotti, 2013; WHO, 2012c). Deaths from tobacco most often result in substantial years of life lost; almost half of all deaths from tobacco occur between the ages of 35 and 69, meaning 20–25 years of life lost compared with nonsmokers (Jha et al., 2006). There is a two- to three-decade lag between the peak of smoking prevalence and the peak of smoking-attributed mortality, so mortality continues to rise even after prevalence peaks and falls. The late onset of smoking-related illnesses means that interventions to reduce tobacco consumption must be implemented before tobacco-related morbidity and mortality becomes widespread (Lopez et al., 1994; Shafey et al., 2003; Thun et al., 2012).

There is no risk-free level of tobacco use, but cessation of smoking does confer health benefits (HHS, 2010). Smokers who quit before age 35 may avoid many of the health risks of smoking. For example, cessation before age 35 "avoids more than 90 percent of the lung cancer risk attributable to tobacco" (Jha et al., 2006, p. 872). Smoking cessation at any age is beneficial and associated with improved cardiovascular, cerebrovascular, and respiratory health (Abdullah and Husten, 2004; Underner and Perriot, 2012), but the greatest health benefits are achieved with early cessation (Jha et al., 2006; Thun et al., 2012). Implementing evidence-based, cost-effective interventions while tobacco use is low can help prevent the negative effects of tobacco use and the subsequent social and economic consequences (BMGF, 2011; Lopez et al., 1994).

Trends of Tobacco Use in Africa

In 2011, WHO estimated that adult tobacco smoking prevalence (men and women) in sub-Saharan Africa ranged from 5 percent in Niger to 34 percent in Sierra Leone (see Figure 3) (WHO, 2013c). In nearly all countries, there is a significant gap between rates of usage in men and women, and estimated prevalence among females is less than half that among males. Prevalence estimates for tobacco smoking in Africa range from 8 to 48 percent in adult men and 0.4 to 20 percent in adult women (see Figure 4). For countries where data are available, smoking prevalence among adult African women remains in the single digits everywhere but Sierra Leone, whereas only Niger and Sao Tome and Principe show rates below 10 percent

among adult men (WHO, 2013c). While women may currently make up a smaller percentage of smokers, as male smoking peaks and declines, female prevalence is expected to continue to rise, especially as gender differences in prevalence shrink among youth (WHO, 2007).

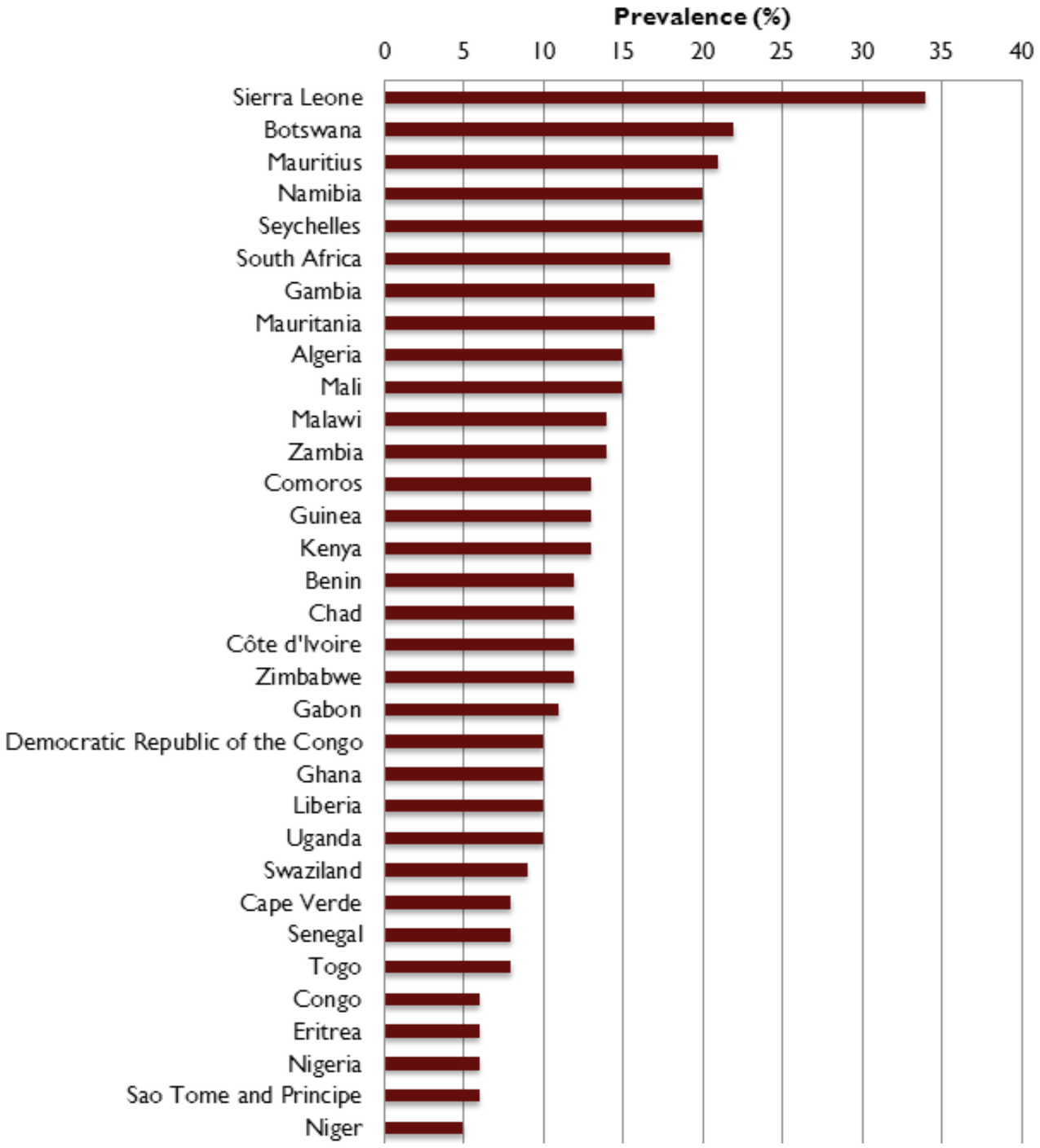

FIGURE 3: Age-standardized prevalence estimates for tobacco smoking among all persons aged 15 or over in Africa, 2011.

NOTES: Data not reported/not available for Ethiopia, Guinea-Bissau, Lesotho, Madagascar, Mozambique, Rwanda, and the United Republic of Tanzania.

SOURCE: WHO, 2013c.

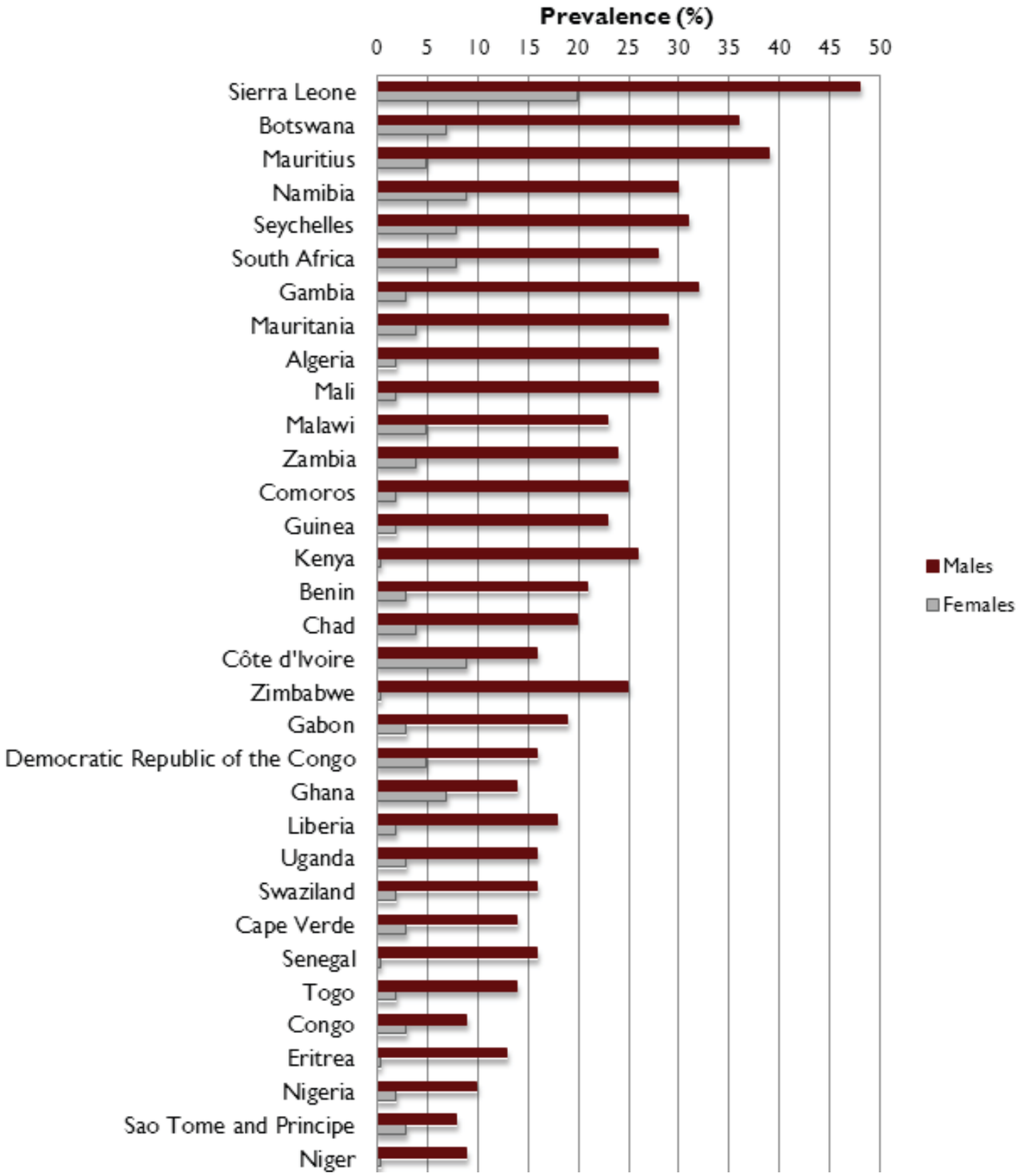

FIGURE 4: Age-standardized prevalence estimates for tobacco smoking among males and females aged 15 years and over in Africa, 2011.
NOTE: Data not reported/not available for Ethiopia, Guinea-Bissau, Lesotho, Madagascar, Mozambique, Rwanda, and the United Republic of Tanzania.
SOURCE: WHO, 2013c.

