STOP. A GLOBAL TOBACCO INDUSTRY WATCHDOG

Resumo

Global

A Indústria do Tabaco e o Meio Ambiente

Junho de 2021

As empresas de tabaco têm controle significativo sobre o design do produto e as cadeias de suprimento, que são responsáveis por:

Danos à vida nos oceanos. Toxinas ambientais são liberadas das bitucas de cigarro ao longo de sua decomposição de uma década[1, 2] o que prejudica a vida marinha.[3]

Perturbação do ecossistema. A produção de tabaco é responsável por 5% do desmatamento global[4] e não oferece reposição ao solo ou a outras partes do ecossistema agrícola.[5]

A produção de cigarros da indústria do tabaco prejudica o ecossistema

O tabaco é um grande disruptor do ecossistema. Ao continuar produzindo e lucrando com o tabaco e perpetuando os danos duradouros ao meio ambiente,[6] a indústria do tabaco mina os esforços para a restauração do ecos.[7]

1. **A limpeza de terras**, com a preferência por terras virgens para a produção de fumo, está levando ao **desmatamento,** impactando negativamente as reservas florestais.[8]
   - As práticas atuais de cultivo de tabaco não são sustentáveis. Períodos encurtados de reposição de florestas e solo estão colocando em risco a recuperação das florestas, causando posteriormente uma mudança topográfica de floresta para mato, ou pior, desmatamento permanente.[9]
   - **Corte e queima** de caules e resíduos de plantas após a colheita porque eles não têm valor alimentar para o gado e as aves, reduzindo assim os recursos animais essenciais, como o estrume.[10]

Fatos Rápidos

Tabaco: Mortal para o meio ambiente em todas as fases

A produção de tabaco causa:

- 5% do desmatamento global (até 30% do desmatamento em países produtores de tabaco)[11]
- 200.000 hectares de perda de biomassa de madeira anualmente[12]

O uso do tabaco leva a:

- 4,5 trilhões de bitucas de cigarro espalhadas todos os anos ao redor do mundo, gerando 1,69 bilhão de libras de lixo tóxico a cada ano[13]
- 2 milhões de toneladas de resíduos sólidos de caixas e embalagens[14]
- Concentrações de partículas internas 10 vezes maiores do que escapamentos de carros a diesel[15]
- 19-38% do total de detritos coletados em limpezas oceânicas em todo o mundo são bitucas de cigarros[16]

Acender cigarros exigiria:

- 9 milhões de árvores destruídas todos os anos para a produção de fósforos[17]

2. A **queima de lenha** por dias, obtida de florestas vizinhas, para "curar"8 folhas de tabaco, causa erosão do solo e esgotamento dos recursos de madeira.
    - O corte de árvores, incluindo seringueiras e árvores nativas, leva ao **desmatamento**, bem como à **transição dos riachos locais** de perenes para sazonais, causando escassez de água.[19]
    - Árvores também são destruídas na produção de fósforos que são produzidos/usados para acender o cigarro.[20]
3. **O uso de agroquímicos** está causando **envenenamento**[21] e **poluição da água**, conforme evidenciado por resíduos de agroquímicos em cursos d'água adjacentes às comunidades de cultivo de tabaco, causando graves impactos prejudiciais aos sistemas hidrológicos e à produção de sedimentos em pântanos, zonas ribeirinhas e encostas íngremes.[22]
    - O tabaco está entre as dez (10) culturas que mais requerem fertilizantes.[23]
    - A cloropicrina, entre os muitos pesticidas usados, é um agente nocivo aos pulmões, tóxico para peixes e outros organismos.[24]
4. O **uso de plásticos e produtos químicos** em filtros de cigarro afeta negativamente **a vida marinha e o saneamento da água, agravado pelo fato de que as bitucas de cigarro são o item com mais lixo no planeta.**[25]
    - O arsênico, o chumbo e o etilfenol são liberados das bitucas de cigarros para os cursos d'água, afetando a vida aquática e a água potável.[26]
    - Os isqueiros, em sua maioria descartáveis, usam plástico, metal e butano.[27]
    - Os cigarros e dispositivos eletrônicos contêm baterias e outros materiais perigosos[28] e não biodegradáveis.[29]
5. Projetar cigarros que não se apagam sozinhos leva a incêndios acidentais.[30] Os cigarros são a causa mais comum de incêndios acidentais, incluindo incêndios florestais. Cerca de 8 a 10% dos incêndios nos EUA são causados por cigarros.[31]

Como a indústria do tabaco mina os esforços para proteger o meio ambiente e restaurar o ecossistema?

As empresas transnacionais de tabaco foram classificadas como algumas das piores poluidoras do mundo[32] e, ainda assim, conseguem exibir suas práticas pró-meio ambiente,[33] prêmios da comunidade empresarial[34] e seus regimes de auditoria de cadeia de suprimentos ou due diligence.[35] A indústria do tabaco emprega uma estratégia de relações públicas que desvia a atenção do verdadeiro impacto dos danos ambientais, obscurece soluções genuínas, prejudica as estratégias de diversificação, abafa as vozes das partes interessadas, transfere a culpa para os consumidores e foge à culpabilidade.
Ao empreender tais atividades chamadas de responsabilidade social corporativa (RSC), as empresas transnacionais de tabaco dão a impressão de que estão se juntando ao resto da comunidade empresarial no apoio a uma causa, desviando assim a atenção do fato de que a produção de tabaco não é como nenhum outro negócio — os produtos do tabaco são únicos porque não fornecem benefícios sociais ou de saúde, matam oito (8) milhões de pessoas anualmente[36] e custam à economia global US$ 1,4 trilhão todos os anos.[37] A publicidade de sua chamada RSC, além de ser uma violação de muitas proibições de patrocínio do tabaco em todo o mundo, também dá a falsa impressão de que se pode confiar na indústria do tabaco para realizar práticas voluntárias de devida diligência em sua cadeia de suprimento,[38] quando a Convenção-Quadro para Controle do Tabaco (CQCT) da Organização Mundial da Saúde estabelece que a indústria do tabaco deve ser estritamente regulamentada pelos governos e não pode ser confiável para fornecer qualquer forma de autorregulamentação. Consistente com as recomendações de especialistas[39] e boas práticas, a orientação da CQCT da OMS recomenda regulamentações e estruturas governamentais fortes, pesquisas independentes e diversificação que sejam financiadas de forma sustentável e protegidas da interferência da indústria do tabaco.[40]

1. **As chamadas iniciativas de RSC das empresas de tabaco desviam a atenção do impacto devastador do tabaco no meio ambiente.**[41, 42]

   Os chamados programas de RSC das empresas de tabaco na área do meio ambiente, como plantio de árvores, limpeza de praias,[43] etc., foram expostos como um meio de desviar a atenção de questões reais - manter produtos defeituosos, não assumir responsabilidade por seus produtos ao longo de seu ciclo de vida, manter os preços do tabaco baixos, negar poder de barganha aos trabalhadores e estimular a expansão para solos mais férteis e o uso de agroquímicos tóxicos.[44] Os regimes de auditoria do tabaco[45] são ilusórios, perpetuando efetivamente o problema.[46] Eles obscurecem a extensão do dano ambiental e da responsabilidade[47] e violam o Artigo 5.3 da CQCT da OMS.

