Extrapolative Analysis of the Economic Implications of Tobacco Use in Central and East Africa

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Abstract: - **Tobacco related diseases are threat to public health all over the world, with more than 7 million deaths recorded annually. More than 6 million of those deaths are fallouts of direct tobacco consumption while about 890,000 are from passive smoking. Most of these victims, as existing studies reveals are youths. Coincidentally, the role of youths in sustainable development cannot be underestimated. Youths are the source of the human capital that create wealth for the nation and the foundation of any sustainability. Incidentally, rampant abuse of tobacco, with its attendant health problems like cancer and most importantly the negative social behavior and death significantly affect economic growth. Given the relative significance to economic growth therefore, this paper sets out toexamine the economic implications of tobacco use on sustainable development in Central and East Africa. Applying the descriptive and situational analysis, the study reveals that tobacco use as well as tobacco – related deaths is on the increase. Hence, tobacco use stands as impediment towards achieving SDGs in sub-Saharan Africa. The study therefore recommends that high tariff be imposed on tobacco in order to discourage its massive consumption by youth so as to keep them healthy for the attainment of SDGs.**

Keywords: **Tobacco, Youths, sub-Saharan, Sustainable Development, Human Capital**

JEL Classification: **I12, I15, I18**

I. INTRODUCTION

Tobacco, notably, is in use throughout the world accompanied by a host of diseases that threaten the health state and reduces the life span of users (WHO, 2017).There are over 1 billion smokers around the world, and 80% of them live in developing countries (Sub-Saharan Africa).Tobacco smoking remains the leading cause of preventable deaths, leading to almost 6 million deaths globally on a yearly basis (Sinha et. al, 2015; WHO, 2012, 2011a). Its usage is also responsible for over 20 percent of all cancer related deaths and 70 percent of all lung cancer deaths worldwide. It is also a risk factor for respiratory diseases (including asthma, bronchitis and emphysema) and cardiovascular diseases and stroke. Despite all the numerous health threats from tobacco consumption and its implications on the human body, the number of smokers worldwide has risen to about 1.3 billion and may as well reach 1.5 billion by 2025 (Guindon & Boisclair, 2003, Oyewole, Animasahun & Chapman, 2018). It is also predicted that half of all the lifetime smokers will die prematurely as a result of tobacco use, losing 20 – 25 years of life expectancy compared with non-smokers and hast a two-trillion dollar (purchasing power parity) economic cost to society each year.The increase in the consumption of tobacco is largely due to marketing strategies, targeting young people and women by the transnational tobacco companies. (Akindele and Akinbode, 2017, WHO, 2017).

In recent time, tobacco related death in SSA accounts for 25 percent of all deaths that is proportionate to the deaths caused by HIV/AIDS(12 percent) and Malaria (13 per cent) (Tobacco Atlas, 2017). The consumption caused nearly 100 million premature deaths worldwide in the 20th century, a public health catastrophe that primarily affected high income countries (HICs). In the 21st century, tobacco is projected to cause 1 billion deaths, with the majority of these deaths expected to occur in lower middle-income countries (LMICs). Not only has the burden of tobacco use and tobacco – related diseases and deaths shifted from high income countries (HICs) to Low Income Countries (LICs), but the tobacco epidemic has significantly increased among the Sub -Saharan countries in all stages of economic development.

In response, the international community through the United Nations (UN) in September 2015 adopts the Sustainable Development Goals (SDGs). The SDGs are a set of 17 ambitious and precise goals to be achieved by 2030 for a better world in which both humans and nature are fully developed. Goal 3.A calls for strengthened implementation of the World Health Organization Framework Convention on Tobacco. The inclusion of this specific target on tobacco control in the 2030 Agenda for SDGs has under lived the wider contributions that can be made to sustainable development at both national and global level. However, despite the rhetorical commitment towards a smoke-free world, all major tobacco companies continue to aggressively advertise tobacco and rigorously fight tobacco country efforts around the world. The question is; is tobacco consumption a blessing or a curse towards achieving SDGs in Africa?

Existing studies on tobacco related issues have focused on the adverse effect on health (see for example, Achia, 2015, Lee, Ling and Glanz 2012; Lovato, Watts and Staed, 2011; Melberg and Lund, 2012) but little work has been done on its economic implication of its related adverse effect to expected development. These adverse developments call for the consideration and careful evaluation of tobacco use and its negative health and economic consequences as an aspect of the multiple dimensions of human capital and development. Based on the foregoing, this paper examines the economic implication of tobacco use for the attainment of sustainable

development focusing on some selected Sub-Saharan African countries.Aside from the introduction of this paper, section 2 focuses on the literature review. Section 3 deals with the data and materials while section 4 presents the data and discussion of findings. Section 5 concludes and proffer possible recommendations.