Smoking prevalence is increasing among boys and girls, and as a result, the gap in prevalence between males and females is closing. In some countries, prevalence among girls is higher than among adult women, and the gap in prevalence rates between males and females is closing in relation to boys' and girls' rates (Hitchman and Fong, 2011). For example, in Botswana, current cigarette use is 1.5 percent among women, but 10.9 percent among girls aged 13–15. This trend is evident elsewhere, too, such as Ghana, Kenya, Malawi, Swaziland, South Africa, Gambia, and several other countries where data exist, whereas boys' cigarette use is equal to or lower than adult men's use (Eriksen et al., 2012). Most new smokers are adolescents or young adults, and younger generations appear to be starting to smoke earlier than older generations, sometimes as young as 8 or 9 years old (Market Behaviour Ltd., 1991; Peltzer, 2011b; Townsend et al., 2006). The uptake among youth has serious ramifications for future health priorities in African countries already burdened by many other health problems (BMGF, 2011), particularly as female prevalence rates start to match male rates and equalize the burden. While the burden of tobacco- attributable disease is currently low in Africa, this will cease to be the case as tobacco onsumption continues to increase across the continent.

Unfortunately, few countries in Africa have comprehensive data on trends in tobacco use and the subsequent effects on morbidity and mortality, and most of these data are only estimates.[5] Most countries in the region lack standardized and comparable data disaggregated by sex, age, and risk group. African statistics on tobacco are less complete and less comparable than is the case in other regions of the world, in part because of small, nonrepresentative, or less generalizable survey samples (Nturibi et al., 2009; Pampel, 2008). The use of different methodologies also limits the ability to compare across different surveys (ILA, 2011). Newer, larger-scale surveys are under way in some countries. As recently as 2009 and 2010, several countries collected tobacco-related data using WHO's STEPwise approach to Surveillance (STEPS) surveys, and in June 2013, Nigeria released the first Global Adult Tobacco Survey (GATS) Report from the sub-Saharan African region (Federal Ministry of Health, 2012a; WHO, 2011c, 2013a). Three other countries—Uganda, South Africa, and Cameroon—are scheduled to implement GATS before 2014, but systematic monitoring of tobacco prevalence, knowledge, and effects is still lacking across much of the region (CTC-Africa, 2012).

Although regularly conducting GATS and the Global Youth Tobacco Survey would provide comprehensive data for monitoring trends in tobacco use and guiding the implementation of tobacco control programs, countries can also improve data collection on tobacco by modifying existing sources of surveillance and vital registration data. South Africa is the only country in the world that routinely asks about smoking history during the death notification process. By adding one simple question to death certificates—"Was the deceased a smoker 5 years ago?"—South Africa has collected more than 10 years of data that has allowed researchers to complete the first large study of tobacco-attributed mortality in Africa (Sitas et al., 2013). Integrating simple questions on tobacco use into existing household and facility surveys, as well as death certificates and verbal autopsies, is a low-cost, high-impact method for collecting data on tobacco use and monitoring its evolution over time in Africa.[6] If such questions were agreed upon and standardized and results were tracked using the same methods across African countries, country data could be comparable.

[5] Personal communication with Prabbat Jha, September 18, 2013.

[6] Personal communication with Prabbat Jha, September 18, 2013.

Improved efforts to collect data on tobacco use in Africa are commendable, but Africa-specific evidence on the effects of tobacco use and successful interventions for reducing use is also lacking. There is ample evidence from other countries to indicate that progression through the stages of the tobacco epidemic causes negative health, economic, and environmental effects (WHO, 2013d). There is no question that African countries must act now to mitigate these effects while continuing to collect evidence on tobacco use and its effects within Africa, as well as Africa-specific evidence regarding implementation and evaluation of the interventions called for in the FCTC.

The committee concludes: The human health effects of tobacco are well known, and strong predictive trend data from other regions, as well as projections of increases in tobacco use from Africa, indicate that without intervention, the burden of mortality and morbidity will increase on the continent. Yet continent-wide context-specific evidence is inadequate in some relevant areas, particularly economic and environmental data.

The committee concludes: Despite lower prevalence of smoking, tobacco has an additional impact on women. They are not only affected by the direct effects of smoking, but also subject to secondhand smoke (which has a further secondary effect on pregnant women and their fetuses). Those who are dependent on a male head of household who smokes are additionally impacted socially and economically. They are also vulnerable to the health impact of tobacco production.

Therefore the committee recommends: African policy makers and governments should use existing evidence to inform the design and implementation of tobacco prevention and control strategies as described in the FCTC. Where more evidence is needed, African academic institutions and scientific research communities, in collaboration with civil society groups at all levels, should create a research agenda for producing Africa-specific data that will enhance efforts to prevent and control tobacco use in Africa.

Health Effects

With 69 known carcinogens in cigarette smoke, plus the highly addictive drug nicotine, tobacco harms almost every organ in the body (HHS, 2010). Additionally, smoking is particularly dangerous for pregnant women and their fetuses. It increases the risk of stillbirth and low birth weight in infants born to women who smoke during pregnancy (CDC, 2012). Worldwide, tobacco use causes 12 percent of all deaths and 3 percent of deaths in Africa (WHO, 2011a). Smoking is estimated to cause 71 percent of all lung cancer deaths, 42 percent of chronic respiratory disease, and nearly 10 percent of cardiovascular disease (WHO, 2011a). It is also responsible for 7 percent of deaths from tuberculosis and 12 percent of deaths from lower respiratory infections (WHO, 2012c). Smoking has been found to increase the risk of tuberculosis in Africa (Ramin et al., 2008).

Tobacco use is the leading behavioral risk factor for NCDs around the world (WHO, 2011a). If no concerted attempt is made to prevent tobacco use in Africa, by 2030, the health effects of tobacco use could constitute a significant proportion of the 46 percent of all deaths projected to be due to NCDs in the region (Öberg et al., 2010). Because mortality from NCDs is not immediate, morbidity and disability due to tobacco use are high and could lead to undue burdens on families caring for ill family members.

In addition to the direct effects of smoking on smokers, involuntary exposure to tobacco smoke, or secondhand smoke, poses a substantial health risk to those who do not smoke (Eriksen et al., 2012; WHO, 2011a). Secondhand smoke causes both disease and death in nonsmokers; strong evidence links secondhand smoke exposure to some diseases in adults and children. Additionally, preliminary evidence suggests that secondhand smoke contributes to other serious health effects (Eriksen et al., 2012). Secondhand smoke can be particularly dangerous for women and children, who may be exposed to it inside or outside the home and who often lack the ability to negotiate for smoke-free spaces (WHO, 2010b). In Africa, where homes can often consist of multiple families or relatives, approximately 20–30 percent of youth live in a residence with a smoker (Eriksen et al., 2012). A 2008 study of South African adolescents found that 26 percent of students were exposed to secondhand smoke at home and 34 percent outside of the home (Peltzer, 2011a). A 2006 study in Burkina Faso found that 36 percent of youth lived with a smoker, and 50 percent were exposed to secondhand smoke outside of the home (Ouedraogo et al., 2011).

In 2004, an estimated 53,000 Africans died from secondhand smoke. These deaths were due mainly to ischemic heart disease for adults and lower respiratory infections for children. Globally, 10.9 million disability-adjusted life years (DALYs) were attributed to secondhand smoke in 2004, 1.7 million of these in Africa. Most of this burden was due to lower respiratory infections in children (Öberg et al., 2010). Secondhand smoke affects not only family, friends, and associates but also those who are employed in public settings, such as retail, transportation, and food service settings. These employees, who are often women, are exposed not only involuntarily, but also at high levels.

Consequences for Development

Tobacco threatens the development of African countries at all levels of society (Sachs, 2001). As described above, tobacco use is a primary risk factor for NCDs, which are expected to cause an increasing share of morbidity and mortality in sub-Saharan Africa. At the national and subnational levels, the most direct effects of NCDs will be felt within health systems. NCDs are expensive to treat; they require health care providers with greater specialization and more continuous interaction with health care delivery systems relative to communicable diseases. Health systems in Africa that are designed to address communicable diseases will require major investment, and in some cases redesign, to address the needs of patients with NCDs. Additionally, NCDs affect primarily adults and often cause some degree of disability; the subsequent indirect effects of reduced productivity and decreased consumption may have far-reaching socioeconomic consequences (WB, 2011). Directly and indirectly, tobacco poses

a threat to development, poverty alleviation, and economic progress (Sachs, 2001). There is, however, evidence that targeting the risk factors for NCDs with effective health promotion and disease prevention programs can reduce more than half of the NCD burden; efforts to reduce tobacco use are particularly effective (WB, 2011).

Tobacco also has negative consequences for development at the household and individual levels. Like many health risk factors, tobacco use and the associated economic burdens are higher among poorer populations and can perpetuate low education levels and malnutrition (Esson and Leeder, 2004; WHO, 2004). Most directly, expenditure on tobacco takes priority over expenditure on food and education. At the same time, the health effects of tobacco use result in increased expenditure to treat NCDs. Together, these costs are likely to increase the economic burden on individuals and households (Suhrcke et al., 2006; Townsend et al., 2006; WHO, 2004).

Tobacco use can be a costly addiction, and in poorer households, increased spending on tobacco can lead to decreased spending on adequate diet and preventive health care for an individual and his or her family. In Ghana, the price for a pack of name-brand cigarettes could buy a kilogram of fish (ASH, 2009), and in Kenya, a man must work 2 hours and 38 minutes to pay for a name-brand pack of cigarettes, compared with 1 hour and 49 minutes for a kilogram of rice or 1 hour and 4 minutes for a kilogram of bread (WHO, 2004). In Nigeria, average monthly expenditure on manufactured cigarettes suggests that smokers of manufactured cigarettes spend nearly 10 percent of gross domestic product per capita on manufactured cigarettes annually (Federal Ministry of Health, 2012a,b).