   As empresas de tabaco admitem que as bitucas de cigarro são o produto mais encontrado nos lixos,[48] com 4 a 5 trilhões de bitucas descartadas anualmente, que levam até 15 anos para se degradar.[49] Como resposta, limpezas oceânicas ocasionais são financiadas pelas empresas com um lembrete de que os consumidores são os culpados por produzirem lixo, sem que elas se responsabilizem por toxinas que continuam sendo lançadas no meio ambiente durante a decomposição de seu produto mal projetado.[50] Notavelmente, até mesmo sua "bitucas biodegradáveis" prejudicar a vida aquática.[51]

   Embora afirmem cumprir com regulamentações ambientais nos países desenvolvidos, as empresas de tabaco mudaram amplamente a fabricação para países de baixa e média renda, onde a maior parte do tabaco é cultivada e produzida,[52] para escapar da responsabilidade e evitar regulamentações ambientais rígidas.[53] Como o tabaco é responsável por 2 milhões de toneladas de resíduos sólidos anualmente,[54] danos ambientais são exacerbados em países de baixa e média renda devido à má gestão de resíduos,[55] sistemas de água poluídos[56] e desmatamento.[57,58]

2. **As estratégias de relações públicas (RP) da indústria do tabaco em torno do meio ambiente obscurecem as soluções acordadas internacionalmente para lidar com o impacto ambiental da produção do tabaco.**

   As chamadas contribuições da indústria do tabaco para o meio ambiente, como a promoção do "plantio de árvores", abafam as verdadeiras soluções para proteger o meio ambiente e restaurar o ecossistema, ao mesmo tempo em que divulgam suas supostas "práticas sustentáveis". Esses esforços fracassam em apoiar quaisquer das opções de política acordadas pela comunidade internacional para lidar com o impacto ambiental da produção de tabaco. Isso envolve a implementação sinérgica dos Artigos 17

(fornecimento de apoio para atividades alternativas economicamente viáveis) e 18 (proteção do meio ambiente e da saúde das pessoas) da CQCT da OMS, apelando principalmente a políticas e programas dirigidos por **agricultores e trabalhadores voltados para a diversificação, que sejam financiados de forma sustentável e protegidos da interferência da indústria do tabaco.**[59] O objetivo é abordar, entre outras coisas, o desmatamento, a degradação do solo e o trabalho infantil. Por exemplo, práticas de substituição do tabaco por tomate[60] ou bambu[61] promoveram o uso positivo da terra, reduziram as emissões de carbono e aumentaram a lucratividade da terra, ao mesmo tempo em que apoiam a biodiversidade.[62]

Além disso, especialistas também pedem a melhoria/fiscalização das regulamentações ambientais que podem se aplicar ao tabaco, como esquemas de responsabilidade estendida do produtor, litígio e intervenções econômicas para recuperar os custos da má conduta da indústria e danos ambientais e eliminação de plásticos/filtros de uso único.[63] As iniciativas de RSC da indústria do tabaco não respondem a essas soluções.

3. As empresas de tabaco transferem a culpa dos danos ambientais aos consumidores.[64]

A estratégia de RSC da indústria do tabaco para lidar com os danos ambientais se concentra em exibir externamente seus "projetos de plantio de árvores" e "processos de fabricação limpos", ao mesmo tempo em que promove a conscientização sobre o problema das bitucas de cigarros, fornecendo cinzeiros e lixeiras em locais públicos e contribuindo para a limpeza dos oceanos. A mensagem transmitida pela indústria do tabaco é clara: "Temos um quintal limpo" e "o problema é como os fumantes jogam o lixo fora, mas estamos ajudando nisso". Esta mensagem obscurece o fato de que o lixo é devido ao próprio filtro do cigarro, que é projetado pelas empresas de tabaco, e elas têm a responsabilidade por esse design defeituoso deste produto mortal e viciante.

Os produtos do tabaco são altamente viciantes e mais de 70% dos fumantes desejam parar de fumar.[65] Os consumidores, depois de terem sido atraídos por um produto letal e sobrecarregados com o vício, estão sendo responsabilizados pelas empresas de tabaco por jogarem seus produtos no lixo. Em vez de colocar a responsabilidade sobre os consumidores, a responsabilidade pelo produto ao longo de seu ciclo de vida deve ser atribuída aos fabricantes de tabaco. Isso também é chamado de Responsabilidade Estendida do Produtor (EPR).[66] Entre outras coisas, os proponentes recomendam várias medidas para permitir esquemas de recuperação de custos para financiar a aplicação de leis ambientais, sugerindo que as empresas de tabaco paguem por danos ambientais por meio de esquemas de "poluidor-pagador".[67] Outras medidas relacionadas recomendadas sob este conceito cobrem uma série de princípios consagrados no Artigo 19 e Artigo 5.3 da CQCT da OMS, como a cobrança de taxas da indústria do tabaco para limpezas, litígio por danos e promulgação de leis para tornar os produtores e vendedores, e não os consumidores, em última instância, responsáveis por danos.[68, 69]

4. As pesquisas financiadas pela indústria do tabaco são para si própria, com o objetivo de protegê-la de responsabilidade criminal, não da responsabilização.

Os relatórios da indústria do tabaco subestimam gravemente o impacto adverso do tabaco no meio ambiente.[70] Por exemplo, as estimativas das multinacionais do tabaco sobre o consumo de lenha usada na produção de tabaco são excessivamente baixas, estimando um índice de consumo específico de combustível (SFC) de 7,8 kg de madeira/kg de tabaco em comparação com estimativas anteriores de 100 kg a 230 kg de madeira/kg de tabaco.[71] Além disso, um impacto global anual sobre o desmatamento estimado em 5%, mas possivelmente tão alto quanto 30% em alguns países, foi revelado apenas em estudos independentes.[72]

Notavelmente, os estudos de lixo da indústria do tabaco que alegam taxas excessivas de contrabando são usados para ajudar as empresas de tabaco a conter os aumentos de impostos e parece ser uma técnica de autopreservação. Negar a grande quantidade de bitucas de cigarro alegando que são ilícitas também reduz a responsabilidade potencial das empresas de tabaco pelos danos relacionados a limpezas e toxinas ambientais liberadas nos oceanos.

5. A prática da indústria do tabaco de incentivar a produção de tabaco e minar as estratégias de diversificação mantém os agricultores viciados

na cultura do tabaco, que é prejudicial ao meio ambiente.

Como parte de seu negócio principal e cadeia de suprimentos, as empresas de tabaco dão a falsa impressão de que apoiam a cultura do tabaco[73] e suas comunidades relacionadas, fornecendo, portanto, as chamadas iniciativas de RSC para suporte técnico e financeiro à agricultura. No entanto, o incentivo ao cultivo do tabaco vai contra a diversificação, que é uma solução fundamental para enfrentar os danos do tabaco à saúde e ao meio ambiente.[74]

Arranjos financeiros planejados pela indústria do tabaco são estruturados para manter os agricultores viciados no cultivo do tabaco.[75] Alguns dos incentivos fornecidos pelas empresas de tabaco, como empréstimos, visam continuamente atrair os produtores de tabaco e trabalhadores para a produção de tabaco e mantê-los dependentes dela,[76] e, em última instância, constantemente endividados.[77] O cultivo de tabaco é até 10 vezes mais agressivo em causar desmatamento do que outras culturas.[78]

6. Os grupos de fachada das empresas de tabaco e a chamada RSC abafam as vozes dos agricultores e trabalhadores impactados pelos danos ambientais.

O consenso global e a política de tratados ditam que as empresas de tabaco não têm lugar na formulação de políticas relacionadas à diversificação agrícola e que tais esforços devem ser dirigidos pelos trabalhadores/agricultores.[79] No entanto, os produtores de tabaco e os trabalhadores diretamente afetados na produção de tabaco e envolvidos em danos ambientais estão mal representados. Isso é agravado pelo fato de que empresas criaram e financiaram grupos de fachada, como a International Tobacco Growers' Association (ITGA)[80] para fazer lobby em seu nome,[81] a fim de representar falsamente os argumentos socioeconômicos dos agricultores[82-85] como base para contestar as medidas de controle do tabaco, como aumentos de impostos.[86]

Os trabalhadores do tabaco acusaram as empresas de tabaco de abafar suas vozes com falsas promessas durante as discussões sobre o valor da Fundação Eliminating Child Labour in Tobacco Growing (ECLT), financiada pela indústria do tabaco.[87] Além disso, a indústria do tabaco ocupou espaço nas discussões sobre diversificação por meio da Agriculture Transformation Initiative (ATI) da Foundation for a Smoke-Free World (FSFW), financiada pela Philip Morris,[88] apesar da necessidade de proteger as políticas agrícolas e ambientais sobre tabaco dos interesses comerciais e declarados da indústria do tabaco, de acordo com o Artigo 5.3 da CQCT da OMS.