II. METHODS AND MATERIALS

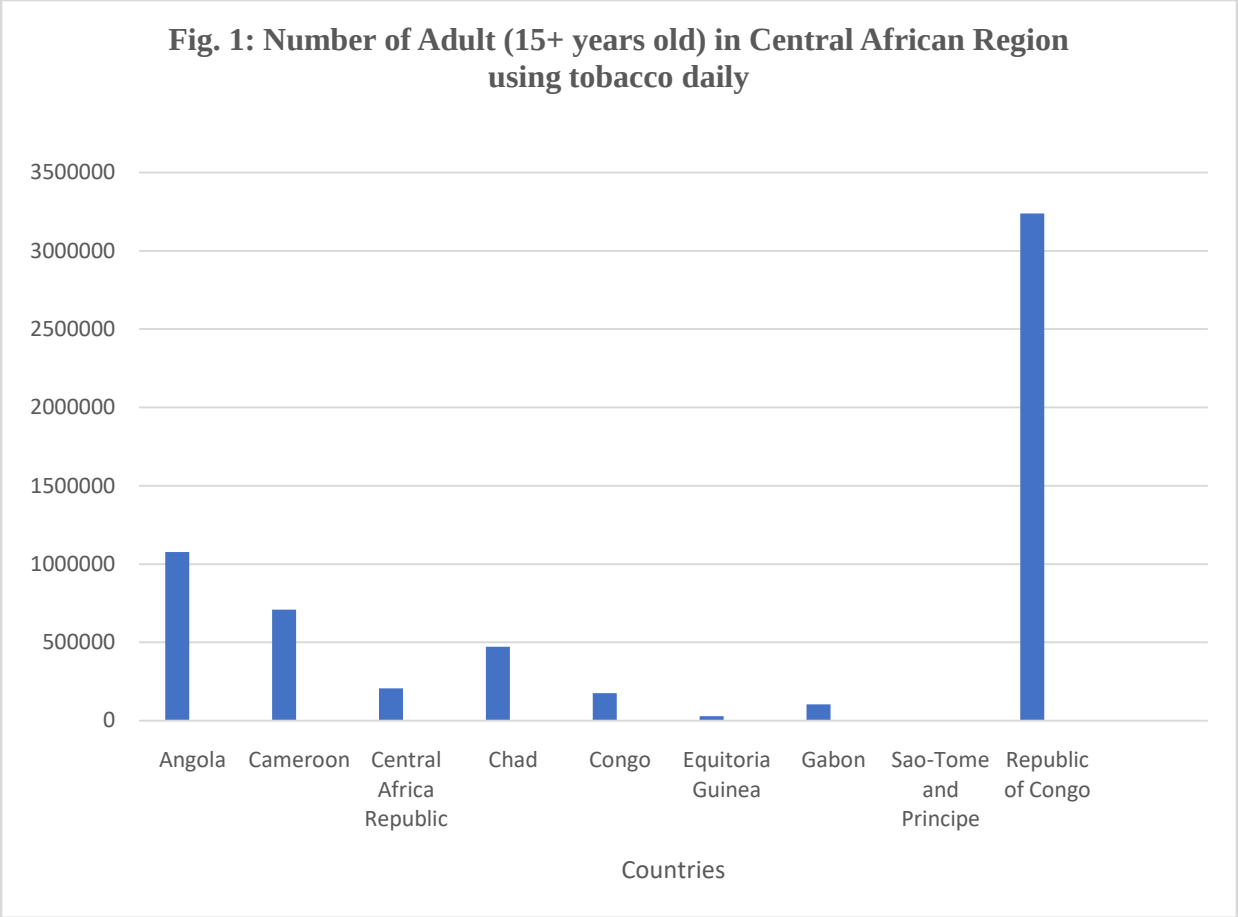
The paper employed descriptive and situational analysis to examine the economic implication of tobacco consumption in Central and East Africa region.A total of twenty-five countries were examined 9 from Central Africa and 16 from East Africa. The data used are the estimated tobacco related death cases in 2015, estimated percentage of death in 2016 for both male and female, number of people currently using tobacco daily (15+ age years), population and the 2016 population growth rate for each country. Data where sourced from the Tobacco Atlas 6th edition, computed and projected for each country for the period of 2018 to 2030. The computation was based on the 2016 percentage of death caused by tobacco on the total number of death in the year 2015 for each country based on the figure from Tobacco Atlas.