The health-related consequences of tobacco use also have a negative financial impact on households. The cardiovascular, respiratory, and cerebrovascular health effects of tobacco use are expensive to treat, and as health expenditures for the household increase, essential purchases (food and shelter) can be crowded out. In Malawi, for example, 1 month of public-sector treatment for coronary heart disease costs more than 18 days of wages, and 1 month of treatment for asthma costs more than 9 days of wages (WHO, 2011a). Additionally, disability related to tobacco use can reduce the earning capacity of individuals and raise costs. Many countries also are not equipped to accommodate people with disabilities. Finally, individuals with chronic disease experience reduced opportunity; consistently, NCDs have been correlated with downward mobility among those of medium to low socioeconomic status (WB, 2011). As discussed earlier, NCDs are not limited to those who use tobacco products; family members, coworkers, and close associates of tobacco users are also at risk of NCDs from exposure to secondhand smoke.

Tobacco use traps individuals in a cycle of poverty. Expenditure on tobacco crowds out spending that could improve health and nutrition. The direct health effects of tobacco, as well as the indirect effects of poor health caused by underinvestment in food and health care, require increased expenditure on health care costs that further reduces purchasing power for goods that can improve health. Individual tobacco use and related poverty have national and regional consequences as the increased burden of disease threatens to overwhelm health systems, and reduced productivity affects labor forces and consumption (ASH, 2009; Esson and Leeder, 2004; Suhrcke et al., 2006; Townsend et al., 2006; WHO, 2004).

The committee concludes: There is overwhelming evidence that tobacco is a threat to health and development. There is strong global evidence of the existence of several affordable and effective interventions, but additional African country-specific evidence for effective and affordable interventions is needed.

The committee concludes: Tobacco is the number one behavioral risk factor for NCDs. It is predicted that NCDs will be the primary causes of mortality and morbidity in Africa in the next 20 years.

Preventing and Reducing the Health Effects of Tobacco Use

Given the highly addictive nature of tobacco (WHO, 2010d), prevention of tobacco use is the most effective means of avoiding the negative health effects of tobacco use and exposure. The Institute of Medicine, the health arm of the U.S. National Academies, estimates that only 6 percent of smokers that attempt to quit are successful (IOM, 2012); quit rates are often low even in countries with strong policies to promote cessation (Abdullah and Husten, 2004). Tobacco addiction is a disease as recognized by WHO's 10th revision of the *International Statistical Classification of Diseases and Related Health Problems* (ICD-10), and nicotine is the drug that is the source of the addiction (WHO, 2010d). Tobacco addiction follows a specific disease pathway like other addictions, and while initiation is driven by a number of factors, addiction sustains use (Hatsukami et al., 2008). Policies and interventions designed to reduce tobacco prevalence and consumption may target any of the stages along the trajectory of tobacco addiction: reducing intent to use, preventing initiation of use, reducing consumption among current users, helping people quit, and helping those who have relapsed quit again (Moolchan et al., 2007).

The provisions of the FCTC require Parties to implement evidence-based, effective interventions that can reduce the prevalence of tobacco use and consumption. These include legislative, executive, and administrative measures to limit exposure to tobacco smoke, counteract advertising and marketing efforts by the tobacco industry, and educate the general population about the health risks of tobacco use and exposure. Several of these provisions are described in the following sections.

Reducing Demand through Taxation

Taxation remains the most effective means of reducing the demand for tobacco products, particularly among youth and the poor, and is an important strategy in tobacco control (Ayo-Yusuf and Olutola, 2013; Chaloupka et al., 2012; ILA, 2011; WHO, 2010e). Use of tobacco is responsive to price, and economists have recognized increased prices as one of the most effective means of reducing purchases (WB, 1999). Taxation at appropriate levels has a threefold effect on consumption: it provides a barrier to initiation, it reduces consumption among current smokers, and it prevents former smokers from starting again (WB, 1999). New smokers tend to be young, and are the most sensitive to price. Since never smoking is the best prevention for smoking-related mortality and morbidity, discouraging new smokers is a

key strategy. While historically much of the evidence behind the effects of taxation have come from high-income countries, more recent data gathered and analyzed from low- and middle-income countries have shown similar success (Chaloupka et al., 2012). Large tax increases in South Africa, for example, have led to a reduction in smoking prevalence and cigarette consumption (Ayo-Yusuf and Olutola, 2013; Groenewald et al., 2007).

Article 6 of the FCTC requires that Parties implement tax and price (where appropriate) policies aimed at reducing tobacco use (WHO, 2003a). Two types of excise taxes, specific and ad valorem, are levied on tobacco products. Specific taxes are fixed amounts (e.g., per cigarette), while ad valorem taxes are a function of value (e.g., percentage of wholesale price). In general, data suggest that specific taxes are more effective than ad volorem taxes in reducing consumption, particularly among those with limited budgets, such as youth and the poor (Chaloupka et al., 2012; van Walbeek, 2010; WHO, 2010e). Ad valorem taxes provide an opportunity for the tobacco industry to maintain the affordability of tobacco products by reducing prices; since ad valorem taxes are a percentage of the total price, reducing the price also reduces the tax (van Walbeek, 2010). In many countries, increases in tobacco taxes may not actually reduce the affordability of tobacco because of changes in tobacco prices and economic conditions. Rising incomes, fueled by economic growth, increase the affordability of cigarettes unless their total price increases by at least the same rate (Blecher and van Walbeek, 2009). To be effective at reducing demand, tobacco taxes must actually increase the real price of tobacco products. WHO recommends raising taxes to account for at least 70 percent of the total price of tobacco products in order to reduce tobacco consumption and prevent initiation of tobacco use. Additionally, applying uniform taxes across all products can prevent the possibility of substitution (e.g., switching to a different brand that is cheaper) and provide simpler structures that prevent tax avoidance, increase compliance, and permit easier enforcement (ILA, 2011; WHO, 2010e).

Taxation of tobacco products is not new; it has traditionally been a means of generating revenue. In addition, utilizing a portion of the tobacco tax revenues to fund mass media public awareness campaigns and cessation programs can further reduce tobacco consumption. In 2010, 20 countries globally earmarked portions of tobacco taxes for various health purposes (WHO, 2010e). In Thailand, for example, the tobacco and alcohol tax revenues were used to establish the ThaiHealth Promotion Foundation, which receives 2 percent of the revenues per year (US$35 million). The foundation uses these funds to support organizations working on public health issues (ILA, 2011).

Across countries, tobacco taxation in Africa varies greatly. Some countries levy uniform taxes on all cigarettes, while others use a tiered system based on location of manufacture, brand, or type of product (Chaloupka et al., 2012; WHO, 2010e). Almost all countries in Africa have some level of taxation on tobacco products. The average total tax on a pack of the most-sold cigarettes in Africa is 42.6 percent of the average price for the pack (Chaloupka et al., 2012). All but 2 countries (Sao Tome and Principe and Seychelles) impose value-added taxes on cigarettes, while 15 countries impose specific excise taxes, and 29 impose ad valorem excise taxes (WHO, 2013d). Madagascar has the highest reported taxes in Africa; the total taxes on a pack of the most-sold cigarettes are more than 76 percent of the total price. In

addition to Madagascar, just 8 countries have taxes that exceed 50 percent of the total price; 20 countries have taxes that range from 26 to 50 percent, and 15 countries have taxes that are less than 25 percent of the total price (WHO, 2013d).

Protection from Exposure to Secondhand Smoke

Often referred to as "smoke-free environments," public spaces that ban smoking are a significant step in reducing exposure to environmental tobacco smoke and protecting nonsmokers. Countries and states where smoking bans exist have seen a reduction in smoking prevalence and improved health outcomes (Bauld, 2011; Boles et al., 2010; CFTFK, 2012; Howell, 2005; Lopez et al., 2011; Melberg and Lund, 2012). Article 8 of the FCTC states that Parties recognize that the scientific evidence has "unequivocally" established that exposure to secondhand smoke causes death, disease, and disability (WHO, 2003a, p. 8). The article requires that Parties adopt and implement measures to provide protection from exposure to secondhand smoke in public places—indoor workplaces, public transport, all indoor public places, and other public places (as appropriate)—by creating 100 percent smoke-free indoor environments (WHO, 2003a, 2008). In 2008, the Conference of Parties developed and adopted guidelines for implementation of this article; the guidelines included a 5-year timeframe for achieving universal protection from exposure to secondhand smoke (WHO, 2012a).

Few countries in Africa meet the FCTC requirement of creating 100 percent smoke-free indoor environments. There are only five countries in sub-Saharan Africa—Burkina Faso, Chad, Congo, Namibia, and Seychelles—in which policies that make all public places completely smoke free have been implemented or 90 percent of the population is covered by subnational legislation for completely smoke-free environments (WHO, 2010c, 2013d). These countries have banned smoking in health care facilities; universities; educational facilities other than universities; government facilities; indoor offices and workplaces not considered in any other category; restaurants or facilities that serve mostly food; cafés, pubs, bars, or facilities that serve mostly beverages; and public transport (WHO, 2013b). Other countries have varying levels of implementation of smoke-free measures, but compliance to policies and measures within all countries varies widely (WHO, 2013d). Many countries in Africa report challenges with monitoring and enforcement of smoke-free policies, as well as loopholes in laws that permit designated smoking areas indoors and are barriers to implementation. In the 2010 African Tobacco Situational Analysis, Burkina Faso, Eritrea, Kenya, Mauritius, Tanzania, and Zambia noted enforcement of existing smoke-free policies as challenging; they described enforcement as being "minimal," unsystematic, and rare, and laws and policies as being "regularly violated" (Burhoo et al., 2011; Goma et al., 2011; KTSA Consortium, 2011; Ouedraogo et al., 2011, p. 101; Tanzania Public Health Association, 2011; Tsighe et al., 2011, p. 127).

