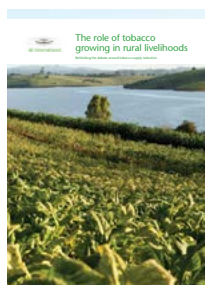




A study on
the impacts
of tobacco
growing and
the role it
plays in rural
livelihoods

Welcome

This report details the results of independent research, conducted by IMC Worldwide Limited (IMC) between September 2018 and May 2019, on the impacts of tobacco growing and the role it plays in rural livelihoods.



The research was commissioned by British American Tobacco (BAT) and provides an update to a 2012 study, conducted by Development Delivery International (DDI), entitled ‘The role of tobacco growing in rural livelihoods – Rethinking the debate around tobacco supply reduction’.

Download a copy of the 2012 research report at bat.com/farmers/research

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The research consisted of two key phases:



LITERATURE REVIEW

A critical review of the published literature and evidence base relating to the environmental impacts, social effects and occupational health and safety risks associated with tobacco growing.



COUNTRY CASE STUDIES

Field research in three contrasting tobacco-growing countries – Bangladesh, Brazil and Kenya – involving a total of 257 interviews with different types of farmers, labourers and other stakeholders.

About IMC

IMC is one of the world's leading international development consultancies. It brings more than 50 years of experience of assisting donors and government departments to tackle some of the most challenging infrastructure, livelihood and economic issues in developing countries.

The authors of this research are Dr Graham Haylor (under contract to IMC), Froeydis Gording, Etienne Lwamba and Bryony Everett, with support from local research teams in Bangladesh, Brazil and Kenya.

www.imcworldwide.com

About BAT

BAT is one of the world's leading multi-category consumer goods companies, providing adult consumers with combustible tobacco products and a range of potentially reduced-risk products (PRRPs), including vapour, oral and tobacco heating products.

The BAT Group purchases over 400,000 tonnes of tobacco leaf each year and has a long history of working in partnership with smallholder tobacco farmers around the world and helping to advance sustainable agriculture practices.

www.bat.com

Independence and cautionary statements

IMC undertook this research independently, with some data, information, editorial support and feedback provided by BAT. BAT-authored content is clearly indicated as such. For the country case studies, the interviewees' identities and individual responses were confidential and anonymous and not shared with anyone outside of the research teams, including BAT. The results are based on the views and experiences of our sample of approximately 85 households per country and should not be viewed as impact assessments. For the purpose of comparison, the response rates are often quoted as percentages – this is not meant to imply that 100 or more people were surveyed.



IMC Foreword

Graham Haylor, PhD

“

Our overarching research question was to identify if tobacco growing reduces resilience and prevents farmers and rural communities from prospering. Overall, we found no evidence of this.”

The global context

Agriculture is fundamental for producing food and a host of other commodities. With an estimated 935 million people working in the sector, equating to 28.3% of total global employment¹, large numbers of poor rural families rely on agriculture for their livelihoods. Yet, in many parts of the world, agricultural production has contributed to climate change, deforestation, pollution and general environmental degradation.

The UN Sustainable Development Goals seek to mobilise global efforts around a common set of aspirations for 2030 to address these kinds of livelihood and environmental issues. They have been agreed by all governments, yet their success relies heavily on action and collaboration by all actors, including business and civil society. In this context, the impacts and role of supply chains are coming under increasing scrutiny.

The role of tobacco

Tobacco is grown predominately by small-scale family farmers and, according to the International Labour Organization (ILO), “occupies a fraction of their land, but generates the bulk of the revenue. There are few ready substitutes for the crop, neither for the families, nor for countries that rely on it.”²

But while many farmers depend on tobacco cultivation, it is important to not exaggerate its scale: an estimated 0.08% of agricultural land worldwide is used for growing tobacco, compared with other crops such as maize, rice and cottonseed that utilise 16%, 3% and 0.56% of land respectively³.

Nevertheless, there have been allegations that tobacco has worse environmental, social, and health and safety risks than other crops.

Understanding risk

It is important to understand that the fact that there is a risk does not mean it is realised, since mitigation procedures can reduce or even remove the chance of occurrence. For tobacco, hazards (i.e. the chance of risk) are linked with the relatively high costs of production, labour demands and pricing, all of which it shares with major cash crops being traded in liberalised markets.

While all farmers are exposed to these hazards, whether they lead to negative effects is dependent on contextual factors. For example, farmers in or near to poverty are vulnerable, but identifying that some poor people grow tobacco does not imply that tobacco cultivation *causes* poverty.