7. As empresas de tabaco resistem em pagar por danos ambientais, apesar da base legal e dos fundamentos para fazê-lo.

O cultivo do tabaco leva a perturbações do ecossistema e é responsável por 5 a 30% do desmatamento,[57] uma das principais causas das emissões de gases de efeito estufa.[58] A produção rende 2 milhões de toneladas de resíduos sólidos anualmente,[52] levando a sistemas de água poluídos,[56] agravados por sistemas de gestão de resíduos deficientes.[55] As bitucas de cigarro mal projetadas causam incêndios e prejudicam continuamente a vida no oceano por décadas. Envolver-se em litígios e intervenções econômicas para recuperar os custos da má conduta e danos ambientais da indústria é uma solução chave que os especialistas recomendam para lidar com os danos ambientais do tabaco.[89] Isso é consistente com o Artigo 19 da CQCT da OMS para abordar a responsabilidade da indústria do tabaco, incluindo compensação. Ainda assim, a indústria do tabaco evita a responsabilidade por danos ambientais transferindo suas operações para jurisdições com regulamentações menos rigorosas ou frouxas. Por exemplo, em resposta a reclamações de poluição do ar e pedidos de regulamentação mais estrita do tabaco em Uganda, a British American Tobacco (BAT) mudou suas instalações para o Quênia.[90]

Apesar da extensão dos danos ambientais avaliados, não houve nenhum processo judicial responsabilizando a empresa de tabaco pelos danos.[91] O Artigo 6 da CQCT da OMS (medidas de preços e impostos para reduzir a demanda de tabaco) leva em consideração a necessidade de fazer a indústria do tabaco pagar pelas externalidades negativas por meio do aumento da tributação do tabaco. Em linha com isso, alguns países já impõem sobretaxas e taxas consistentes com o princípio do "poluidor-pagador"[92,93] As empresas de tabaco têm resistido a qualquer forma de aumento de impostos sobre o tabaco,[94] incluindo aqueles que exigem a destinação de recursos para pagar pelos danos do tabaco. As empresas de tabaco têm resistido às políticas que fazem a indústria do tabaco pagar pelos custos de limpeza,[95] incluindo aquelas que estão sendo consideradas na União Europeia,[96] França,[97] Irlanda,[98] Reino Unido[99] e Estados Unidos da América.[100]

Anexo

Como a Indústria do Tabaco atrapalha os Objetivos de Desenvolvimento Sustentável (ODS) da ONU em relação ao meio ambiente

ODS	As empresas de tabaco afirmam...	Na realidade, as empresas de tabaco...
6. Água potável e saneamento	Promover a reciclagem da água, proteger as bacias hidrográficas e promover a gestão sustentável da água	**Poluem os cursos de água e ameaçam a vida aquática por meio de filtros de cigarro e pesticidas.** • Bitucas de cigarro, que muitas vezes são despejadas em oceanos, lagos e outras fontes de água, têm substâncias tóxicas com implicações na qualidade da água potável.
12. Consumo e produção responsáveis	Reduzir o impacto ambiental de seus produtos, incluindo programas de reciclagem e prevenção de acúmulo de lixo	**Geram 1,69 bilhão de libras de lixo tóxico a cada ano, liberando milhares de produtos químicos no ar, na água e no solo.** • Mais de 4,5 trilhões de bitucas de cigarro não são descartadas de maneira adequada, o que as torna o lixo mais comum do planeta.
13. Ação climática	Mitigar os riscos das mudanças climáticas por meio de programas neutros em carbono	**Evitam a responsabilidade de compensar os danos ambientais causados por seus negócios, incluindo uma taxa de desmatamento de 200.000 hectares por ano.** • As empresas de tabaco rotineiramente minimizam seus danos ambientais.
14. Vida abaixo d'água	Reduzir o impacto ambiental dos produtos, inclusive por meio da prevenção de acúmulo de lixo, e garantir que os efluentes lançados estejam dentro dos regulamentos governamentais	**Encontram maneiras de continuar suas práticas comerciais que prejudicam os sistemas aquáticos.** • As empresas de tabaco fazem doações de campanha que permitem que bitucas de cigarro não sejam regulamentadas, apesar de serem o tipo de lixo mais coletado em limpezas de praia. • Também poluem os cursos de água e ameaçam a vida aquática por meio de filtros de cigarro e pesticidas.

Fonte: Sy D, Castillo C, Trivino D. How tobacco industry interference hinders the UN Sustainable Development Goals. Issue Brief. STOP (September 2020).

Anexo

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ODS	As empresas de tabaco afirmam...	Na realidade, as empresas de tabaco...
15. Vida na terra	Proteger a biodiversidade, especialmente em áreas florestadas afetadas	**Conduzem as chamadas atividades ambientais para desviar a atenção da responsabilidade por danos ambientais.** • A produção e o cultivo do tabaco causam a perda irreversível de árvores e da biodiversidade. • O desmatamento para o cultivo de tabaco e incêndios florestais relacionados ao cigarro levam ao desmatamento.
16. Paz, justiça e instituições fortes	"Combater o comércio ilícito de produtos de tabaco",[7] apoiar o Estado de Direito e a transparência Ser contra a "indústria ilegítima do tabaco" que pode "erodir o estado de direito e perturbar a existência pacífica, financiando as operações de redes criminosas"[8]	**Fazem lobby e subornam formuladores de políticas para favorecer os interesses comerciais e enfraquecer, atrasar ou frustrar completamente a implementação de medidas que salvam vidas por meio de litígios contra governos ou evasão total de suas disposições.** • As principais empresas multinacionais do tabaco são cúmplices do comércio ilícito; a grande maioria dos cigarros traficados ilicitamente são "brancos ilícitos", ou produtos produzidos legitimamente que acabam nos mercados ilícitos.
17. Parcerias para os objetivos	Serem parceiras na saúde, apesar dos conflitos de interesse, para promover produtos alternativos Fazer parcerias com governos para combater o comércio ilícito	Influenciam formuladores de políticas para atenuar medidas que salvam vidas (incluindo aumento de impostos e proibição de publicidade, promoções e patrocínios) em favor dos interesses comerciais em produtos perigosos e viciantes, minando efetivamente os esforços para alcançar os ODS. • As atividades de RSC da indústria do tabaco relacionadas aos ODS são projetadas para melhorar sua imagem pública e induzir isenções fiscais. • As empresas de tabaco violam as leis dos tratados, que desaprovam as parcerias com a indústria do tabaco em geral, e especialmente os esforços para combater o comércio ilícito.

Fonte: Sy D, Castillo C, Trivlno D. How tobacco industry interference hinders the UN Sustainable Development Goals. Issue Brief. STOP (September 2020).

Referências

1. Although cigarette filters eventually decompose into smaller pieces, their toxic components and plastic pieces may never disappear from water and soil and can continue to leach chemicals for up to 10 years.
See: Thomas E. Novotny & Elli Slaughter. Tobacco Product Waste: An Environmental Approach to Reduce Tobacco Consumption. Current Environment Health Report (2014) 1:208–216 (6 May 2014). Available at: https://link.springer.com/content/pdf/10.1007/s40572-014-0016-x.pdf

2. PMI conducted a cigarette butt litter survey in 2020. The survey revealed:
i. 25 percent of adult smokers throw cigarette butts to the ground because they think it is normal to dispose a cigarette in this manner. Every one in eight individuals in the survey said they don't think its polluting.
ii. Smokers identified in the survey said they smoke 11 cigarettes per day, of which 60% are smoked outdoors, thereby creating ample chances of littering.
iii. Only 13% of individuals correctly identified plastic as the main component of cigarette filters.
The main constituent of cigarette filters is 'cellulose acetate', a bio-plastic that takes anything from three months to 15 years to decompose. This was also acknowledged in the PMI Integrated Report 2020.

3. Slaughter, Elli et al. "Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish." Tobacco control vol. 20 Suppl 1,Suppl_1 (May 2011):i25-9. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088407/#:~:text=Background,in%20cigarettes%20prepared%20for%20consumption.