III. PRESENTATION OF FINDINGS

The presentation of the data obtained from Development Indicators, Tobacco Atlas for all the selected countries and the projected figure are presented in this section. The trend analysis with the use of line graph in order to examine the movement of tobacco related death through the situational analysis were also discussed.

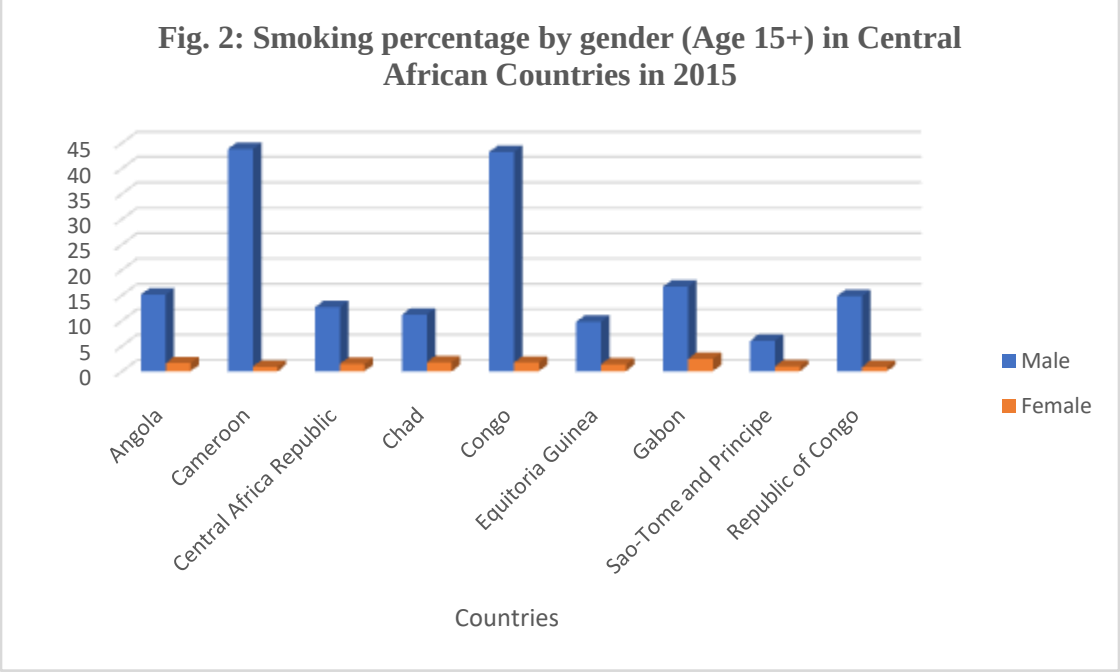
3.1 Consumption of Tobacco daily by adults age 15+ years

Fig. 1: Number of Adult (15+ years old) in Central African Region using tobacco daily