Bans on Tobacco Advertising, Promotion, and Sponsorship

The tobacco industry uses direct and indirect advertising and marketing strategies to target existing and recruit new users, and these strategies are successful, particularly among youth. Tobacco advertising, promotion, and sponsorship has been proven to increase tobacco

consumption (NCI, 2008; WHO and The Union, 2011b). Among women in South Africa, cigarette advertising was associated with more favorable attitudes toward smoking (Williams et al., 2008). Research has shown that tobacco advertising and marketing increase the likelihood that adolescents will initiate smoking (Lovato et al., 2011), possibly more so than peer influence or sociodemographics (Evans et al., 1995). In many countries in Africa, more than 10 percent of teenagers have been offered free cigarettes by representatives of the tobacco industry; evidence from North Africa shows that adolescents are more likely to smoke when exposed to promotion efforts (WHO, 2013b). Children buy the most heavily advertised brands (CDC, 1994), and are three times more affected by advertising than adults (Pollay et al., 2006). This is particularly alarming for African nations like Uganda where roughly half of the population is under the age of 15 years.

However, there is substantial evidence that comprehensive bans on tobacco advertising, promotion, and sponsorship—including direct advertising, such as in print media and on television, as well as indirect advertising, such as product placement and sponsorship of sporting or musical events—reduce tobacco consumption (NCI, 2008; Peltzer, 2011b; WHO and The Union, 2011b). Bans on tobacco advertising, promotion, and sponsorship help counter deceptive or misleading information from the tobacco industry and reduce youth exposure to such information (Saffer and Chaloupka, 2000; WHO and The Union, 2011b). Article 13 of the FCTC requires that Parties implement a comprehensive ban on all tobacco advertising, promotion, and sponsorship within 5 years of the Convention's entry into force (WHO, 2003a). Evidence suggests that partial bans (on direct advertising) are ineffective because marketing funds are simply redirected to indirect advertising, and comprehensive bans provide the greatest effect (WHO and The Union, 2011b). Although the FCTC entered into force on 27 February 2005, as of December 2012, only nine African countries—Chad, Eritrea, Ghana, Guinea, Kenya, Madagascar, Mauritius, Niger, and Togo—had instituted comprehensive bans on all forms of direct and indirect tobacco advertising (WHO, 2010a, 2011c, 2013d). Tobacco advertising on national television, on radio, and in print media is banned in 15 countries, but 22 countries have either no ban on tobacco advertising or bans that do not cover advertising on national television, on radio, and in print media (WHO, 2013d). Compliance with bans is variable.

Packaging and Labeling of Tobacco Products

Packaging of tobacco products by manufacturers is intended to enhance the desirability of the product, but there are "strong data that health warnings encourage tobacco users to quit and help keep young people from starting" (WHO, 2011c, p. 14). Requiring that tobacco products be sold in plain packages—without logos, trademarks, or color schemes—that include health warnings can reduce the desirability of the products and communicate their health effects to consumers (BHF, 2011; PSC, 2010). Large, graphic, and comprehensive health warnings are effective at communicating health risks, and when combined with a mass media campaign, health warnings on tobacco packaging can increase smoking cessation rates by 23 percent and reduce initiation rates by 20 percent (Hammond et al., 2006; Mendez et al., 2013; PSC, 2010). Warning labels that are clear and simple are most effective, as are those that

make smokers feel confident they can quit, such as by providing information about how to quit smoking or the telephone number for a "quit line" (PSC, 2010). Pictures are particularly effective with youth and in areas with low literacy (WHO, 2011c).

Article 11 of the FCTC obligates Parties to adopt and implement measures to ensure that tobacco product packaging and labeling are not "false, misleading, or deceptive" or likely to give the wrong impression about tobacco's characteristics, health effects, or hazards (WHO, 2003a, p. 9). The FCTC requires that warning labels on tobacco products:

- receive approval from the competent national authority;
- cover 50 percent or more of the principal pack display areas, but no less than 30 percent, which may be in the form of pictures;
- use large, clear, visible, and legible printing;
- prohibit misleading terms such as "light" and "mild" and any proxies for those terms;
- rotate periodically to remain fresh and novel to consumers;
- display qualitative information on the contents and emissions of tobacco products as defined by national authorities; and
- appear in the principal languages of the country (WHO, 2011c, p.14).

Although Parties to the FCTC were required to implement these measures related to tobacco warning labels within 3 years of the Convention's entry into force, just four countries in the African region require large warnings (covering more than 50 percent of the package) with at least seven appropriate characteristics on tobacco products. Thirteen countries require medium (more than 30 percent of the package but less than 50 percent) or large warnings with some of the appropriate characteristics. More than half of countries require no warnings or small warnings (covering less than 30 percent of the package) on tobacco products (WHO, 2013d).

Education, Communication, Training, and Public Awareness

Despite decades of published research on the ill effects of tobacco, many people are unaware of or underestimate the risks of tobacco use (Pampel, 2008; Salaudeen et al., 2011; WHO, 2010e, 2011c). In Nigeria's 2012 GATS, 48 percent of adults reported that they did not believe that smoking causes stroke, and only 36 percent of smokeless tobacco users said they believed that smokeless tobacco causes serious illness (Federal Ministry of Health, 2012a). There is comprehensive evidence that mass media campaigns (which use multiple avenues for communication, such as television, radio, billboards, and the Internet) are effective at encouraging smokers to quit and preventing youth from starting, especially when these campaigns are combined with other interventions, such as increased taxation, smoke-free policies, and community- or school-based education programs (Jepson et al., 2010; Wakefield

et al., 2010). Sustained[7] media campaigns are most effective at producing long-term results, as the tobacco industry will continue to advertise and promote its products once a campaign has ended (Wakefield et al., 2010). In addition to traditional venues for communication, such as television and radio, early research suggests that social media may be powerful venues for tobacco control messaging (Daniels et al., 2012; Hefler et al., 2013; Jordan, 2012). The use of social media is increasing in Africa, and tapping into these networks could be a fresh means of advancing tobacco control across the continent.

Article 12 of the FCTC requires that Parties "promote and strengthen public awareness of tobacco control issues" through broad access to public awareness and educational campaigns and public access to information (WHO, 2003a, p. 10). Such campaigns should inform the public about the health risks of tobacco use and secondhand smoke, educate users about the benefits of quitting, and provide information about tobacco industry practices (WHO, 2003a, 2011c; WHO and The Union, 2011a). As discussed earlier, such programs can be funded by taxation (WHO, 2008). Between January 2011 and June 2012, 17 African countries conducted a national media campaign (lasting at least 3 weeks) to warn about the health risks of tobacco. In 29 countries, there was no national antitobacco campaign implemented during this time period (WHO, 2013d).

[7] The longer a campaign lasts, the greater the impact. Campaigns lasting at least 3 weeks have been shown to have measurable, positive impacts, such as reducing smoking uptake among youth (WHO, 2011c).

TOBACCO LEAF PRODUCTION

Over the last 50 years, the bulk of tobacco production has shifted from high-income countries to low- and middle-income countries. At least 21 African countries grow tobacco. Of these countries, 5—Malawi, Mozambique, Tanzania, Zambia, and Zimbabwe—produced more than 50,000 tonnes of tobacco in 2009. With the exception of Zimbabwe, tobacco production has more than doubled in these countries in the last decade (2000 to 2009), as has also been the case in Congo, Ghana, and Mali (Eriksen et al., 2012). There is often a perception that tobacco production is beneficial to the economy by increasing employment and providing income; these short-term benefits, however, are outweighed by the long-term economic and environmental issues that result from tobacco production.

Tobacco growing has never lifted a country out of poverty; one African minister acknowledged that "tobacco growing is a hindrance to the prosperity for all…because it traps tobacco farmers in a cycle of indebtedness to tobacco companies rather than improving household incomes" (Okrut, 2013). Tobacco production, exporting, selling, and importing can be a low-reward investment. Few countries in Africa currently rely on tobacco exports. In 2011, unmanufactured tobacco exports made up less than 2 percent of the total value of exports in all but four African countries—unmanufactured tobacco brought in nearly 40 percent of all export value in Malawi, 19 percent in Zimbabwe, and just over 2 percent in both Uganda and Tanzania (UN, 2013). Most countries in Africa sell tobacco to two tobacco leaf buyers, meaning there is very little competition in the pricing of the tobacco and ultimately low payout for the investment (Otañez et al., 2007). Finally, most countries are overall net importers of unmanufactured tobacco, which leads to millions lost in foreign exchange and a negative balance of trade (Esson and Leeder, 2004; Njoumemi et al., 2011; WHO, 2004).

Negative Consequences of Tobacco Production

Health Effects

Tobacco production has negative health impacts on those producing tobacco and on those in the communities where tobacco is grown. Where tobacco is monocropped, increased amounts of fertilizers and pesticides are often used to ensure successful growth (Lecours et al., 2012). Unsafe handling and weak regulation of these chemicals can lead to exposure in vulnerable populations, such as pregnant women and children, and pesticide and fertilizer runoff

into fragile watersheds can contaminate sources of drinking water (Otañez, 2008). Pesticides with known harmful health effects (both human and environmental) are regularly sprayed on tobacco crops, harming sprayers, harvesters, and communities near the fields (Lecours et al., 2012). These chemicals can leach through the soil and contaminate rivers and streams used for drinking, cooking, and bathing (KTSA Consortium, 2008). In addition, green tobacco sickness is a type of nicotine poisoning that occurs from handling wet uncured tobacco and can cause nausea, vomiting, headache, dizziness, and weakness; it threatens children and adults that produce tobacco (CDC, 1993; Otañez, 2008; WHO, 2004). A situational analysis in Kenya found reports of occupational-related illness among those who cultivate tobacco, resulting from the agrochemicals used on the tobacco and handling of tobacco during the farming and curing processes, as well as a lack of use of protective gear when working with the tobacco (KTSA Consortium, 2008).