Accordingly, claims about the poverty effects of tobacco cultivation need to clearly distinguish from evidence about whether the poverty of tobacco farmers reflects a causal role of growing tobacco or if poor farmers choose it in an effort to move out of poverty. In the context of other livelihood alternatives, farmers also tend to consider the extent to which the hazards around tobacco cultivation, management requirements and price can be mitigated by the extension service support on offer, and the ready, assured market.

Our research

Our research therefore focused on, firstly, conducting a critical review of the available literature and evidence base regarding the links between tobacco cultivation and key environmental, social, and health and safety risks. This was followed by field research in Bangladesh, Brazil and Kenya to examine the role tobacco growing plays in rural livelihoods.

Our overarching research question for the field studies was to identify if tobacco growing reduces resilience and prevents farmers and rural communities from prospering. Overall, we found no evidence of this. In fact, among our samples, tobacco growing appears to play an important and positive role in the livelihoods of tobacco farmers and labourers in Bangladesh, Brazil and Kenya.

This does not mean, though, that we did not identify some issues in the research, including small-scale land and forest clearance, incidents of child labour and green tobacco sickness (GTS). But, with the exception of GTS, these are common issues across agriculture and not specific or unique to tobacco. It is also clear from our findings that BAT extension services are well regarded, with excellent reach and resulting in the most pronounced and positive behaviour change. This is key to enabling BAT's farmers to continue to address the hazards and vulnerabilities they face.

Like in any responsible sector, continued vigilance, effective information sharing and striving for the implementation of best practices is vital. We encourage BAT to continue its efforts to mitigate environmental impacts, ensure the best social outcomes for farming families and their children, and implement health and safety safeguards across its tobacco leaf supply chain.

Graham Haylor,
PhD

1 ILOSTAT (2018), *Employment by sector – ILO modelled estimates*, Nov 2018.

2 ILO (2017a), *ILO cooperation with the tobacco industry in the pursuit of the Organization's social mandate*, International Labour Office, Governing Body, 329th Session, Geneva, March 2017.

3 *FAOSTAT (2018)*, Data of the Food and Agriculture Organization (FAO) of the United Nations.

BAT Foreword

Alan Davy, Director, Operations



I would like to personally thank IMC for this research and their invaluable insights and recommendations, as well as the opportunity to respond to the findings – which you can read at the end of this report.”

Our strategy and approach

Sustainable agriculture and farmer livelihoods is a key strategic area of our Group Sustainability Agenda and is focused on *advancing sustainable agriculture and working to enable prosperous livelihoods for all farmers who supply our tobacco leaf*.

This is something we have a long and proud history of through the cutting-edge work of our Leaf Science & Research and providing comprehensive support for our farmers through our extension services of expert field technicians.

Our field technicians play an active and important role in helping farmers to maximise the profitability of their farms, enhance their livelihoods and resilience, and protect the environment and natural resources. So, I'm particularly encouraged that their strength and positive impact was found in IMC's research across all three countries.

Not only does this bring value to our farmers, their communities and their landscapes, it also has clear benefits for BAT in securing our tobacco leaf supply chain now and for the future.

Tackling child labour

It's an unfortunate reality that child labour exists across agriculture – from cotton and sugarcane, to cocoa and cattle farming. And tobacco is no exception. The ILO estimates that 71% of all global child labour is in agriculture – that's 108 million children worldwide.

Many rural communities where tobacco is grown face issues like poverty, poor infrastructure and lack of education, which are among the root causes of child labour⁴. It's also often a traditional part of rural life for farmers to teach their children the agricultural skills they'll need to take over their family farms in the future.

So, I'm saddened, but not surprised, to see that IMC has identified incidents of child labour on tobacco farms in this research. We take all incidents of child labour extremely seriously and have been working to tackle it for many years, such as through industry collaborations like the Eliminating Child Labour in Tobacco Growing (ECLT) Foundation, which we were a founding member of back in 2000, and the *Growing-up Right* programme in Brazil, which is celebrating its 20th anniversary this year.

Our work to enhance farmer livelihoods is crucial to addressing rural poverty – a root cause of child labour. If farmers have profitable farms and good incomes, then they're more likely to send their children to school and not rely on them as cheaper forms of labour. And our field technicians continually work to raise farmers' awareness and understanding of this issue, building trusted relationships and gaining unique insights into the challenges they face. This means we can tailor our approach to meet the real needs of rural communities and find practical and long-term collaborative solutions to address this complex issue.

Regular farm monitoring and spot checks have also long been central to our approach, but now we've enhanced this through new digital technology with our Farmer Sustainability Monitoring system. Our field technicians can record their findings in real time on a mobile device – giving us a global picture of the scale of the issue. This helps us to go beyond monitoring and get on with prompt remediation for affected children.