4. Geist HJ. Global assessment of deforestation related to tobacco farming. Tobacco Control (March 1999); 8:18-28. Available at: https://tobaccocontrol.bmj.com/content/8/1/18

5. Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

6. In Cambodia, tobacco farmers buy firewood for curing tobacco. They also cut and use fuel wood as well as rubber trees, a useful economic product, for tobacco curing. In Kenya, soil erosion, widespread deforestation, cutting of indigenous trees for curing, water pollution as well as change in flow patterns of local streams have been documented, all due to tobacco plantations. In Brazil, reduced forest land cover, soil depletion as well as abundant agrochemical residues in waterways located close to tobacco cultivating communities were found, severely impacting natural hydrological systems.
See: Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

7. "Article 2 of the Convention on Biological Diversity defines an 'ecosystem' as a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit".
See: Convention on Biological Diversity (CBD) (1992). Article 2 Use of Terms. Available at: https://www.cbd.int/kb/record/article/6872?RecordType=article
"The term 'ecosystem' can refer to any functioning unit at any scale which is determined by the problem being addressed."
See: Convention on Biological Diversity (CBD). (no date). Description. Available at: https://www.cbd.int/ecosystem/description.shtml
"Ecosystem restoration is defined as a process of reversing the degradation of ecosystems, such as landscapes, lakes and oceans to regain their ecological functionality; in other words, to improve the productivity and capacity of ecosystems to meet the needs of society. This can be done by allowing the natural regeneration of overexploited ecosystems or by planting trees and other plants".
See: New UN Decade on Ecosystem Restoration offers unparalleled opportunity for job creation, food security and addressing climate change opportunity. UNEP (2019). Available at: https://www.unep.org/news-and-stories/press-release/new-un-decade-ecosystem-restoration-offers-unparalleled-opportunity
"The objective of ecosystem restoration is to contribute to the conservation and sustainable use of biodiversity as well as create social, economic and environmental benefits, whereby healthy and connected ecosystems should contribute to improve food and water security, peoples' livelihoods and to mitigate and adapt to climate change."
See: 'Decision XIII/5. Ecosystem restoration: short-term action plan', in, p. 10. CBD (2019). Available at:https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-05-en.pdf
"Ecosystem restoration substantially supports the objectives of international agreements and global objectives, including the Sustainable Development Goals (specifically Target 6, 14, and 15), the Strategic Plan for Biodiversity 2011-2020 (specifically Target 15), the Paris Agreement, the Land Degradation Neutrality goal, the Global Forest Goals, and the Ramsar Convention on Wetlands."
See: What is ecosystem restoration? International Union for Conservation of Nature (no date). Available at: https://www.iucn.org/sites/dev/files/content/documents/what_is_ecosystem_restoration.pdf

8. In low- and middle-income countries, land clearing for tobacco cultivation has depleted forest reserves. In Tanzania, expanding cultivations can only be done by clearing virgin forest lands for their increased yield and disease-free soil. According to Abdallah et al, 69% of tobacco cultivators in Urambo District clear new woodlands every season for tobacco farming and only 25% of them grow on the same area for two successive seasons, while only a mere 6% do so for more than two successive seasons. This type of 'shifting cultivation' accounts for 96% of deforestation in the area, making tobacco farming a massive threat to forest biomes.
See: Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

9. Mangora, M.M. Ecological impact of tobacco farming in miombo woodlands of Urambo District, Tanzania. African Journal of Ecology (December 2005), 43: 385-391. Available at: https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2028.2005.00603.x?casa_token=iyzW6vIn700AAAAA%3AvLghnpcJRYHivkklpq9Ds1LCPFabAQJBTBGRdzwN2Cxnoj-UjeISFZi-jM4omINy1PbsHIBCRICSeZA

10. Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

11. Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. United Nations Development Programme (May 2017). Retrieved from: https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf

12. 'WHO. Tobacco control, a 'major component' of environmental protection efforts (11 September 2018). Available at: https://www.who.int/fctc/mediacentre/ news/2018/tobacco-control-a-major-component-of-environmental-protection/en/#:~:text=Estimates%20show%20that%20tobacco%20farming,da%20Costa%20e%20 Silva%20noted.

13. Eriksen, M, et al. The Tobacco Atlas: Fifth Edition. American Cancer Society and World Lung Foundation (2015). Available at: https://ncdalliance.org/sites/default/files/resource_files/TA5_2015_WEB.pdf
Cited in: Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. United Nations Development Programme (May 2017). Retrieved from https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf
See also: Wright, S., Rowe, D., Reid, M. et al. Bioaccumulation and biological effects of cigarette litter in marine worms. Sci Rep 5, 14119 (2015). Available at: https://www.nature.com/articles/srep14119#:~:text=Approximately%204.5%20trillion%20smoked%20cigarette,to%20the%20environment%20annually4.

14. Waste generated from cartons and cigarette packaging alone generates 2 million tonnes of solid waste annually. These figures are comparable with 1.83 million tonnes of plastic waste generated annually by plastic water bottles.
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

15. There is increased risk of dying from heart diseases and lung cancer due to exposure from ambient fine particulate matter (PM2.5) caused by air pollution. This risk is higher for smokers because PM 2.5 synergistically combined with smoking increases mortality.
See: Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. United Nations Development Programme (May 2017). Retrieved from https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf

16. Novotny, T.E., Slaughter, E. Tobacco Product Waste: An Environmental Approach to Reduce Tobacco Consumption. Curr Envir Health Rpt 1, 208–216 (May 2014). Available at: https://link.springer.com/article/10.1007/s40572-014-0016-x

17. "Most cigarettes are lit using matches or gas-filled lighters. If, for example, one wooden match is used to light two cigarettes, the six trillion cigarettes smoked globally each year would require the destruction of about nine million trees to produce three trillion matches."
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

18. "The production of Virginia tobacco (for which there is higher demand and therefore higher price) requires flue curing, which is performed in kilns by burning wood at constant heat temperatures for several days. Thus, for this type of crop, farmers in LMICs must acquire wood from the surrounding forests, their own land, or from public lands. These wood resources are less and less available as a result of shifting cultivation."
"As a major factor contributing to crop-specific deforestation, the global mean of flue-cured produce using wood is only about 12%, but increases to a mean 62% in the producer countries with minor-to-serious tobacco-related deforestation."
See: Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

19. Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

20. "Most cigarettes are lit using matches or gas-filled lighters. If, for example, one wooden match is used to light two cigarettes, the six trillion cigarettes smoked globally each year would require the destruction of about nine million trees to produce three trillion matches."
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

21. Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. WHO Framework Convention on Tobacco Control and United Nations Development Program (26 May 2017). Available at: https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf

22. Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

23. "Tobacco ranks among the 10 crops with the highest fertilization rates."
See: Fertilizer use by crop. Rome, Food and Agriculture Organization of the United Nations; 2006.
Cited in: Economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18 of the WHO Framework Convention on Tobacco Control) Report by the working group. Conference of the Parties to the WHO Framework Convention on Tobacco Control (18 July 2014); FCTC/COP/6/12. Available at: https://apps.who.int/gb/fctc/PDF/cop6/FCTC_COP6_12-en.pdf

24. "Among the pesticides used in tobacco growing is chloropicrin, a lung-damaging agent that was used as a tear gas in World War I and is toxic to fish and other organisms."
See: Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. WHO Framework Convention on Tobacco Control and United Nations Development Program (26 May 2017). Available at: https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf

25. Ocean Conservatory, International Coastal Cleanup Report 2015.; United Nations Development Programme. Available at: https://oceanconservancy.org/wp-content/uploads/2017/04/2015-Ocean-Conservancy-ICC-Report.pdf

26. "In Nueva Segovia department of Nicaragua, where most tobacco farms are close to important rivers, researchers found pesticide contamination in both the superficial aquifer and deep groundwater. Studies in Brazil have found excessive agrochemical residues in waterways near tobacco farming communities."
See: Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. WHO Framework Convention on Tobacco Control and United Nations Development Program (26 May 2017). Available at: https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf

27. "There are also environmental impacts of manufacturing and disposing of the plastic, metal and butane used in making cigarette lighters."
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

28. The tobacco industry is very much aware of the scope and extent of environmental harms it causes. For example, Philip Morris International (PMI) acknowledged that selling of electronic smoking devices leads to worsening of the water and energy used (PMI, 2016). The Lifecycle Analysis reports by PMI for the so-called reduced-risk products (RRRs) clearly showed the impact of product development, manufacturing and distribution on their ecological footprint (PMI, 2017). The tobacco industry has refused to implement practices that could reduce the waste generated from manufacture and disposal of their products. Cigarette filters have been proven to do more harm than good to both health and the environment. They were developed as a consequence of growing fears in consumers regarding health harms of cigarette use and are ,in reality, unnecessary appendages to the cigarette. Yet, the industry has done nothing to reduce its ecological impact of cigarette production, use and disposal.
See: Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio 49, 17–34 (January 2020). Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3#citeas
See also: "Unlike petrochemical-derived plastic products such as straws and plastic cutlery, cigarette filters do biodegrade, but not quickly enough currently to avoid any short-term littering problems." -BAT, Integrated Report 2020

29. "Electronic cigarettes may contain batteries that require special disposal as well as chemicals, packaging and other non-biodegradable materials. The US Federal Emergency Management Agency (FEMA) has expressed concerns about the flammability and lack of product regulation of electronic cigarettes and their components." See: Novotny, Thomas E et al. The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption. Bulletin of the World Health Organization [online]. 2015, v. 93, n. 12 , pp. 877-880. Available from: https://www.who.int/bulletin/volumes/93/12/15-152744/en/

30. "Regulations requiring cigarettes to self-extinguish in Canada and the USA were associated with a 30% decline in fire-related deaths from 2003 to 2011."
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