Finally, tobacco production can contribute to undernourishment in communities where tobacco is grown because available land is used for growing tobacco instead of growing food, and because tobacco production destroys soil nutrients and leaves the ground infertile for planting food (KTSA Consortium, 2008; Okrut, 2013; WHO, 2007). In 2008 in Malawi, every hectare of land devoted to tobacco production produced 1 tonne of tobacco leaf; in contrast, in the same year, each hectare of land devoted to growing potatoes could have produced 14.6 tonnes of potatoes (Eriksen et al., 2012).

Environmental Effects

A growing amount of global evidence documents the negative impacts of tobacco production on the environment. A literature review by Lecours and colleagues published in *Tobacco Control* in 2011 highlights two main environment effects of tobacco farming: deforestation and soil degradation. These negative impacts result from tobacco farming practices such as monocropping, land clearing, and the use of agrochemicals (i.e., pesticides and fertilizers) on the tobacco crop. Soil degradation has immediate impacts at the individual and community levels, alluded to above, by decreasing the amount of arable land available to produce other crops (for both food and livelihood) and reducing the carrying capacity of the land for food crops, while deforestation depletes the amount of forest available for other essential activities, such as construction and firewood production. In addition, tobacco production and its environmental impact leads to long-term systemic environmental effects, including soil erosion and river sedimentation, ecosystem disruption and extinction of species, overexploitation of land, and climate change (KTSA Consortium, 2008; Lecours et al., 2012). The tobacco curing process also has negative environmental effects due to the need to cut down large quantities of trees to fuel the drying of tobacco leaves (KTSA Consortium, 2008). WHO estimates that the wood required to cure tobacco accounts for 12 percent of deforestation in Southern Africa, and that tobacco company-led reforestation efforts in Southern and East Africa have not yet materialized in any significant way (WHO, 2004).

Socioeconomic Effects

Tobacco production has negative socioeconomic impacts on populations engaged in tobacco growing. In some countries in Africa, tobacco farming is a result of a direct contract between the landholder and the tobacco company that commits the farmer to producing a specific crop using specified techniques with the pricing scheme specified in the contract. This direct contract removes the middleperson and reduces costs; however, it leaves smallholders with little flexibility to adapt their crops and techniques to changing climatic, economic, or agricultural conditions. Additionally, the direct contract creates a power structure whereby the tobacco company essentially controls land management. The tobacco companies often sell farmers the necessary agricultural inputs (supplies and equipment) and also provide them with high-interest loans with which to purchase these inputs. This results in tobacco companies profiting multiple times at the expense of the farmers—once from the sale of the inputs (equipment, pesticides, fertilizers, etc.); again from the interest on the loan for the inputs; and finally from the sale of the final product, for which profit margins are much higher than for raw or minimally processed products (Lecours et al., 2012). In addition, farmers often sell their crops at a loss; for example, an estimated 80 percent of Kenyan tobacco farmers lose money by producing tobacco (KTSA Consortium, 2008; Otañez, 2008). However, because of their indebtedness to the company, farmers will continue to grow tobacco until they can pay off their loans, often never making a profit (Otañez, 2008). In some countries, tobacco farming occurs via a tenancy system, in which landlords lease small portions of land to tenants (families are often transported to the estate to work on the tobacco farm) (International Labor Rights Forum, 2012). The tenants are loaned inputs, which are deducted from future profits, and must produce a certain amount of crop, resulting in a type of bonded labor. In Kenya, the tobacco industry has successfully fought to prevent tobacco farmers from unionizing to gain collective bargaining power to confront these offenses (KTSA Consortium, 2008). Finally, it has been noted that often, tobacco farmers themselves are more likely to be smokers than non-tobacco farmers (Otañez, 2008). All of these factors can leave farmers in a continued cycle of indebtedness to the tobacco companies that can push them into or further into poverty (Lecours et al., 2012).

A 2009 study from Kenya identified differences between tobacco-farming and non-tobacco-farming households in a rural region, noting that tobacco-farming households earned less income over a year and had higher health expenditures. This suggests that tobacco farming does not necessarily provide as adequate an income as other crop farming might. The same study also noted other, more subtle differences. For example, non-tobacco farmers had higher educational attainment (and spent more on education), spent more on "luxury" food items such as sugar and cooking oil (an indication of greater disposable income), and tended to have more land. However, the study authors noted that this last difference could be attributable to the difference in the number of wives a male head of household might have. In particular, tobacco farmers were more likely than non-tobacco farmers to have multiple wives. In one anecdote reported in the study, a farmer noted that because tobacco is labor-intensive, having multiple wives (and thus more children) increased the number of workers on the farm. However, because all the laborers were family members, they were typically unpaid, forcing wives and children to be dependent on the head of household (Kibwage et al., 2009).

Informal labor, often in the form of minors, is a documented issue on tobacco farms in Africa (Geist et al., 2009; Kazoka, 2013; United Nations News Centre, 2013). Child labor in Africa tends to occur in agricultural settings (such as family farms) (Lange, 2009), and tobacco is one of the most labor-intensive of African-grown crops (ASH, 2009; Sidney, 2013). In addition, because tobacco is a seasonal crop, it is often difficult to find short-term labor, thus requiring the use of families (Otañez, 2008). The UN Special Rapporteur on the Right to Food recently noted that tobacco tenancy farming in Malawi accounts for close to 80,000 children employed, while the farmers themselves are often paid below minimum wage (and experience more poverty than their landlords) (United Nations News Centre, 2013). In Tanzania, children make up one of the largest groups of labor on tobacco farms (Geist et al., 2009; Kazoka, 2013); in one district, children made up 45 percent of the tobacco farming labor force, and 26 percent of children were involved in tobacco farming (International Partnership for Cooperation on Child Labour in Agriculture, 2012). Because the prime harvesting season in East Africa is between January and March, there is a high risk of children failing to attend school so they can work. A study in Mozambique indicated that 80 percent of families use children as labor on the farm, while studies in Zambia, Tanzania, and Zimbabwe noted that children are often forced to work long hours, and suffer spinal injuries from heavy lifting and nicotine poisoning from lack of protective gear. While comprehensive data on child labor are lacking (because of its informal, and often illegal, nature), these reports indicate a socioeconomic issue with long-term consequences: children failing to attend school have lower educational attainment and lower future earnings potential, keeping them locked in a cycle of poverty.

Mitigating the Negative Effects of Tobacco Production

Alternative Livelihoods

Article 17 of the FCTC obligates Parties to cooperate with each other to promote "economically viable alternatives for tobacco workers" and "growers" who want to escape the cycle of poverty and the negative health effects caused by tobacco farming (Perucic, 2012; WHO, 2003a). These economically viable alternatives will vary from country to country depending on the market and environmental conditions in the country, but pilot projects in various countries have included growing alternative crops (food, bamboo, wood, stevia), aquaculture, animal husbandry, and fruit processing. While the tobacco industry contends there are no suitable alternatives to tobacco without compromising livelihoods (IGTA, 2012), a variety of crops may be more profitable than tobacco (Keyser, 2007). Substituting tobacco with a mix of cash and food crops can contribute to household food security and improve land quality while continuing to provide a source of income (Otañez, 2008). Crop substitution programs have been implemented, and research initiatives in Kenya, Uganda, and South Africa have shown that several alternative crops are more viable than tobacco. Kenya is currently experimenting with substituting bamboo for tobacco, with promising sustainable results, as bamboo not only provides more income but also can be intercropped, allowing for additional income from other crops (Magati et al., 2012). Other studies in Kenya have looked at growing trees for wood fuel, pineapple, soya, pepper, watermelons, and passion fruit as alternatives to tobacco (KTSA Consortium, 2008).

Economically viable alternatives would need to have no more or less impact on the environment as tobacco (see the earlier section of this report on environmental effects), and would need to cost less and provide more income. This would require ensuring a suitable market for the alternative crop. In many Africa countries, while food crops would generally be sustainable and viable, care must be taken not to flood local markets. In addition, because tobacco farming has strong support from the industry in terms of inputs, tools, and financing, alternative crops would need a similarly secure infrastructure.

The committee concludes: A very small number of countries are economically dependent on tobacco production, but most countries in Africa have a negative balance of trade with regard to tobacco. Additionally, tobacco production has had negative effects on the environment and development, and it contributes to rural and urban poverty.

The committee concludes: Tobacco production exacerbates rural poverty by reinforcing farmers' cycles of debt, promoting child labor (and reduced educational attainment), and exploiting women.

Therefore the committee recommends: African policy makers and governments should use existing evidence to inform the creation and implementation of projects that provide economically viable alternatives for tobacco farmers and farm workers, which may be integrated with existing programs where possible. Where more evidence is needed, African academic institutions and scientific research communities, in collaboration with civil society groups at all levels, should create a research agenda to produce Africa-specific data that will enhance efforts to create a platform for tobacco farmers and workers to exit tobacco farming.

Protecting the Environment

As part of the obligations of article 18 of the FCTC, Parties agree to protect both the environment and the health of individuals related to tobacco growing and manufacturing (WHO, 2003a). In 2008, the Conference of the Parties established a working group to develop guidelines and recommendations for the implementation of Articles 17 and 18. In addition to the development of recommendations, the working group was charged to develop a framework for assessing sustainable alternatives to tobacco growing and for encouraging research and knowledge sharing on the impacts of tobacco growing. The working group presented its most recent progress report at the fifth session of the Conference of the Parties in 2012. The report includes recommendations and policy options on economically sustainable alternatives to growing tobacco (Perucic, 2012; WHO, 2012b).

OVERARCHING RECOMMENDATION

After considering the evidence, the committee recommends: To reduce the current and future health impacts of tobacco use, African governments should provide human and financial resources for tobacco prevention and control programs. Governments should consider adopting innovative models that have been successful in other countries. Governments should also encourage external development partners to support their plans. Legislative platforms should augment these efforts. In particular, governments should prioritize the implementation and enforcement of the following measures in accordance with the FCTC:

- adopt effective legislative or other legal measures to protect public health policies related to tobacco control from commercial and other vested interests (Article 5.3);
- effective use of taxation measures, including reform of tax structures if necessary and regular tax increases that actually increase the price of tobacco products so as to reduce demand (Article 6);
- protection from exposure to tobacco second hand smoke in all public places including indoor workplaces, public transport (Article 8);
- comprehensive bans on all tobacco advertising, promotion, and sponsorship (Article 13);
- accurate and visible tobacco product packaging and labeling that includes health warnings and labels (Article 11);
- integration of information on the ill effects of tobacco into the curricula of health promotion in primary and secondary schools to promote greater awareness of such information (Articles 4 and 12);
- programs that provide economically viable alternatives for tobacco farmers and farm workers, which may be integrated with existing programs where possible (Article 17); and
- measures to protect the environment and the health of persons in relation to the environment with respect to tobacco cultivation and manufacture (Article 18).