Protecting the environment

There have been claims that tobacco is a major cause of deforestation and biodiversity loss and that it leads to soil degradation and water pollution from pesticide use. But what comes across clearly from this research is that these issues are common across agriculture and can

be effectively managed and mitigated through interventions by both farmers and tobacco companies.

Our extension services play a vital role in this, by providing farmers with best practice environmental information and introducing them to new sustainable farming techniques. We're very encouraged that IMC found this results in the most pronounced and positive behaviour change. They also found evidence of the success of industry efforts to address deforestation, with 99% of all tobacco farmers in this study, across all three countries, using sustainable sources of wood for curing.

Continuous improvement

We hope this research will help contribute to the debate on the impacts of tobacco growing and the wider global focus on sustainable development.

This kind of independent research is also an essential part of our commitment to transparency and continuous improvement. It can help us, and the wider industry, to gain a deeper understanding of the key issues and identify where improvements can be made. So, at the end of this report, you will find our detailed response, as well as a clear set of actions.

Alan Davy
Director, Operations



Read BAT's response to this research on pages 24–29.

⁴ ECLT Foundation, *About child labour*.

Executive Summary

Key findings from the literature review and country case studies

THE RESEARCH

We conducted a critical review of published literature and field research in three contrasting countries to examine the key environmental, social, and health and safety risks of tobacco cultivation.



350+

articles examined in total by the 2012 and 2018 literature reviews.



257

interviews conducted in Bangladesh, Brazil and Kenya.

CONTEXT

It's important to not exaggerate the scale of tobacco growing and to consider the wider agricultural context when examining its impacts.



0.08%

of agricultural land worldwide is used for tobacco. So the findings relating to the tobacco sector are small when considered with the agricultural sector as a whole.



The existence of risk should not be confused with its realisation.

Risks are not always realised and mitigation procedures can often reduce or even remove the chance of occurrence.



In order to get a fair and unbiased understanding of the impact of any crop, comparative research is crucial.

Without this, it is impossible to determine whether the issues are specific to tobacco farming or apply to wider agricultural systems and all cash crops.

ENVIRONMENTAL

We conclude that tobacco growing would seem to pose no greater environmental threat than other crops.



BAT extension services are clearly doing a good job

of providing farmers with best practice information, resulting in the most pronounced and positive behaviour change.



99%

of all tobacco farmers interviewed use sustainable wood sources for constructing curing barns and as fuels for curing.



Small-scale forest and land clearance is site specific and can be mitigated

through interventions by both farmers and tobacco companies.



Limited evidence of soil degradation or biodiversity loss

was reported as a result of tobacco growing.



78%

of tobacco farmers interviewed who have a watercourse on their land are effectively mitigating the risks of pesticide pollution by maintaining a riparian strip.



HEALTH AND SAFETY

We found few specific linkages between tobacco cultivation and the realisation of the risks examined.



Green tobacco sickness (GTS)

is a type of nicotine poisoning caused when nicotine is absorbed through the skin from wet tobacco leaves. It remains an additional risk for tobacco farmers, so it's essential they use suitable personal protective equipment (PPE) when harvesting and are trained in how to use it properly.



97%

of BAT tobacco farmers interviewed reported always wearing PPE when harvesting – however, awareness of GTS and its causes is much lower in Bangladesh and Kenya than in Brazil.



15 incidents of GTS

occurring in the past year were reported by tobacco farmers in Brazil, including six by BAT farmers, despite 100% reporting they always wear PPE. In Bangladesh and Kenya no incidents were reported.



Evidence of risks posed by pesticide use in tobacco versus other crops is scarce

and there is little reliable comparative data.



77%

of BAT tobacco farmers interviewed receive best practice information on using agrochemicals and

84% reported always wearing PPE when handling them. No BAT farmers reported any incidents of pesticide intoxication.

SOCIAL

There is no clear evidence to support a causal link between tobacco cultivation and poverty or poor social outcomes.



Tobacco cultivation plays an important and positive role in livelihoods, helping to improve the wellbeing and increase the resilience of the tobacco farmers and labourers interviewed.



We found that the recent, albeit limited, literature provides no basis to demonstrate any true connections between tobacco cultivation and poor social outcomes, especially considering the lack of comparison with other crops.



98%

of tobacco farmers interviewed grow other crops for food or as additional sources of income, and we found no evidence of tobacco mono-cropping.



Farmers reported choosing to grow tobacco

due to its high value and reliable income, and movement in and out of tobacco growing does not indicate any picture of entrapment.



61%

of tobacco farmers interviewed are aware of available grievance mechanisms and

33%

think they're effective.