31. "Cigarettes remain an important cause of accidental fires and resulting deaths. In the United States of America, cigarettes have been responsible for 8–10% of all fires over the past 10 years (on average 90000 fires per year); they also remain the single most important cause of deaths related to fires (540 of 2855 total deaths in 2011)." See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

32. Rachel Koning Beals. Coca-Cola, PepsiCo and Nestlé top '10 worst plastic polluters' of 2020. Market Watch (8 December 2020). Available at: https://www.marketwatch.com/story/coca-cola-pepsico-and-nestle-top-10-worst-plastic-polluters-of-2020-11607465840

33. For example: "PMI partners, supports, participates, and is a member of sustainability related initiatives and organizations such as the World Business Council for Sustainable Development (WBCSD), Business for Social Responsibility (BSR), CSR Europe, and the We Mean Business coalition, which harness the power of collaboration to implement solutions at scale." (PMI Integrated Report 2020) "For decades, we have invested in developing and testing products with the aim of replacing cellulose acetate filters alongside our suppliers. We have commissioned more than 20 different projects exploring the potential development of such alternatives. There are strict requirements to be met before we can roll out any alternatives." (BAT Integrated Report 2020) "[Key issues in 2020] Environment: (a) Supporting the TCFD (Task Force on Climate-related Financial Disclosures) and (b) the appropriate use and responsible disposal of materials, including plastics, used in our products and packaging." (JTI Integrated Report 2020) "The tobacco sector has been one of the leaders in promoting sustainability and good agricultural practices (GAP). These subjects are central to the debates, discussions and decision-making processes between ITGA and sectoral bodies such as CORESTA, the international Scientific Research Committee on Tobacco." (ITGA, Environmental Aspects)

34. FTSE 100 – the 5 highest ESG rated companies.
See: Sophie Lund-Yates, Equity Analyst. Hargreaves Lansdown (3 March 2021). Available at: https://www.hl.co.uk/news/articles/ftse-100-the-5-highest-esg-rated-companies
See also: Philip Morris International Recognized Among World's Top Sustainable Businesses with "Triple A" Score from CDP. BusinessWire India (10 December 2020). Available at: https://www.businesswireindia.com/philip-morris-international-recognized-among-worlds-top-sustainable-businesses-with-triple-a-score-from-cdp-70732.html

35. "tobacco industry's efforts to reduce their environmental harms amount to CSR initiatives displaying a lack of transparency and independent verification, that limit objective assessment of the environmental impact of tobacco manufacturing."
See: Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio 49, 17–34 (January 2020). Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3
See also: Sustainable supply chain management - Progress in 2019. Philip Morris International. Available at: https://www.pmi.com/integrated-report-2019/operating-with-excellence/sustainable-supply-chain-management---progress-2019
See also: Sustainable Tobacco Programme. British American Tobacco. Available at: https://www.bat.com/group/sites/ukmedMDAZRHPC.pdf?openelement9d9kcy.nsf/vwPagesWebLive/DO9QEGXN/$FILE/
See also: Sustainability- Respecting Human Rights. Japan Tobacco. Available at: https://www.jt.com/sustainability/human_rights/index.html

36. WHO Report on the Global Tobacco Epidemic, 2019. Geneva: World Health Organization (25 July 2019). Licence: CC BY-NC-SA 3.0 IGO. Available at: https://www.who.int/teams/health-promotion/tobacco-control/who-report-on-the-global-tobacco-epidemic-2019

37. "The total economic cost of smoking (from health expenditures and productivity losses together) totalled PPP $1852 billion (US$1436 billion) in 2012, equivalent in magnitude to 1.8% of the world's annual gross domestic product (GDP). Almost 40% of this cost occurred in developing countries, highlighting the substantial burden these countries suffer."
See: Goodchild M, Nargis N, Tursan d'Espaignet E. Global economic cost of smoking-attributable diseases. Tobacco Control (2018);27:58-64. Available at: https://tobaccocontrol.bmj.com/content/27/1/58

38. "tobacco industry's efforts to reduce their environmental harms amount to CSR initiatives displaying a lack of transparency and independent verification, that limitobjective assessment of the environmental impact of tobacco manufacturing."
See: Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio 49, 17–34 (January 2020).Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3
See also: Sustainable supply chain management - Progress in 2019. Philip Morris International. Available at: https://www.pmi.com/integrated-report-2019/operating-with-excellence/sustainable-supply-chain-management---progress-2019
See also: Sustainable Tobacco Programme. British American Tobacco. Available at: https://www.bat.com/group/sites/ukmedMDAZRHPC.pdf?openelement9d9kcy.nsf/vwPagesWebLive/DO9QEGXN/$FILE/
See also: Sustainability- Respecting Human Rights. Japan Tobacco. Available at: https://www.jt.com/sustainability/human_rights/index.html

39. Novotny and Thomas et al. propose seven policy recommendations and suitable alternatives to tobacco production which are more environmentally-oriented.
First, identify and monitor health effects associated with tobacco production. Second, support farmers and their children in freeing themselves from the unsafe and unfair agricultural practices. Third, tighten tobacco production regulations to prevent further deforestation and land degradation. Fourth, implement extended producer responsibility (EPR) on the tobacco industry to reduce and prevent waste. Fifth, extend tobacco sale regulations to eliminate use of single-use filters, includingbiodegradable ones, to reduce waste. Sixth, recover the cost of industry misconduct and environmental damages through litigation and economic interventions. Seventh, improve and enforce environmentalregulations and agreements that can be applied to tobacco manufacturing, transport and management of post-consumption waste.
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/
See also: "Because tobacco's particular harm to human and environmental health, and the non-essential status of the product, mandating data transparency for tobacco manufacturing warrants prioritization. Policies to provide a mechanism for outside accounting could consider tobacco product taxes to account for environmental impact,and then allow independent auditing of the tobacco industry using state funds, creating a financial firewall between industry and CSR assurance agencies."
See: Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio 49, 17–34 (January 2020).
Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3

40. Policy options and recommendations on economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18). Conference of the Parties,sixth session and WHO Framework Convention on Tobacco Control decision; FCTC/COP6(11) (2014). Available at: https://www.who.int/fctc/treaty_instruments/ Recommendations_Articles_17_18_English.pdf?ua=1%22

41. Forthcoming paper 'Towards Health with Justice 2' by World Health Organization Regional Office for the Eastern Mediterranean.

42. Doubtful Campaign Against Stray Butts. The Plastic Soup Foundation (2015) [unofficial translation]. Available at: https://www.plasticsoupfoundation.org/2015/05/dubieuze-campagne-tegen-zwerfpeuken/
See also: Environmental program VARA gives the tobacco lobby a podium. Tabaknee Netherlands (23 March 2016) [unofficial translation]. Available at: https://www.tabaknee.nl/nieuws/item/847-milieuprogramma-vara-geeft-tabakslobby-podium

43. Keep America Beautiful (KAB) is funded by Philip Morris USA, an Altria company as well as Reynolds American International and Santa Fe Natural Tobacco Company, companies under British American Tobacco; and runs programs such as 'Cigarette Litter Prevention Programme'. KAB has been criticised for being a corporategreenwashing front group. Unsmoke Canada Cleanups is another initiative that organises litter clean-ups. It is funded by Rothmans, Benson & Hedges Inc., a Philip MorrisInternational subsidiary.
See: Greenwashing. Tobacco Tactics (21 December 2020). Available at: https://tobaccotactics.org/wiki/greenwashing/
See also: KAB funds informational and educational tools on littering. Its Cigarette Litter Prevention Program includes enforcing litter laws, raising awareness, placing ash receptacles at public places and distributing pocket or portable ashtrays.
See: Cigarette Litter Prevention Program by Keep America Beautiful.