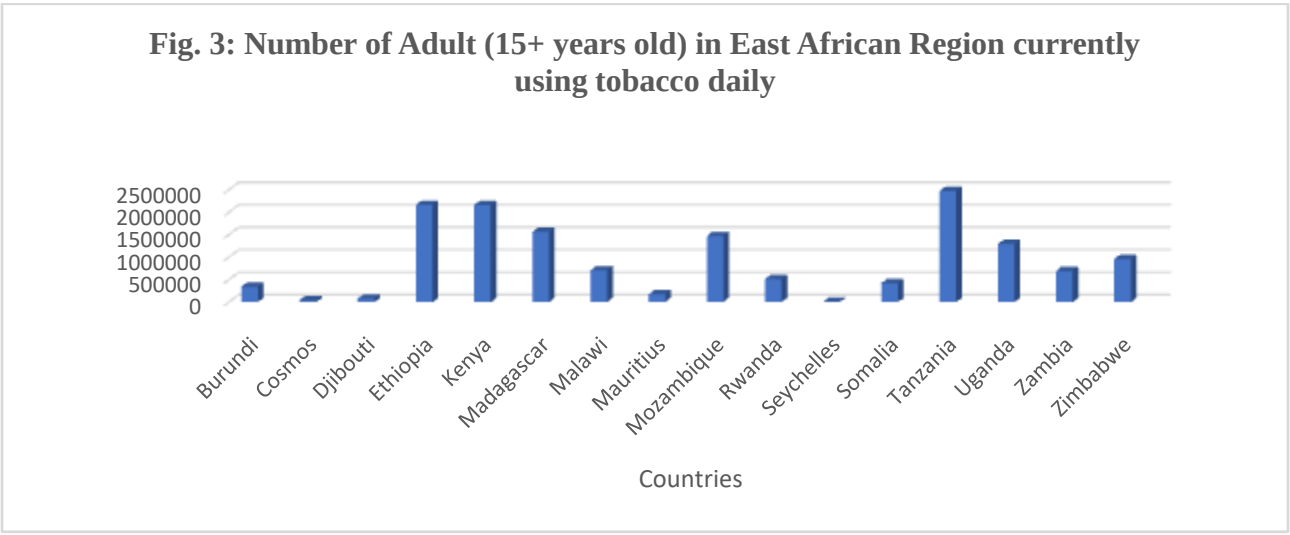
Source: Tobacco Atlas 6th Edition

Figure 1 shows the number of adult 15 years and above who are currently using tobacco in the Central Africa Countries region. Republic of Congo recorded the highest in the consumption of tobacco followed by Angola, Cameroon and Chad. The least country currently consuming tobacco in the Central African Country are Sao – Tome and Recipe and Equatorial Guinea.



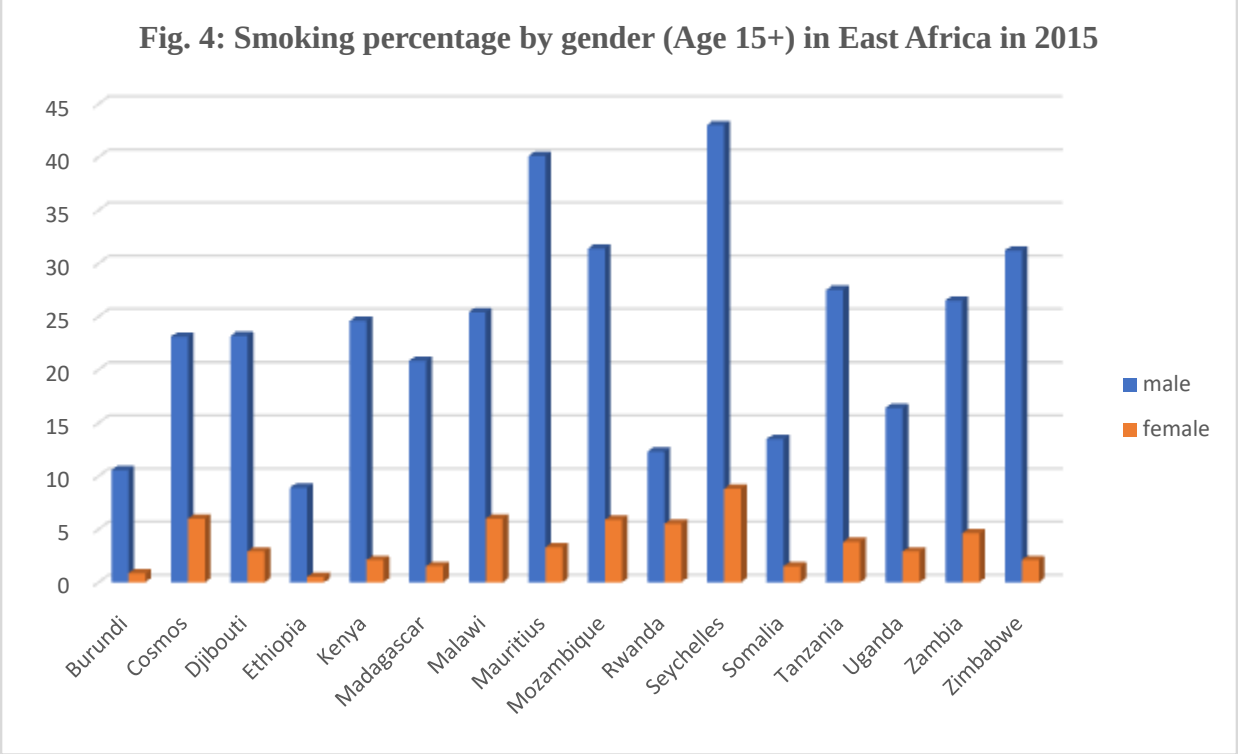
Source: Tobacco Atlas 6th Edition

In terms of gender consumption of tobacco in the Central African Countries region as at 2015. Figure 2 shows that in all the countries, there were more percentage of male that consume tobacco than their female counterpart. However, the largest percentage of the male children age 15+ age years is found in Cameroon followed by Congo and Gabon. The least was in Sao-Tome and Recipe followed by Equatorial Guinea. In terms of female, the highest percentage consumption is found in Gabon followed by Chad and Angola while Cameroon recorded the lowest followed by Sao-Tome and Recipe.