Child labour is a major issue in agriculture but is no more prevalent in tobacco cultivation than in other crops.

When examining this issue, it's important to consider the significant levels of child labour on family farms in developing countries, regardless of the crops grown.



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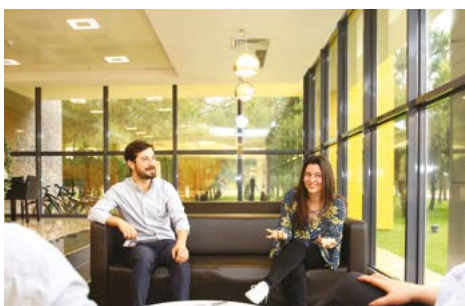
children of tobacco farmers and labourers were identified as potentially engaging in child labour on their family farms, including **four children of BAT farmers**. Importantly, this reportedly did not interfere with their education, and the numbers are significantly lower than the serious levels of child labour in agriculture in these countries. However, this still demonstrates the need for continued vigilance and farmer education in this regard.



Literature Review

Summary of the main findings

From our critical review of the published literature, we found the evidence does not confirm any specific linkages between tobacco cultivation and the realisation of the key environmental, social, and health and safety risks examined.



QUALITY OF THE LITERATURE

We examined the source of the studies to assess their credibility and found that 50% were in academic and peer-reviewed publications

These sources are seen as more credible as they are subject to independent scrutiny and quality assurance before publication. This is an improvement on the 2012 review, in which the majority of research was found in sources without peer review.

However, we found a potential for inherent bias within some of the literature, and few studies compared tobacco with other crops or considered the wider agricultural context

Without this, it is impossible to determine whether the issues are specific to tobacco farming or apply to wider agricultural systems and all cash crops.

“

Some studies singled out tobacco and its impacts but neglected to compare it to other crops or disadvantaged households. In order to truly get a fair and unbiased understanding of the impact of any agricultural sector, comparative research is crucial.”



SOCIAL

No clear evidence to support a causal link between tobacco cultivation and poverty

While many tobacco growers live in poverty, as is common for most smallholder farmers in developing countries, the evidence is not clear if this is *because* they are tobacco farmers.

Some studies also found that tobacco cultivation could be beneficial for farmers, communities and the wider economy.

No accurate correlation of tobacco cultivation contributing to food insecurity

Some studies show that farmers growing only tobacco could contribute to food insecurity – but as most tobacco farmers grow several crops during each season, it is hard to ascertain a specific causal link between tobacco farming and food insecurity.

A study in sub-Saharan Africa also found yields can increase significantly if farmers grow tobacco intercropped with other products, leading to higher incomes and therefore greater food security.

Child labour is no more prevalent in tobacco cultivation than other crops

There is some literature focusing on children working on family tobacco farms – yet these do not consider the significant levels of child labour on family farms in developing countries, regardless of crops grown.

Without comparing to other agricultural goods across disadvantaged households, it is not possible to say that tobacco leads to an increase in child labour.

No evidence to suggest bonded labour is specific to tobacco growing

The issue of bonded labour has very little prominence in the literature, and we found just one report that referenced the potential for tobacco farmers being left in debt from financial advances for inputs at the beginning of the growing season.

But without counterfactuals comparing with other cash crops, it is not possible to say this is specifically linked to tobacco growing, or if it leads to bonded labour.



HEALTH AND SAFETY

Green tobacco sickness (GTS) remains a specific risk for tobacco farmers

The evidence shows GTS prevalence rates are generally higher among women, who are often responsible for tasks involving handling tobacco leaves, which exposes them to higher risks if not wearing appropriate personal protective equipment (PPE).

GTS can be prevented by proper use of PPE; but this requires access to suitable high-quality and effective equipment, as well as education in how to properly use it.

Evidence of risks posed by pesticide use in tobacco versus other crops is scarce

There is little reliable comparative data in this area and, due to most of the pesticides for tobacco also being widely used on other crops, it is hard to determine instances of pesticide intoxication directly attributed to tobacco farming.

Dermatological and respiratory risks from tobacco growing are not significant

There is no evidence of a significant dermatological concern when farming tobacco and respiratory problems have rarely been reported from growing it.



ENVIRONMENTAL

Deforestation impacts are site specific, but can be mitigated

Some studies suggest deforestation for tobacco is a major cause of environmental degradation; but others found little evidence of this, and one study showed an increase in forest coverage in tobacco-growing areas as a result of industry initiatives.

There is no evidence to suggest this is a global industry-wide issue, and analyses need to take account of the specifics of the site or location.