Given that its recommendations are based on the best available evidence on tobacco use, prevention, and control in Africa and were reached through consensus and rigorous science academy processes, the committee hopes that this report will, in some way, contribute

to the prioritization of tobacco use, prevention, and control on the agenda of the AU. The committee further hopes that African leaders will act swiftly and decisively to avert a tobacco use epidemic before it occurs, safeguarding Africa's health, economy, and development in the process. Even though this report targets African leaders in particular, the committee hopes that other key stakeholders in tobacco use prevention and control—civil society organizations, research institutions, and academia in particular—will obtain and use some of the important information highlighted in this report. In the end, as underscored in this report, it will take focused, coordinated, and collective African and global action to save Africa from a scourge that can be prevented.

REFERENCES

Abdullah, A. S., and C. G. Husten. 2004. Promotion of smoking cessation in developing countries: A framework for urgent public health interventions. Thorax 59(7):623-630.

Adams, C. 2013. Where are we with the NCD movement? Paper presented at 28th International Conference of Alzheimer's Disease International, Taipei, Taiwan.

Alleyne, G., A. Binagwaho, A. Haines, S. Jahan, R. Nugent, A. Rojhani, D. Stuckler, and N. C. D. A. G. Lancet. 2013. Embedding non-communicable diseases in the post-2015 development agenda. The Lancet 381(9866):566-574.

Anderson, S. J., S. A. Glantz, and P. M. Ling. 2005. Emotions for sale: Cigarette advertising and women's psychosocial needs. Tobacco Control 14(2):127-135.

ASH (Action on Smoking and Health). 2008. BAT's African footprint. London, United Kingdom: ASH.

ASH. 2009. Tobacco and the developing world. London, United Kingdom: ASH.

AU (African Union). 2007. Africa health strategy: 2007–2015. Paper presented at Third Session of the African Union Conference of Ministers of Health, Johannesburg, South Africa.

Ayo-Yusuf, O. A., and B. G. Olutola. 2013. 'Roll-your-own' cigarette smoking in South Africa between 2007 and 2010. BMC Public Health 13(1):597.

Baleta, A. 2010. Africa's struggle to be smoke free. The Lancet 375:107-108.

Bauld, L. 2011. Impact of smoke free legislation in England: Evidence review. Bath, United Kingdom: University of Bath.

BBC News. 2008. Tobacco giant 'breaks youth code'. http://news.bbc.co.uk/2/hi/africa/7475259.stm (accessed September 10, 2013).

BHF (British Heart Foundation). 2011. The plain truth: How tobacco plain packaging will save lives. London, United Kingdom: BHF.

Blecher, E. H., and H. Ross. 2013. Tobacco use in Africa: Tobacco control through prevention. Atlanta, GA: American Cancer Society.

Blecher, E. H., and C. P. van Walbeek. 2009. Cigarette affordability trends: An update and some methodological comments. Tobacco Control 18(3):167-175.

BMGF (Bill & Melinda Gates Foundation). 2008. Michael Bloomberg and Bill Gates join to combat global tobacco epidemic. http://www.gatesfoundation.org/Media-Center/Press-Releases/2008/07/Michael-Bloomberg-and-Bill-Gates-Join-to-Combat-Global-Tobacco-Epidemic (accessed August 6, 2013).

BMGF. 2011. Tobacco: Strategy overview. Seattle, WA: BMGF.

Boles, M., J. Dilley, J. E. Maher, M. J. Boysun, and T. Reid. 2010. Smoke-free law associated with higher-than-expected taxable retail sales for bars and taverns in Washington state. Preventing Chronic Disease 7(4):A79.

Breslau, N., and E. L. Peterson. 1996. Smoking cessation in young adults: Age at initiation of cigarette smoking and other suspected influences. American Journal of Public Health 86(2):214-220.

Burhoo, P., D. Mohee, and L. Moussa. 2011. Chapter 13. Mauritius. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

CDC (Centers for Disease Control and Prevention). 1993. Green tobacco sickness in tobacco harvesters—Kentucky, 1992. Morbidity and Mortality Weekly Report 42(13).

CDC. 1994. Changes in brand preference of adolescent smokers—United States, 1989-1993. Morbidity Mortality Weekly Report 43(32):571-581.

CDC. 2012. Fact sheet: Health effects of smoking. http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/ (accessed September 20, 2013).

CDC. 2013a. Global Tobacco Surveillance System Data (GTSSData): Ever offered a free cigarette by a tobacco company representative. http://nccd.cdc.gov/GTSSData/default/IndicatorResults.aspx?TYPE=&SRCH=C&SUID=GYTS&SYID=RY&CAID=Topic&SCID=C05&QUID=Q07&WHID=WW&COID=&LOID=LL&DCOL=S&FDSC=FD&FCHL=&FREL=&FAGL=&FSEL=&FPRL=&DSRT=DEFAULT&DODR=ASC&DSHO=False&DCIV=N&DCSZ=N&DOCT=0&XMAP=IAB&MPVW=&TREE=0 (accessed September 20, 2013).

CDC. 2013b. Global Tobacco Surveillance System Data (GTSSData): Had object with a cigarette or tobacco logo on it. http://nccd.cdc.gov/GTSSData/default/IndicatorResults.aspx?TYPE=&SRCH=C&SUID=GYTS&SYID=RY&CAID=Topic&SCID=C05&QUID=Q06&WHID=WW&COID=&LOID=LL&DCOL=S&FDSC=FD&FCHL=&FREL=&FAGL=&FSEL=&FPRL=&DSRT=DEFAULT&DODR=ASC&DSHO=False&DCIV=N&DCSZ=N&DOCT=0&XMAP=IAB&MPVW=&TREE=0 (accessed September 20, 2013).

CFTFK (Campaign for Tobacco-Free Kids). 2012. Smoke-free laws do not harm business at restaurants and bars. Washington, DC: CFTFK.

Chaloupka, F. J., A. Yurekli, and G. T. Fong. 2012. Tobacco taxes as a tobacco control strategy. Tobacco Control 21(2):172-180.

CTC-Africa. 2012. Fellow required to strengthen national capacities for tobacco control in sub-Saharan Africa. http://ctc-africa.org/pt/index.php/career-oppotunities/190-fellow-required-to-strengthen-national-capacities-for-tobacco-control-in-sub-saharan-africa (accessed September 11, 2013).

Daniels, A., S. C. Taylor, S. Post, A. M. Pilsner, Y. M. Hunt, and E. Augustson. 2012. Tech to treat: The smokefree teen approach to cessation. Paper presented at National Conference on Health Communication Marketing and Media, Atlanta, GA.

Dillon, K. A., and R. A. Chase. 2010. Secondhand smoke exposure, awareness, and prevention among African-born women. American Journal of Preventive Medicine 39(6, Suppl. 1):S37-S43.

Doku, D. 2010. The tobacco industry tactics: A challenge for tobacco control in low and middle income countries. African Health Sciences 10(2):201-203.

Eriksen, M., J. Mackay, and H. Ross. 2012. The tobacco atlas, 4th ed. Atlanta, GA: American Cancer Society.

Esson, K. M., and S. R. Leeder. 2004. The millennium development goals and tobacco control: An opportunity for global partnership. Geneva, Switzerland: Tobacco Free Initiative, WHO.

Evans, N., A. Farkas, E. Gilpin, C. Berry, and J. P. Pierce. 1995. Influence of tobacco marketing and exposure to smokers on adolescent susceptibility to smoking. Journal of the National Cancer Institute 87(20):1538-1545.

FCA (Framework Convention Alliance). 2013. FCA views on post-2015 development agenda. Geneva, Switzerland: FCA.

Federal Ministry of Health. 2012a. GATS Nigeria. Global Adult Tobacco Survey: Country report 2012. Abuja, Nigeria: Federal Ministry of Health.

Federal Ministry of Health. 2012b. GATS. Global Adult Tobacco Survey Nigeria 2012: Fact sheet. Abuja, Nigeria: Federal Ministry of Health.

Geist, H. J., K. T. Chang, V. Etges, and J. M. Abdallah. 2009. Tobacco growers at the crossroads: Towards a comparison of diversification and ecosystem impacts. Land Use Policy 26(4):1066-1079.

GNA (Ghana News Agency). 2013. WHO awards VALD for controlling tobacco use in Ghana. http://www.ghananewsagency.org/health/who-awards-vald-for-controlling-tobacco-use--62319 (accessed November 5, 2013).

Goma, F., M. Ililonga, and J. Drope. 2011. Chapter 18. Zambia. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

Groenewald, P., T. Vos, R. Norman, R. Laubscher, C. van Walbeek, Y. Saloojee, F. Sitas, D. Bradshaw, and South African Comparative Risk Assessment Collaborating Gropu. 2007. Estimating the burden of disease attributable to smoking in South Africa in 2000. South African Medical Journal 97(8, Pt. 2):674-681.

Hammond, D., G. T. Fong, A. McNeill, R. Borland, and K. M. Cummings. 2006. Effectiveness of cigarette warning labels in informing smokers about the risks of smoking: Findings from the International Tobacco Control (ITC) Four Country Survey. Tobacco Control 15(Suppl. 3):iii19-iii25.

Hatsukami, D. K., L. F. Stead, and P. C. Gupta. 2008. Tobacco addiction. The Lancet 371(9629):2027-2038.

Hefler, M., B. Freeman, and S. Chapman. 2013. Tobacco control advocacy in the age of social media: Using Facebook, Twitter and change. Tobacco Control 22(3):210-214.