Source: Tobacco Atlas 6th Edition

In figure 3 the number of adult age 15+ currently consuming tobacco in the Eastern region is presented. Tanzania recorded the highest consumption of tobacco currently followed by Ethiopia and then Kenya. The countries with the least consumption of tobacco according to the chart were Seychelles followed by Cosmos then Djibouti. Tobacco consumption were also high in Madagascar, Mozambique and Uganda. Most of these countries continue to embark on it based on religion ground which have no ban for their consumption. Most people in these regions claim to make use of it for stress relief or in social behavior that are common in their countries.



Source: Tobacco Atlas 6th Edition

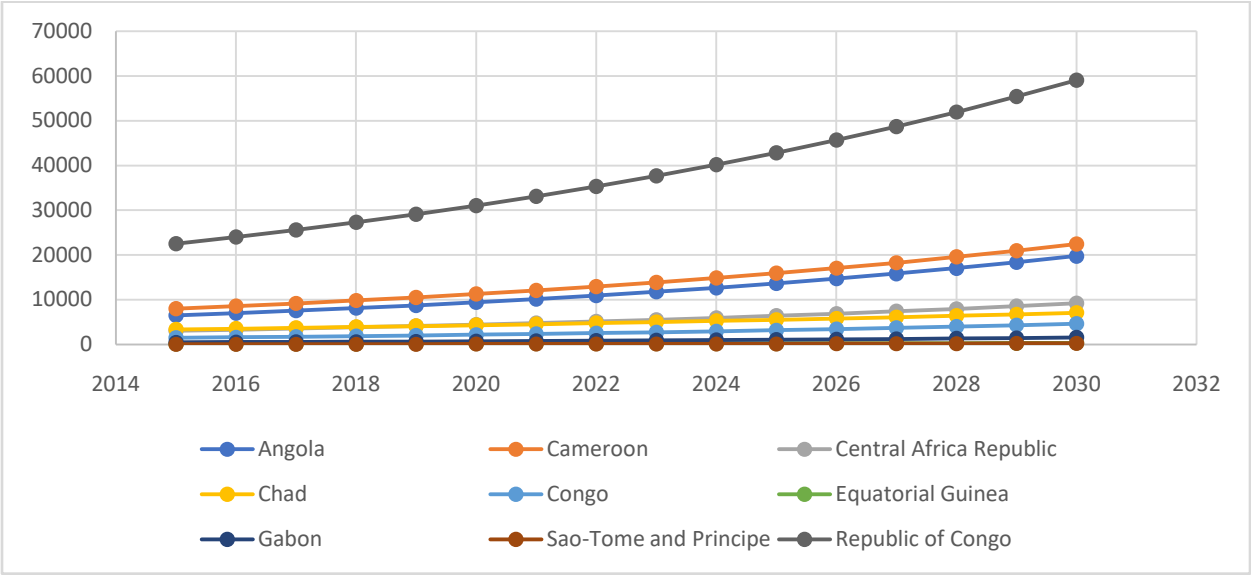
In terms of gender. Figure 4 depicts that in the East African region more percentage of the male children consume tobacco than their female counterpart in 2015. Seychelles recorded the highest percentage of adult male children 15+ age years consuming it in 2015 followed by Mauritius, Zimbabwe and Mozambique while the least consumption were in Ethiopia, Burundi and Rwanda. However, in terms of the percentage of female that consume tobacco in 2015, Seychelles female also recorded the highest in this period followed by Cosmos and Malawi and then Mozambique. The least recorded countries in terms of females were Ethiopia followed by Burundi and Somalia.