44. The tobacco industry's response to such environmental harms was to work with agricultural front groups and partnering with renowned organisations in order to lobby against tobacco control measures. Through these front groups such as ITGA, tobacco companies worked with sympathetic businessmen and politicians. The tobacco companies also encouraged excessive use of hazardous agrochemicals as well as shifting cultivation to virgin fertile lands. Their deceptive CSR programs shift attention away from real issues, such as keeping tobacco prices very low, socio-economic inequalities, child labour, health hazards, undermining the voices of farmers, instead of addressing them.
See: Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

45. Sustainable supply chain management - Progress in 2019. Philip Morris International. Available at: https://www.pmi.com/integrated-report-2019/operating-with-excellence/sustainable-supply-chain-management---progress-2019
Sustainable Tobacco Programme. British American Tobacco. Available at: https://www.bat.com/group/sites/ukmedMDAZRHPC.pdf?openelement9d9kcy.nsf/vwPagesWebLive/DO9QEGXN/$FILE/Sustainability- Respecting Human Rights. Japan Tobacco. Available at: https://www.jt.com/sustainability/human_rights/index.html
See also: "tobacco industry's efforts to reduce their environmental harms amount to CSR initiatives displaying a lack of transparency and independent verification, that limit objective assessment of the environmental impact of tobacco manufacturing."
See: Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio 49, 17–34 (January 2020).Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3

46. As highlighted in the report by Genevieve et al., auditing as a mechanism of transnational governance is exclusionary and failing. Audit regimes designed to work for corporations have begun to gain acceptance, despite a failure to detect underlying issues that, if addressed, can lead to far more beneficial changes to environmental as well as labour standards. Regulatory authority by governments and NGOs call for ethical audit mechanisms as an effective means of governing global change. However, auditing is helping retailers legitimize and expand their businesses as well as increase their supply chain, while also advancing their social license to operate while maintaining a 'responsible' image. It is also helping retailers monitor over their decentralized system of global production, thus perpetuating the cycle of inequality, corporate power, environmental harms and more; and creates only an illusion of the global supply chain rather than portray its dark reality. While the pressure for an accountable and transparent approach to corporate functioning has been increasing, these audit regimes are being used to preserve the retail business models which focus on cheap labour, cheap goods, low prices and short-term purchase contracts.
See: Genevieve LeBaron, Jane Lister & Peter Dauvergne (2017) Governing Global Supply Chain Sustainability through the Ethical Audit Regime, Globalizations, 14:6, 958-975. Available at: https://www.tandfonline.com/doi/full/10.1080/14747731.2017.1304008

47. Instead of exhibiting authentic CSR, the tobacco companies use such programs, especially in the production sector, to ward-off tobacco control regulations.
See: The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Hendlin, Y.H., Bialous, S.A. Ambio 49, 17–34 (2020). Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3

48. Ocean Conservatory, International Coastal Cleanup Report 2015.; United Nations Development Programme. Available at: https://oceanconservancy.org/wp-content/uploads/2017/04/2015-Ocean-Conservancy-ICC-Report.pdf
Cited in: Discussion Paper: The WHO Framework Convention on Tobacco Control: An Accelerator for Sustainable Development. WHO Framework Convention on Tobacco Control and United Nations Development Program (26 May 2017). Available at: https://www.who.int/fctc/implementation/publications/who-fctc-undp-wntd-2017.pdf

49. Slaughter, Elli et al. "Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish." Tobacco control vol. 20 Suppl 1,Suppl_1 (2011): i25-9. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088407/#:~:text=Background,in%20cigarettes%20prepared%20for%20consumption.

50. Although cigarette filters eventually decompose into smaller pieces, their toxic components and plastic pieces may never disappear from water and soil and cancontinue to leach chemicals for up to 10 years.
See: Novotny, T.E., Slaughter, E. Tobacco Product Waste: An Environmental Approach to Reduce Tobacco Consumption. Curr Envir Health Rpt 1, 208–216 (May 2014). Available at: https://link.springer.com/article/10.1007/s40572-014-0016-x
See also: PMI conducted a cigarette butt litter survey in 2020. The survey revealed
i. 25 percent of adult smokers throw cigarette butts to the ground because they think it is normal to dispose a cigarette in this manner. Every one in eightindividuals in the survey said they don't think its polluting.
ii. Smokers identified in the survey said they smoke 11 cigarettes per day, of which 60% are smoked outdoors, thereby creating ample chances of littering.
iii. Only 13% of individuals correctly identified plastic as the main component of cigarette filters.
The main constituent of cigarette filters is 'cellulose acetate', a bio-plastic that takes anything from three months to 15 years to decompose. This was also acknowledgedon the PMI Integrated Report 2020.

51. "Effects of leachate from cellulose acetate vs cellulose cigarette butts were tested." "Cigarette butt leachate (5 butts L−1) was acutely toxic to freshwater invertebrates." "After 120 h leachate from 1 butt L−1 killed 60% of juvenile B. tentaculate".
"There was a decrease in activity in invertebrates exposed to 1 butt L−1 leachate." "Leachate from biodegradable butts caused the same impact as conventional butts."
See: Dannielle Senga Green, Louise Kregting and Bas Boots. Smoked cigarette butt leachate impacts survival and behaviour of freshwater invertebrates. Environmental Pollution, Volume 266, Part 3, 2020, 115286, ISSN 0269-7491 (November 2020). Available at: https://www.sciencedirect.com/science/article/abs/pii/S0269749120359741
See also: P. Dilip Venugopal, Shannon K. Hanna, Gregory G. Gagliano and Hoshing W. Chang. No Butts on the Beach: Aquatic Toxicity of Cigarette Butt Leachate Chemicals. Tobacco Regulatory Science (Jan 2021); 7(1): 17–30. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7849351/

52. "With almost 90% of tobacco leaf production and the majority of cigarette consumption now concentrated in the less developed regions, the environmental burden and the many risks associated with tobacco are largely borne by lower-income countries. Thus, for example, while Malawi and Tanzania are among the top 10 tobacco growing countries, they consume less than 5% of the tobacco they produce. At the same time, in the UK, Canada, Portugal, and Austria, with no or very little domestic tobacco leaf or cigarette production, smoking cigarettes, literally means burning other countries' resources."
See: Maria Zafeiridou, Nicholas S Hopkinson and Nikolaos Voulvoulis. Cigarette Smoking: An Assessment of Tobacco's Global Environmental Footprint Across Its EntireSupply Chain. Environ. Sci. Technol. 2018, 52, 15, 8087–8094 (3 July 2018). Available at: https://pubs.acs.org/doi/10.1021/acs.est.8b01533

53. Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio; 49, 17–34 (2020). Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3

54. Waste generated from cartons and cigarette packaging alone generates 2 million tonnes of solid waste annually. These figures are comparable with 1.83 million tonnes of plastic waste generated annually by plastic water bottles.
See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

55. Low- and Middle-income countries tend to have higher smoking rates as a result of targeting by the tobacco industry, and suffer from systemic inequities, making itharder for them to access healthcare, educational tools and cessation resources. In addition, they have inequitable waste management, which can worsen from cigarette butt pollution.
See: Tiny but Deadly: Cigarette Butts Are The Most Commonly Polluted Plastic. The Great Global Cleanup. Earth Day (28 August 2020). Available at: https://www.earthday.org/tiny-but-deadly-cigarette-butts-are-the-most-commonly-polluted-plastic/

56. Tobacco growing takes up a lot of water and disperses toxins to waterways.
See: Slaughter, Elli et al. "Toxicity of cigarette butts, and their chemical components, to marine and freshwater fish." Tobacco control vol. 20 Suppl 1,Suppl_1 (2011): i25-9. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3088407/#:~:text=Background,in%20cigarettes%20prepared%20for%20consumption.

57. Studies have confirmed the serious threat of deforestation and soil erosion as a result of tobacco cultivation.
See: Sauer, Johannes, and Jumanne M. Abdallah. "Forest diversity, tobacco production and resource management in Tanzania." Forest Policy and Economics 9.5 (January 2007): 421-439. Available at: https://www.sciencedirect.com/science/article/abs/pii/S1389934105001255?via%3Dihub
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See also: Chapman, S. "Tobacco and deforestation in the developing world." Tobacco Control vol. 3,3 (September 1994): 191–193. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1759351/pdf/v003p00191.pdf
See also: Geist HJ. Global assessment of deforestation related to tobacco farming. Tobacco Control (March 1999); 8:18-28. Available at: https://tobaccocontrol.bmj.com/content/8/1/18

58. "In 2006, 200 climate change experts warned that, each year, deforestation accounts for 25-30 percent of greenhouse gas emissions globally. More recent estimates which show reductions in the percentage of GHG [green house gases] contributions from deforestation can be misleading, in part because total emissions from all sources including fossil fuels (i.e. the denominator) have risen" Deforestation causes global warming. Key role for developing countries in fighting greenhouse gas emissions. Food and Agriculture Organisation of the United Nations (September 2006). Available at: http://www.fao.org/newsroom/en/news/2006/1000385/index.html; Doug Boucher. 10% of Greenhouse Gas Emissions Come from Deforestation. Union of Concerned Scientists (December 2013). Available at: http://blog.ucsusa.org/doug-boucher/ten-percent-of-greenhouse-gas-emissions-come-from-deforestation-342
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60. In Tanzania, the Global Environment Facility and United Nations Development Programme (UNDP) have helped farmers shift from tobacco farming to growing tomatoes.
See: T. Lee. Country practices in the implementation of Article 17 (Economically sustainable alternatives to tobacco growing) of the WHO Framework Convention on Tobacco Control. WHO FCTC (December 2019). Available at: https://www.who.int/fctc/implementation/publications/country-practices-implementation-article-17-WHO-FCTC.PDF