HHS (U.S. Department of Health and Human Services). 2010. How tobacco smoke causes disease: The biology and behavioral basis for smoking-attributable disease: A report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of Surgeon General.

Hitchman, S. C., and G. T. Fong. 2011. Gender empowerment and female-to-male smoking prevalence ratios. Bulletin of the World Health Organization 89(3):195-202.

Howell, F. 2005. Smoke-free bars in Ireland: A runaway success. Tobacco Control 14(2):73-74.

IDRC/CRDI (International Development Research Centre). 2013. Non-communicable disease prevention: African Tobacco Situation Analysis (ATSA). http://www.idrc.ca/EN/Programs/Global_Health_Policy/Non-Communicable_Disease_Prevention/Pages/ResultDetails.Aspx?ResultID=86 (accessed August 6, 2013).

IGTA (International Tobacco Growers' Association). 2012. Alternative crops. http://www.tobaccoleaf.org/conteudos/default.asp?ID=50&IDP=20&P=5 (accessed July 17, 2013).

ILA (International Institute for Legislative Affairs). 2011. Economics of tobacco taxation in Kenya. Nairobi, Kenya: ILA.

International Labor Rights Forum. 2012. Tobacco campaign. http://www.laborrights.org/stop-child-labor/tobacco-campaign (accessed September 10, 2013).

International Partnership for Cooperation on Child Labour in Agriculture. 2012. Format to identify and document good practices on child labour in agriculture: Labour saving technologies and corporate social responsibility in tobacco production, Tanzania. Geneva, Switzerland: International Partnership for Cooperation on Child Labour in Agriculture.

IOM (Institute of Medicine). 2012. Scientific standards for studies on modified risk tobacco products. Washington, DC: The National Academies Press.

Jepson, R. G., F. M. Harris, S. Platt, and C. Tannahill. 2010. The effectiveness of interventions to change six health behaviours: A review of reviews. BMC Public Health 10:538.

Jha, P., and F. Chaloupka, eds. 2000. Tobacco control in developing countries. New York: Oxford University Press.

Jha, P., F. J. Chaloupka, J. Moore, V. Gajalakshmi, P. C. Gupta, R. Peck, S. Asma, and W. Zatonski. 2006. Tobacco addiction. In Disease control priorities in developing countries, edited by D. T. Jamison, J. G. Breman, A. R. Measham, G. Alleyne, M. Claeson, D. B. Evans, P. Jha, A. Mills and P. Musgrove. Washington DC: The International Bank for Reconstruction and Development/ The World Bank Group. Pp. 869-886.

Joossens, L., and A. B. Gilmore. 2013. The transnational tobacco companies' strategy to promote codentify, their inadequate tracking and tracing standard. Tobacco Control. Published Online First: 27 April 2013 doi:10.1136/tobaccocontrol-2012-050796.

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

Jordan, J. 2012. Comparing tobacco control social media strategies to reach youth. Paper presented at National Conference on Health Communication Marketing and Media, Atlanta, GA.

Kazoka, L. 2013. Tanzania: Tobacco farms notorious for worst forms of child labour. http://allafrica.com/stories/201308270335.html (accessed September 10, 2013).

Kelly, B. B., J. Narula, and V. Fuster. 2012. Recognizing global burden of cardiovascular disease and related chronic diseases. Mount Sinai Journal of Medicine 79(6):632-640.

Keyser, J. 2007 February 27-28, 2007. Crop substitution and alternative crops for tobacco. Paper presented at The first meeting of the Ad Hoc Study Group on Alternative Crops established by the Conference of the Parties to the WHO Framework Convention on Tobacco Control, Brasília, Brazil.

Kibwage, J. K., A. J. Odondo, and G. M. Momanyi. 2009. Assessment of livelihood assets and strategies among tobacco and non tobacco growing households in South Nyanza region, Kenya. African Journal of Agricultural Research 4(4):294-304.

Kenya Tobacco Control Situational Analysis Consortium (KTSA Consortium). 2008. Situational analysis of tobacco control in Kenya: Report of the baseline assessment. Nairobi, Kenya: Kenya Tobacco Control Situational Analysis Consortium.

KTSA Consortium. 2011. Chapter 11. Kenya. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

Lange, A. D. 2009. Gender dimensions of rural child labour in Africa. Paper presented at FAO-IFAD-ILO Workshop on Gaps, trends and current research in gender dimensions of agricultural and rural employment: Differentiated pathways out of poverty, Rome, Italy.

Lecours, N., G. E. Almeida, J. M. Abdallah, and T. E. Novotny. 2012. Environmental health impacts of tobacco farming: A review of the literature. Tobacco Control 21(2):191-196.

Lee, S., P. M. Ling, and S. A. Glantz. 2012. The vector of the tobacco epidemic: Tobacco industry practices in low and middle-income countries. Cancer Causes Control 23(Suppl. 1):117-129.

Legresley, E., K. Lee, M. E. Muggli, P. Patel, J. Collin, and R. D. Hurt. 2008. British American tobacco and the "insidious impact of illicit trade" in cigarettes across Africa. Tobacco Control 17(5):339-346.

Li, D. X., and G. E. Guindon. 2013. Income, income inequality and youth smoking in low- and middle-income countries. Addiction 108(4):799-808.

Lopez, A. D., N. E. Collishaw, and T. Piha. 1994. A descriptive model of the cigarette epidemic in developed countries. Tobacco Control(3):242-247.

Lopez, C. M., J. A. Ruiz, L. M. Shigematsu, and H. R. Waters. 2011. The economic impact of Mexico City's smoke-free law. Tobacco Control 20(4):273-278.

Lotrean, L. M., F. Dijk, I. Mesters, C. Ionut, and H. De Vries. 2010. Evaluation of a peer-led smoking prevention programme for Romanian adolescents. Health Education Research 25(5):803-814.

Lovato, C., A. Watts, and L. F. Stead. 2011. Impact of tobacco advertising and promotion on increasing adolescent smoking behaviours. Cochrane Database of Systematic Reviews (10): CD003439.

Magati, P. O., J. K. Kibwage, S. Gor Omondi, G. Ruigu, and W. Omwansa. 2012. A cost-benefit analysis of substituting bamboo for tobacco: A case study of smallholder tobacco farmers in South Nyanza, Kenya. Science Journal of Agricultural Research and Management 2012:9.

Market Behaviour Ltd. 1991. The cigarette market in Nigeria: Qualitative consumer behaviour and brand status study. London, United Kingdom: BAT.

Melberg, H. O., and K. E. Lund. 2012. Do smoke-free laws affect revenues in pubs and restaurants? European Journal of Health Economics 13(1):93-99.

Mendez, D., O. Alshanqeety, and K. E. Warner. 2013. The potential impact of smoking control policies on future global smoking trends. Tobacco Control 22(1):46-51.

Moodie, R., D. Stuckler, C. Monteiro, N. Sheron, B. Neal, T. Thamarangsi, P. Lincoln, and S. Casswell. 2013. Profits and pandemics: Prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. The Lancet 381(9867):670-679.

Moolchan, E. T., P. Fagan, A. F. Fernander, W. F. Velicer, M. D. Hayward, G. King, and R. R. Clayton. 2007. Addressing tobacco-related health disparities. Addiction 102(Suppl. 2):30-42.

NCI (National Cancer Institute). 2008. The role of the media in promoting and reducing tobacco use. Tobacco Control Monograph No 19. NIH Pub. No. 07-6242. Bethesda, MD: HHS, National Institutes of Health, NCI.

Njoumemi, Z., D. Sibetcheu, T. Ekoe, and E. Gbedji. 2011. Chapter 8. Cameroon. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

Nsereko, E., P. Brysiewicz, and N. G. Mtshali. 2008. Knowledge and practice regarding smoking among staff members of a hospital in Kigali, Rwanda. Professional Nursing Today 12(6):27.

Nturibi, E. M., A. K. Akinsola, and S. A. McCurdy. 2009. Smoking prevalence and tobacco control measures in Kenya, Uganda, the Gambia and Liberia: A review. International Journal of Tuberculosis and Lung Disease 13(2):165-170.

Öberg, M., A. Woodward, M. S. Jaakkola, A. Peruga, and A. Prüss-Ustün. 2010. Global estimate of the burden of disease from second-hand smoke. Geneva, Switzerland: WHO.

Okrut, M. K. 2013. Speech at the Africa tobacco control committee meeting. Paper presented at Building Leadership to Address the Negative Effects of Tobacco on Africa's Health, Development, and Economy, Kampala, Uganda.

Otañez, M. 2008. Social disruption caused by tobacco growing. Paper presented at Study conducted for the Second meeting of the Study Group on Economically Sustainable Alternatives to Tobacco Growing—WHO Framework Convention on Tobacco Control, Mexico City, Mexico.

Otañez, M. G., H. Mamudu, and S. A. Glantz. 2007. Global leaf companies control the tobacco market in Malawi. Tobacco Control 16(4):261-269.

Otañez, M. G., H. M. Mamudu, and S. A. Glantz. 2009. Tobacco companies' use of developing countries' economic reliance on tobacco to lobby against global tobacco control: The case of Malawi. American Journal of Public Health 99(10):1759-1771.

Ouedraogo, S., L. Ouedraogo, and K. Théodore. 2011. Chapter 7. Burkina Faso. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

Owusu-Dabo, E., S. Lewis, A. McNeill, A. Gilmore, and J. Britton. 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).

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

Peltzer, K. 2011a. Determinants of exposure to second-hand tobacco smoke (SHS) among current non-smoking in-school adolescents (aged 11-18 years) in South Africa: Results from the 2008 GYTS study. International Journal of Environmental Research and Public Health 8(9):3553-3561.

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

Perucic, A.-M. 2012. Alternatives to tobacco growing, recent evidence at country and global levels. Paper read at World Conference on Tobacco or Health, Singapore.

Pollay, R. W., S. Siddarth, M. Siegel, A. Haddix, R. K. Merritt, G. A. Giovino, and M. Eriksen. 2006. The last straw? Cigarette advertising and realized market shares among youths and adults, 1979-1993. Journal of Marketing 60:1-16.