Table 1: Projected death from tobacco related cases in Central African Region (15+ age years) 2015 to 2030

Countries/ Years	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	**Total projected (2018-2030)**
Angola	6500	7001	7540	8120	8745	9419	10143	10925	11766	12673	13648	14699	15831	17050	18363	19776	171158
Cameroon	8000	8570	9180	9833	10533	11283	12087	12947	13869	14857	15915	17048	18262	19562	20955	22446	199597
Central Africa Republic	3100	3333	3584	3854	4145	4457	4792	5153	5541	5958	6407	6890	7408	7966	8566	9211	80348
Chad	3400	3571	3751	3940	4139	4348	4567	4797	5039	5293	5559	5840	6134	6443	6768	7109	69976
Congo	1500	1618	1746	1883	2031	2192	2364	2551	2752	2969	3203	3455	3727	4021	4338	4680	40166
Equatorial Guinea	156	164	173	182	192	202	213	224	236	249	262	276	291	306	322	339	3294
Gabon	500	541	585	632	684	739	799	864	934	1010	1093	1181	1277	1381	1494	1615	13703
Sao-Tome and Principe	52	58	65	72	80	90	100	112	125	139	155	173	193	215	240	268	1962
Republic of Congo	22500	23994	25587	27286	29098	31030	33091	35288	37631	40130	42794	45636	48666	51897	55343	59018	536908

Source: Author's computation (2018) Note: using 2016 % death caused by tobacco and Tobacco Atlas 6th Edition

Figure 5: Projected trend of death in Central African Region 2015 to 2030



Source: Authors (2018)

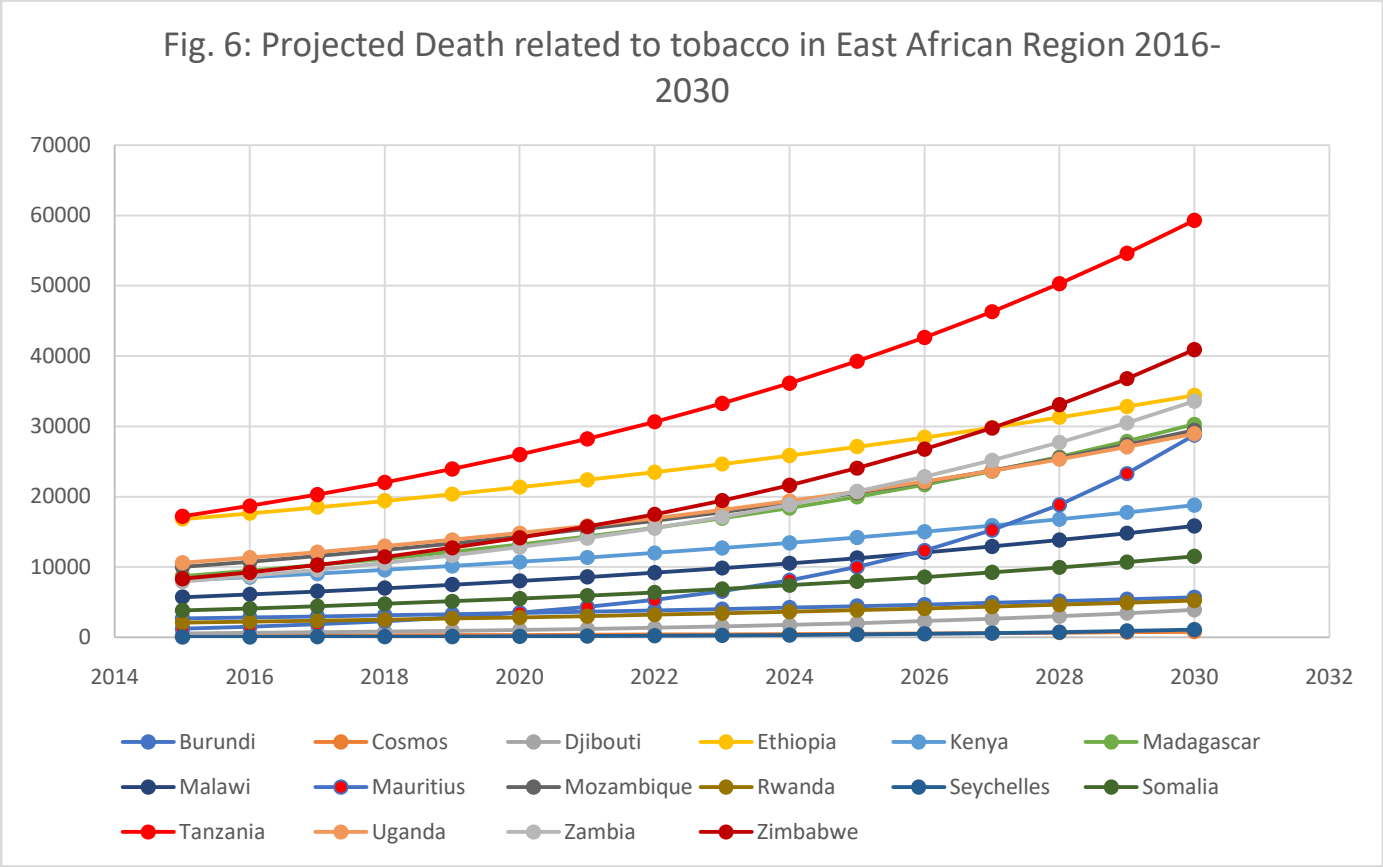
Figure 5 shows the trend of tobacco related death cases in the Central African Countries. Republic of Congo is projected to record the highest tobacco death related cases, followed by Cameroon and Angola in the region. Sao-Tome and Principe is projected to record the lowest death followed by Gabon. By 2030 it is projected that the Republic of Congo will record 59018 deaths related to tobacco followed by Cameroon with 22446. However, in table from 2018 to 2030, it is projected that the highest number of deaths related to tobacco will be recorded in the Republic of Congo with 536,908 deaths of adult age 15+ followed by Cameroon with 199597 and then Angola with 171158. The least country to record tobacco related death will be Sao-Tome and Principe with projected death of 1962 and Equatorial Guinea with 3294. The projected death total has implication on the population of the countries especially when view from the percentage on the total population.