61. In Kenya, International Bamboo and Rattan Organisation (INBAR) has helped farmers switch to bamboo plantations, which has created a positive impact on the land and livelihood of the farmers.
See: Bamboo as an Alternative to Tobacco. Inbar News (June 2017). Available at: https://www.inbar.int/bambootobaccoalternative/

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63. Novotny, T.E. et al. propose seven policy recommendations and suitable alternatives to tobacco production which are more environmentally-oriented. First, identify and monitor health effects associated with tobacco production. Second, support farmers and their children in freeing themselves from the unsafe and unfair agricultural practices. Third, tighten tobacco production regulations to prevent further deforestation and land degradation. Fourth, implement extended producer responsibility (EPR) on the tobacco industry to reduce and prevent waste. Fifth, extend tobacco sale regulations to eliminate use of single-use filters, including biodegradable ones, to reduce waste. Sixth, recover the cost of industry misconduct and environmental damages through litigation and economic interventions. Seventh, improve and enforce environmental regulations and agreements that can be applied to tobacco manufacturing, transport and management of post-consumption waste.
See: Novotny, T.E. et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

64. "British American Tobacco, whose brands include Lucky Strike and Rothmans, said in a statement it would work with the government to educate smokers, and distribute pocket ashtrays. But it rejected new taxes. It is not up to companies, smokers or citizens to pay, via additional taxes, for the cost linked to the clean-up of cigarette butts," BAT public affairs director Eric Sensi-Minautier said. Imperial Brands, which sells the French Gauloises and Gitanes brands, said it encouraged smokers to dispose of butts responsibly. It said it had no plans to alter its filters to make them less polluting."
See: France orders tobacco industry: stub out cigarette butt pollution. Geert De Clercq. Reuters (14 June 2018) Available at: https://www.reuters.com/article/instant-article/idINKBN1JA257 Also available at: https://www.egypttoday.com/Article/1/52148/France-orders-tobacco-industry-stub-out-cigarette-butt-pollution
See also: Saabira Chaudhuri. The World's Most Littered Item Comes Under Fire. The Wall Street Journal (31 July 2019). Available at: https://www.wsj.com/articles/the-worlds-most-littered-item-comes-under-fire-11564580324
See also: PMI Launches "Our World Is Not an Ashtray" Initiative and Aims to Halve Plastic Litter from Products by 2025. (16 July 2020).
See also: PMI: We can reduce littering: Three inspiring campaigns that prove change is possible (14 Jul 2020)

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66. Curtis, C. et al. “Extended Producer Responsibility and Product Stewardship for Tobacco Product Waste.” International journal of waste resources vol. 4,3 (2014): 157. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4597783/

67. “Environmental principles underlying the Model Tobacco Waste Act: EPR is a policy principle that promotes environmental protection by extending the responsibilities of the producer across the product’s entire life cycle. As set out by Lindhqvist, EPR addresses three core tenets:
1. Internalise the environmental cost of products into their retail price.
2. Shift the economic burden of managing toxicity and other environmental harm associated with postconsumer waste from local governments and taxpayers, to producers. Provide incentives to producers to incorporate environmental considerations into the design of their products.”
See: Clifton C., Novotny T.E., Lee K., Freiberg M. and McLaughlin I. Tobacco industry responsibility for butts: A Model Tobacco Waste Act. Tobacco Control (2017); 26:113-117. Available at: https://tobaccocontrol.bmj.com/content/26/1/113

68. Tobacco Product waste can be prevented and reduced by banning smoking in outdoor areas and workplaces, applying additional fees for litter caused by tobacco products, asking tobacco companies and sellers to pay for clean-ups, and enforcing fines for littering. Other possible interventions include banning of disposable or single-use filters, litigation for damages, and classifying tobacco product waste (TPW) as hazardous waste and labelling products accordingly.
See: Clifton C., Novotny T.E., Lee K., Freiberg M. and McLaughlin I. Tobacco industry responsibility for butts: A Model Tobacco Waste Act. Tobacco Control (2017); 26:113-117. Available at: https://tobaccocontrol.bmj.com/content/26/1/113
See also: Novotny, T.E., Slaughter, E. Tobacco Product Waste: An Environmental Approach to Reduce Tobacco Consumption. Curr Envir Health Rpt 1, 208–216 (May 2014). Available at: https://link.springer.com/article/10.1007/s40572-014-0016-x

69. Novotny and Thomas et al. propose seven policy recommendations and suitable alternatives to tobacco production which are more environmentally-oriented. First, identify and monitor health effects associated with tobacco production. Second, support farmers and their children in freeing themselves from the unsafe and unfair agricultural practices. Third, tighten tobacco production regulations to prevent further deforestation and land degradation. Fourth, implement extended producer responsibility (EPR) on the tobacco industry to reduce and prevent waste. Fifth, extend tobacco sale regulations to eliminate use of single-use filters, including biodegradable ones, to reduce waste. Sixth, recover the cost of industry misconduct and environmental damages through litigation and economic interventions. Seventh, improve and enforce environmental regulations and agreements that can be applied to tobacco manufacturing, transport and management of post-consumption waste.
See: Novotny, Thomas E et al. “The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption.” Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

70. Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control (February 2012);21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

71. “In response to rising international criticism, the multinational tobacco industry commissioned a report to evaluate its impact on global deforestation. Known as the International Forest Sciences Consultancy report, it was commissioned by the International Tobacco Information Centre (INFOTAB) and published in 1986 by Al Fraser. The report described fuel wood consumption for tobacco agriculture in Argentina, Brazil, Kenya, Malawi, Zimbabwe, India and Thailand, then extrapolated the data to 69 other tobacco-growing developing countries. Unsurprisingly, the study showed a remarkably low average specific fuel consumption (SFC) index of 7.8 kg of wood/kg of tobacco, much lower than the reported, but also criticised, estimates of 100 kg to 230 kg of wood/kg of tobacco.”
See: Lecours N, Almeida GEG, Abdallah JM, et al. Environmental health impacts of tobacco farming: a review of the literature. Tobacco Control 2012;21:191-196. Available at: https://tobaccocontrol.bmj.com/content/21/2/191

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73. “In Thailand, Philip Morris International funds environmental projects to achieve their own ends by supporting villagers in tobacco growing regions. For example, funding the Phrae Provincial Administrative Organization (PPAO) to create dams in their region to provide water for agricultural production and fire prevention.”
See: The Tobacco Industry And Corporate Social Responsibility (CSR): An Overview From South East Asia. South East Asia Tobacco Industry Surveillance and Monitoring Program (SIS), SEATCA (June 2011). Available at: https://seatca.org/dmdocuments/CSR%20fact%20sheet.pdf

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See also: Policy options and recommendations on economically sustainable alternatives to tobacco growing (in relation to Articles 17 and 18). Conference of the Parties, sixth session and WHO Framework Convention on Tobacco Control decision; FCTC/COP6(11) (2014). Available at: https://www.who.int/fctc/treaty_instruments/ Recommendations_Articles_17_18_English.pdf?ua=1%22

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See also: WHO Statement on Philip Morris funded Foundation for a Smoke-Free World. WHO (28 September 2017). Available at: https://www.who.int/news/item/28-09-2017-who-statement-on-philip-morris-funded-foundation-for-a-smoke-free-world

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See also: Tobacco Industry Front Group: The International Tobacco Growers' Association. Campaign for Tobacco-Free Kids (November 2011). Available at: https://www.tobaccofreekids.org/assets/global/pdfs/en/IW_interference_ITGA_fact_sheet.pdf