PSC (Physicians for a Smoke-Free Canada). 2010. Picture based cigarette warnings. http://www.smoke-free.ca/warnings/ (accessed September 12, 2013).

Quick, J. D. 2011. NCDs: The social justice movement of our generation. http://www.smartglobalhealth.org/blog/entry/ncds-the-social-justice-movement-of-our-generation/ (accessed November 4, 2013).

Ramin, B., D. Kam, B. Feleke, B. Jacob, and P. Jha. 2008. Smoking, HIV and non-fatal tuberculosis in an urban African population. International Journal of Tuberculosis and Lung Disease 12(6):695-697.

Rigotti, N. A. 2013. Smoking cessation in patients with respiratory disease: Existing treatments and future directions. The Lancet Respiratory Medicine 1(3):241-250.

Robertson, R. 2008. Using information to promote healthy behaviours. London, United Kingdom: King's Fund.

Sachs, J. D. 2001. Macroeconomics and health: Investing in health for economic development. Report of the Commission on Macroeconomics and Health. Geneva, Switzerland: WHO.

Saffer, H., and F. Chaloupka. 2000. The effect of tobacco advertising bans on tobacco consumption. Journal of Health Economics 19(6):1117-1137.

Salaudeen, A., O. Musa, T. Akande, and O. Bolarinwa. 2011. Effects of health education on cigarette smoking habits of young adults in tertiary institutions in a northern Nigerian state. Health Science Journal 5(3):216-228.

Shafey, O., S. Dolwick, and G. E. Guindon, eds. 2003. Tobacco control country profiles, 2nd ed. Atlanta, GA: UICC with the WHO and the American Cancer Society.

Sidney, M. 2013. Uganda tobacco growing has kept Giro poor for 50 years. http://allafrica.com/stories/201303182620.html?page=2 (accessed September 10, 2013).

Sitas, F., S. Egger, D. Bradshaw, P. Groenewald, R. Laubscher, D. Kielkowski, and R. Peto. 2013. Differences among the coloured, white, black, and other south African populations in smoking-attributed mortality at ages 35–74 years: A case-control study of 481 640 deaths. The Lancet 382(9893):685-693.

Suhrcke, M., R. A. Nugent, and D. S. L. Rocco. 2006. Chronic disease: An economic perspective. London, United Kingdom: The Oxford Health Alliance.

Tanzania Public Health Association. 2011. Chapter 17. Tanzania. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

Taylor, A., F. Chaloupka, G. E. Guindon, and M. Corbett. 2000. The impact of trade liberalization on tobacco consumption. In Tobacco control in developing countries, edited by P. Jha and F. Chaloupka. Oxford: Oxford University Press.

The Tobacco Atlas. 2013a. Female tobacco use. http://www.tobaccoatlas.org/products/female_tobacco_use/prevalence/ (accessed September 10, 2013).

The Tobacco Atlas. 2013b. Male tobacco use. http://www.tobaccoatlas.org/products/male_tobacco_use/prevalence/ (accessed September 10, 2013).

Thomas, R. E., and R. Perera. 2008. School-based programmes for preventing smoking (review). Oxford, United Kingdom: The Cochrane Collaboration.

Thun, M., R. Peto, J. Boreham, and A. D. Lopez. 2012. Stages of the cigarette epidemic on entering its second century. Tobacco Control 21(2):96-101.

Townsend, L., A. J. Flisher, T. Gilreath, and G. King. 2006. A systematic literature review of tobacco use among adults 15 years and older in sub-Saharan Africa. Drug and Alcohol Dependence 84(1):14-27.

Transcrime. 2012. Plain packaging and illicit trade in the UK: Study on the risks of illicit trade in tobacco products as unintended consequences of the introduction of plain packaging in the UK. Milan, Italy: Transcrime-Joint Research Centre on Transnational Crime.

Tsighe, Z., S. Hailemariam, S. Woldeab, G. Mebrahtu, M. Habte, S. Sium, M. Bokuretsion, H. Ahmed, G. Gberyohannes, A. Gebremicael, and G. Solomon. 2011. Chapter 9. Eritrea. In Tobacco control in Africa: People, politics and policies, edited by J. Drope. London, UK: Anthem Press and International Development Research Centre.

UN (United Nations). 2012. Protocol to eliminate illicit trade in tobacco products. New York: UN.

UN. 2013. United Nations commodity trade statistics database. http://comtrade.un.org/db/default.aspx (accessed October 25, 2013).

UN General Assembly. 2011. Political declaration of the high-level meeting of the general assembly on the prevention and control of non-communicable diseases. Paper read at High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases, New York.

UNAIDS (Joint United Nations Programme on HIV/AIDS). 2012. Global report: UNAIDS report on the global AIDS epidemic 2012. Geneva, Switzerland: UNAIDS.

Underner, M., and J. Perriot. 2012. [Smoking and tuberculosis]. Presse Med 41(12, Pt. 1):1171-1180.

UNFPA (United Nations Population Fund). 2013. CARMMA: Campaign on Accelerated Reduction of Maternal Mortality in Africa. http://esaro.unfpa.org/public/public/lang/en/pid/7130 (accessed September 19, 2013).

UNICEF (United Nations Children's Fund). 2013. Levels & trends in child mortality. New York: UN Inter-agency Group for Child Mortality Estimation.

United Nations News Centre. 2013. Malawi must reassess its agricultural policies to break cycle of poverty—UN expert. www.un.org/apps/news/story.asp?NewsID=45467#.Ui-F4MZju-1 (accessed September 10, 2013).

VALD (Vision for Alternative Development). 2010. Our projects. http://www.valdghana.org/projects.php (accessed November 5, 2013).

van Walbeek, C. 2010. A simulation model to predict the fiscal and public health impact of a change in cigarette excise taxes. Tobacco Control 19(1):31-36.

Wakefield, M. A., B. Loken, and R. C. Hornik. 2010. Use of mass media campaigns to change health behaviour. The Lancet 376(9748):1261-1271.

WB (World Bank). 1999. Development in practice: Curbing the epidemic governments and the economics of tobacco control. Washington, DC: WB.

WB. 2011. The growing danger of non-communicable diseases: Acting now to reverse course. Washington, DC: WB.

WHO (World Health Organization). 2003a. WHO framework convention on tobacco control. Geneva, Switzerland: WHO.

WHO. 2003b. World health assembly resolution 56.1. http://www.who.int/tobacco/framework/final_text/en/index4.html (accessed July 17, 2013).

WHO. 2004. Tobacco increases the poverty of individuals and families. Geneva, Switzerland: WHO.

WHO. 2007. Sifting the evidence: Gender and tobacco control. Geneva, Switzerland: WHO.

WHO. 2008. MPOWER: A policy package to reverse the tobacco epidemic. Geneva, Switzerland: WHO.

WHO. 2010a. Fifth anniversary of the entry into force of the WHO framework convention on tobacco control. Geneva, Switzerland: WHO.

WHO. 2010b. Gender, women, and the tobacco epidemic. Geneva, Switzerland: WHO.

WHO. 2010c. Global health observatory data repository: Tobacco control. http://gamapserver.who.int/gho/interactive_charts/tobacco/policies/atlas.html?indicator=i1 (accessed July 17, 2013).

WHO. 2010d. ICD-10 version: 2010. http://apps.who.int/classifications/icd10/browse/2010/en# (accessed July 17, 2013).

WHO. 2010e. WHO technical manual on tobacco tax administration. Geneva, Switzerland: WHO.

WHO. 2011a. Global status report on noncommunicable diseases 2010. Geneva, Switzerland: WHO.

WHO. 2011b. Scaling up action against noncommunicable diseases. Geneva, Switzerland: WHO.

WHO. 2011c. WHO report on the global tobacco epidemic, 2011: Warning about the dangers of tobacco. Geneva, Switzerland: WHO.

WHO. 2012a. 2012 global progress report on implementation of the WHO framework convention on tobacco control. Geneva, Switzerland: WHO.

WHO. 2012b. Economically sustainable alternatives to tobacco growing (in relation to articles 17 and 18 of the WHO framework convention on tobacco control). Paper presented at Conference of the Parties to the WHO Framework Convention on Tobacco Control, Seoul, Republic of Korea.

WHO. 2012c. WHO global report: Mortality attributable to tobacco. Geneva, Switzerland: WHO.

WHO. 2013a. The government of Nigeria releases the first-ever Global Adult Tobacco Survey (GATS) report in the African region. http://www.afro.who.int/pt/nigeria/press-materials/item/5719-the-government-of-nigeria-releases-the-first-ever-global-adult-tobacco-survey-gats-report-in-the-african-region.html (accessed November 4, 2013).

WHO. 2013b. WHO report on the global tobacco epidemic, 2013: Enforcing bans on tobacco advertising, promotion and sponsorship. Geneva, Switzerland: WHO.

WHO. 2013c. WHO report on the global tobacco epidemic, 2013: Enforcing bans on tobacco advertising, promotion and sponsorship. Appendix x. Graphs 10.1: Age-standardized prevalence estimates for tobacco smoking among all persons aged 15 years and over. Geneva, Switzerland: Tobacco Free Initiative, WHO.

WHO. 2013d. WHO report on the global tobacco epidemic, 2013: Enforcing bans on tobacco advertising, promotion and sponsorship. Published data set. Geneva, Switzerland: Tobacco Free Initiative, WHO.

WHO and The Union. 2011a. Building capacity for tobacco control: Training package. 2. Warn about the dangers of tobacco: Packaging and labelling of tobacco products. Geneva, Switzerland: WHO and The Union.

WHO and The Union. 2011b. Building capacity for tobacco control: Training package. 3. Tobacco advertising, promotion and sponsorship: Enforcing comprehensive bans. Geneva, Switzerland: WHO and The Union.

Williams, C. T., S. A. Grier, and A. S. Marks. 2008. "Coming to town": The impact of urbanicity, cigarette advertising, and network norms on the smoking attitudes of black women in Cape Town, South Africa. Journal of Urban Health 85(4):472-485.

Yach, D., and D. Bettcher. 2000. Globalisation of tobacco industry influence and new global responses. Tobacco Control 9(2):206-216.

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