Table 2: Projected death from tobacco related cases in East African Region(15+ age years) 2015 - 2030

Countries / Years	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total (2018-2030)
Burundi	2700	2838	2983	3135	3296	3464	3641	3827	4023	4228	4444	4671	4910	5161	5425	5702	55927
Cosmos	208	227	248	271	296	324	353	386	421	461	503	550	601	656	717	783	6322
Djibouti	521	596	682	780	892	1020	1167	1334	1526	1745	1997	2284	2612	2988	3418	3909	25672
Ethiopia	16800	17622	18483	19387	20335	21329	22372	23466	24614	25818	27080	28404	29793	31250	32778	34381	341007
Kenya	8100	8567	9062	9585	10138	10723	11349	11996	12688	13420	14194	15013	15879	16796	17765	18790	178336
Madagascar	8700	9454	10274	11165	12133	13185	14328	15570	16920	18387	19981	21713	23596	25642	27865	30281	250766
Malawi	5700	6102	6532	6993	7486	8013	8578	9183	9830	10523	11265	12059	12910	13820	14794	15837	141291
Mauritius	1200	1483	1833	2265	2800	3460	4276	5285	6532	8073	9977	12331	15240	18835	23278	28769	141121
Mozambique	10000	10746	11548	12409	13335	14330	15399	16547	17782	19108	20534	22066	23712	25481	27381	29424	257508
Rwanda	2100	2232	2372	2522	2680	2849	3028	3219	3421	3636	3865	4108	4366	4641	4933	5243	48511
Seychelles	52	64	78	95	117	143	175	214	262	320	392	480	587	718	879	1076	5458
Somalia	3800	4091	4405	4743	5107	5499	5920	6375	6863	7390	7957	8567	9224	9932	10693	11513	99783
Tanzania	17200	18679	20286	22030	23925	25982	28217	30643	33279	36141	39249	42624	46290	50271	54594	59289	492534

Uganda	10600	11334	12118	12956	13853	14812	15837	16932	18104	19357	20696	22129	23660	25297	27048	28919	259600
Zambia	7900	8700	9582	10552	11621	12798	14095	15523	17095	18827	20734	22834	25148	27695	30500	33590	261012
Zimbabwe	8300	9231	10267	11419	12700	14125	15710	17473	19433	21613	24038	26734	29735	33072	36782	40909	303743

Source: Author's computation (2018) using 2016 % death caused by tobacco and Tobacco Atlas 6th Edition



Source: Author's (2018) projected from the computed projected value from table 1

Data sourced from the tobacco atlas 6th edition

Figure 6 shows the projected tobacco related death cases in the Eastern African Countries. The trend was depicted from the projected figures in the table 2. From the trend, Tanzania is projected to have the highest deaths cases related to tobacco followed by Zimbabwe and Ethiopia. Seychelles is projected to have the lowest deaths related to tobacco cases followed by Cosmos. In figure 6a, the death related to tobacco was lower for Mauritius as other countries except for Cosmos and Djibouti were lower than it. However, it is projected that by 2019 Mauritius death related to tobacco will overshoots all other countries except Madagascar and Ethiopia. This is as a result of the high percentage of death related case in the country. Before 2028, the death cases in Ethiopia was higher than Zimbabwe. By projection Zimbabwe is expected to outnumber Ethiopia after 2027. The former will rise unabatedly and hit 40909 while the later will hit 34381 deaths. Also, Mauritius will outnumber most of the countries that has high deaths related tobacco cases from the year 2020 to 2030. Countries such as Burundi, Mozambique, Kenya and so on that outnumber them from the beginning when the projection was made.