81. ITGA claims "The aim of the association is to share non-competitive information and monitor market conditions, build mutual understanding and protect members andtheir dependents. Its policies and activities are developed by the growers to further their own interests." However, tobacco Industry documents reveal that the true intention behind ITGA is to advance tobacco industry lobbying, especially in developing countries. In the earlynineties, one of ITGA's specific aim was to dilute WHO's tobacco control efforts. They expanded UN's work on tobacco beyond the WHO. They stressed that a successful'Tobacco and Health Program' will cause a negative socio-economic impact on countries that produce tobacco.
See: Emma Must. ITGA uncovered: Unravelling the spin – the truth behind the claims. PATH Canada Guide (June 2001). Available at: https://healthbridge.ca/images/uploads/library/itgabr.pdf

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See also: Sy, D. Tobacco Industry Interference and Tobacco Taxation. B2B#12. July 2020, University of Cape Town. REEP Back to Basics Policy Brief (July 2020). Available at: https://untobaccocontrol.org/kh/taxation/wp-content/uploads/sites/3/2020/09/KH_1pager-12_Tobacco-Industry-Interference-Taxation.pdf
See also: Tobacco industry tactics: tax policies. World Health Organisation WHO-EM/TFI/200/E (2019). Available at: https://applications.emro.who.int/docs/FS-TFI-200-2019-EN.pdf?ua=1
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87. "Our voices are being drowned out by false promises of economic prosperity from cigarette makers and leaf buying companies. Smallholder and tenant farmers in Malawido not share the same views as the tobacco industry when it comes to our future. In the short term, tobacco companies are interested in profit and the addiction to smoking by our people is in direct opposition to the long-term goal of ensuring safe, resilient livelihoods for smallholder and tenant farmers, as well as the vast majority of the people of Malawi."
See: Tobacco Tenants and Allied Workers Union Of Malawi (TOAWUM)'s letter to the President of the Replublic of Malawi (10 October 2014).

88. Agricultural Transformation Initiative (ATI), Foundation for a Smoke-Free World.

89. Novotny, T.E. et al. propose seven policy recommendations and suitable alternatives to tobacco production which are more environmentally-oriented.First, identify and monitor health effects associated with tobacco production. Second, support farmers and their children in freeing themselves from the unsafe and unfair agricultural practices. Third, tighten tobacco production regulations to prevent further deforestation and land degradation. Fourth, implement extended producer responsibility (EPR) on the tobacco industry to reduce and prevent waste. Fifth, extend tobacco sale regulations to eliminate use of single-use filters, including biodegradable ones, to reduce waste. Sixth, recover the cost of industry misconduct and environmental damages through litigation and economic interventions. Seventh,improve and enforce environmental regulations and agreements that can be applied to tobacco manufacturing, transport and management of post-consumption waste. See: Novotny, Thomas E et al. "The environmental and health impacts of tobacco agriculture, cigarette manufacture and consumption." Bulletin of the World Health Organization vol. 93,12 (December 2015): 877-80. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4669730/

90. In 2013, local leaders in Uganda complained of fouled air near the British American Tobacco (BAT) Ugandan plant, and the Parliament called for stricter regulations of production and sale of tobacco in the country. Soon after, BAT moved its facilities from Uganda to Kenya. In such cases, to preempt government regulation and cost-effective measures, the tobacco industry cloaks its actions in the garb of selflessness and environmental concerns, whereas they are the results of public pressure.
See: Hendlin, Y.H., Bialous, S.A. The environmental externalities of tobacco manufacturing: A review of tobacco industry reporting. Ambio; 49, 17–34 (2020). Available at: https://link.springer.com/article/10.1007/s13280-019-01148-3

91. Litigation against tobacco companies, especially in USA, have mostly been focused on recovering smoking related government-funded healthcare costs. In case of environmental harms, EPR could be invoked to hold tobacco companies responsible for clean-up costs and other related damages. Under EPR, manufacturers are held responsible for environmental damages through class action lawsuits, which are based on two notions- negligence (failure to prevent environmental damages) and nuisance (disruption of 'right to quiet enjoyment'). Litigation by governments or local entities can be considered as an effective means to recover costs of environmentalclean-up.
See: Thomas E. Novotny & Elli Slaughter. Tobacco Product Waste: An Environmental Approach to Reduce Tobacco Consumption. Curr Envir Health Rpt (2014) 1:208–216. Available at: https://link.springer.com/content/pdf/10.1007/s40572-014-0016-x.pdf

92. D. Sy. Tobacco Industry Accountability and Liability in the Time of COVID-19. STOP (28 July 2020). Available at: https://exposetobacco.org/wp-content/uploads/TI_Accountability_Policy_Brief.pdf

93. Gail Hurley, Dudley Tarlton. Helping Zambia's farmers ditch tobacco. UN Development Programme (30 May 2019). Available at: https://undp.medium.com/helping-zambias-farmers-ditch-tobacco-19384a54323c
See also: Gail Hurley, Dudley Tarlton. How incentivizing small tobacco farmers can change livelihoods. Devex Opinion (8 May 2018). Available at: https://www.devex.com/news/opinion-how-incentivizing-small-tobacco-farmers-can-change-livelihoods-92669
See also: Tax Reform Case Study: Philippines. Campaign for Tobacco Free Kids (June 2017). Available at: https://www.tobaccofreekids.org/assets/global/pdfs/en/Philippines_Tax_Reform_Case_Study.pdf
See also: The Master Settlement Agreement: An Overview. Public Health Law Center (November 2018). Available at: https://publichealthlawcenter.org/sites/default/files/resources/MSA-Overview-2018.pdf

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95. Synopsis Report Stakeholder Consultation: Proposal for Directive of the European Parliament and of the Council on the reduction of the impact of certain plastic products on the environment. European Commission (28 May 2018); pg4. Available at: https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2018:0257:FIN:EN:PDF

96. "Member states would have to ensure that tobacco companies cover the costs of waste collection for those products, including transport, treatment and litter collection."
See: Plastic Oceans: MEPs back EU ban on throwaway plastics by 2021. European Parliament News/ Press Release (24 October 2018). Available at: https://www.europarl.europa.eu/news/en/press-room/20181018IPR16524/plastic-oceans-meps-back-eu-ban-on-throwaway-plastics-by-2021

97. Geert De Clercq. France orders tobacco industry: stub out cigarette butt pollution. Reuters (14 June 2018) Available at: https://www.reuters.com/article/instant-article/idINKBN1JA257

98. "One key aspect of the plan will be to place the costs associated with cleaning up cigarette butt litter on the tobacco industry."
See: Adam Higgins. No Ifs or Butts- Government considers placing cost of cigarette butt cleanup on tobacco industry. The Sun (30 December 2019). Available at: https://www.thesun.ie/news/4935971/government-cost-cigarette-butt-cleanup-tobacco-industry/

99. "Britain is considering a plan to force big tobacco companies to pay the 40 million pound ($55 million) annual cost of cleaning up discarded cigarette butts."
See: Guy Faulconbridge. UK warns big tobacco firms: You should pay for cleaning up cigarette butts. Reuters (30 March 2021). Available at: https://www.reuters.com/article/us-britain-tobacco-idUSKBN2BM1BZ
See also: Correspondence: Smoking related litter roundtable meeting, 2 September 2020. Department for Environment Food & Rural Affairs (28 September 2020). Available at: https://www.gov.uk/government/publications/defra-engagement-with-the-tobacco-industry-on-litter/smoking-related-litter-roundtable-meeting-2-sep-2020
See also: On December 2013, in order to comply with WHO FCTC, Department for Environment, Food and Rural Affairs (DEFRA) cut all links with Keep Britain Tidy, an environmental campaign group co-founded by Imperial Tobacco.
See: CSR: Imperial and Love Where You Live. Tobacco Tactics (27 April 2020). Available at: https://tobaccotactics.org/wiki/csr-imperial-and-love-where-you-live/

100. Heidi Sanborn. Commentary: Big Tobacco and e-cigarette companies should help clean up their mess. Call Matters (13 May 2019). Available at: https://calmatters.org/commentary/2019/05/toxic-tobacco/
See also: Arlene Karidis. Who's Doing What to Tackle Cigarette Litter. Waste 360 (4 November 2020). Available at: https://www.waste360.com/waste-reduction/whos-doing-what-tackle-cigarette-litter.
Please note: Waste 360 article promotes 2 tobacco industry linked clean-up efforts. Keep America Beautiful and Keep Britain Tidy (the latter has cut ties with TI in 2013). There have been massive cleanup efforts around the globe, but mostly done locally by volunteers, and or at a cumulative expense of billions of dollars to cities and counties. Some regions have pushed for policy around cigarette litter; just this year, three U.S. states tried to move legislation to address the problem. And the EuropeanUnion is working to pass the costly clean-up tab onto tobacco manufacturers.

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