Also, in East African Region by projection and estimation from 2018 to 2030, table 2 shows that Tanzania will record the highest death related to tobacco with 492534 followed by Ethiopia with 341007 and Zimbabwe with 303743 projected death related to tobacco. However, Seychelles and Cosmos are projected to have the least death with 5458 and 6322 deaths respectively. This shows that the projected rate of deaths in the East Africa is also high if compared with the population of the countries based on their growth rate. The increasing number of the youth has adverse implication to the attainment of SDGs comes 2030 in these regions.

IV. IMPLICATION OF FINDINGS TO SUSTAINABLE DEVELOPMENT

The whole goal of sustainable development hinges on effective health of the citizen of the nation. Emanating

from the findings, and if the projection comes to pass, it is glaring that tobacco related death cases will be on the increase and despite this, the level of consumption will also be on the rise. It is also projected that the percentage of death to the total population yearly will also be increasing years after years in all the sub-Saharan African countries.The economic implication of this phenomena can be evaluated from its impact on human capital deterioration, which of course is a core prerequisite for economic growth and sustainability. This has propensity to increase burden of morbidity, thereby reduces the quality of human capital and productivity.

Reduction in future revenue as a result of high death rate which shortens the life expectancy of the youth. The youth are the foundation of any sustainability. The untimely death reduces future revenue which would have been generated to the economy if they were able to live to the expected life expectancy of 71 years as estimated by the sub-Saharan Africa.

In terms of health expenditure, government budget will be on the rise. However, the increase in the expenditure will be majorly on curative purposes and not on acquiring equipment for effective health care provision. This is because, majority of the revenue will be used for curing the health issues of the youth in other to make them productive. However, the intention of the budget may not be achieved as a result of loss of life due to the dangerous illness associated with tobacco.

In terms of food security, most land used in the cultivation and planting of tobacco reduces the nutrient of the soil. This have adverse effects on food crops since the infertility of the soil will reduces food security which may eventually increase poverty in the long run.

The adverse implication of tobacco also leads to loss of future hope of parents. The life cycle hypothesis theory by Ando and Modiglianni was based on the fact that parents rely on the investment made at the middle age of their lives. The rampant use of tobacco with the adverse health effects and eventually death may lead to loss of future dependent of the parents. Social vices, kidnapping mental disorderliness will also be on the rise and these deter development.

Finally, if all the youths that are supposed to assist in the attainment of sustainable development passed on at early stage of their lives as a result of tobacco related diseases, no doubt that attaining sustainable development comes 2030 won't be realistic.

V. CONCLUSION AND RECOMMENDATIONS

The descriptive analysis presented shows clearly that tobacco consumption has put the Sub-Saharan African countries at a major crossroads in tobacco control. Unlike in other regions, most countries inSSA are in the early stages of the tobacco epidemic.However, tobacco use is rising dramatically in both Central and East Africa, in large part due to the tobacco industry'saggressive efforts to expand its markets. If theseefforts go unchecked, and if current projectionscome to fruition, many of the region's hard-wonhealth and development gains will be in seriousjeopardy as most of the revenue generated will only be used for the treatment of tobacco related diseases reducing the human capital. This situation presents both an urgent needand enormous opportunity for the sub-Saharan countries to preventand control the tobacco-related death, disease anddevelopmental consequences that stand as an impediment towards achieving sustainable development come 2030. Therefore, stringent tobacco control and strengthened WHO FCTCimplementation require governance arrangementsthat can facilitate multisectoral coordination andcooperation, while protecting against tobaccoindustry interference in policymaking.Effective Legal framework through act of legislation that restrict the consumption of tobacco smoking even in public places should be enforced. Strict control or outright ban of tobacco advert and reinforced by consistent media campaign against the use of tobacco need are to be put in place. Also, campaign by relevant stakeholders like Ministry of Health, Youth and Development, Environment and Woman Affairs on the negative impact of tobacco use must be carried out frequently. Finally, the stakeholders should engage in concerted efforts to target both in-school and out-of-school youths in tobacco control strategies. Passive statement such as tobacco smokers are liable to die young is not enough caution but must be made strict.

If tobacco control efforts are to be successful based on the above recommendations, the UN and sub-Saharan 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. This no doubt, will promise a better future in the attainment of SDGs in the sub-Saharan African countries.

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