The risks of pesticides polluting water systems are not specific to tobacco

Some studies suggest the potential for water pollution resulting from agrochemicals used in tobacco farming – but data is limited on whether the chemicals were only used for tobacco, or for all crops on the farms.

Other studies showed no impact on water from tobacco growing and, in Brazil, a study found the level of active chemicals used for tobacco is one of the lowest in the country, compared to many other crops.

All crops have an impact on soil nutrient levels

Some studies refer to tobacco leading to soil degradation – but take a selective approach and fail to include all the available data, such as palm oil and coffee having more severe effects on soil nutrients.

Other studies include examples of tobacco cultivation, in rotation with other crops, improving soil fertility.

“

There is little evidence quantifying environmental degradation as a result of tobacco cultivation, and much of the data in the literature is insufficient to conclusively confirm the effects of tobacco. A like-for-like comprehensive study, considering data across a range of crops and their environmental impacts, would be of most use to this debate.”

Country Case Studies

The case studies help us understand context-specific information in three contrasting tobacco-growing countries: Bangladesh, Brazil and Kenya. They are based on our findings from detailed interviews investigating the environmental, social, and health and safety aspects of respondents' farming experiences and the resultant impacts of tobacco growing on rural livelihoods.



Methodology

The three countries selected for this research each represent BAT's largest direct sourcing tobacco leaf operations in Africa, Asia and the Americas and demonstrate variations and differences across a range of human, social and economic factors. Within each country, our sampling focused on the poorer regions or districts where BAT sources tobacco, where the chances for the realisation of risks are likely to be greatest. Within these areas, we randomly sampled households with differing farm sizes and cultivation status, including tobacco farmers and labourers, non-tobacco farmers and those who had recently started or stopped growing tobacco. Interviews with a small number of stakeholders, such as from farmer associations, government and academia, also provide a wider perspective beyond the farm level.

This approach enables us to understand context-specific information and examine counterfactuals between different types of farmers, crops and households, and provides practical knowledge and the basis for wider generalisations.

NESTED SAMPLING METHODOLOGY



Countries

- Largest BAT leaf operations in Africa, Asia and the Americas
- Contrasting human, social and economic development status



Locations

- Poorer regions or districts where BAT contracts farmers, where the chances for the realisation of risks are likely to be greatest



Farmers

- Differing cultivation status, including both tobacco and non-tobacco growers
- Large, medium and small farm sizes

Research framework

In each country, approximately 85 interviews were conducted with longer- and shorter-term tobacco farmers contracted to BAT, tobacco farmers contracted to other companies, tobacco farm labourers, non-tobacco farmers and key local stakeholders. A standardised questionnaire was used, framed around this overarching research question: ***Does tobacco cultivation reduce resilience and prevent farmers and rural communities from prospering?***

The case studies are specific to the location and our sample of interviewees, so the findings and conclusions cannot be applied to tobacco cultivation in general in any one country. As a modest qualitative study, limited in scope and scale, this research cannot establish the 'truth' behind the effects of tobacco cultivation but, as selected case studies, the evidence can robustly question the extent to which claims regarding negative impacts of tobacco growing can be seen as universally applicable.



Highlights of findings from each country

Overall, we found no evidence of tobacco growing reducing resilience and preventing farmers and rural communities from prospering. In fact, among our samples, tobacco growing appears to play a positive role in the wellbeing and livelihoods of tobacco farmers and labourers in Bangladesh, Brazil and Kenya. Some issues have been identified but, except for green tobacco sickness (GTS), they are not specific to tobacco cultivation.



Bangladesh

In a country with high levels of poverty and food insecurity, farmers in our sample choose to grow tobacco as a lucrative and reliable cash crop, which leads to a sustained increase in their wellbeing and socioeconomic status.

All are highly diversified and grow other crops for food and as additional sources of income – helping to increase their livelihood resilience and food security.

In the Bangladeshi context, the issues we identified, including child labour and potential environmental impacts of pesticides, do not appear to be specific to tobacco cultivation. Appropriate farming best practices can also effectively mitigate key risks, and we found evidence of BAT extension services having 100% reach and providing comprehensive information to farmers to bring about positive behaviour change.

There are some opportunities for improving farmers' level of understanding and awareness of issues such as GTS and grievance mechanisms. And, in a country with high vulnerability to climate change and prevalence of child labour, it's also vital for BAT and other tobacco companies to continually work to ensure they maintain vigilance.



Brazil

Of the three countries in this research, Brazil has the highest value in the Human Development Index, and there are less serious levels of hunger or poverty in the southern tobacco-growing states.

Tobacco provides a substantial and increasing contribution to farmers' income, along with other lucrative crops, such as soya. All are highly diversified, which makes them more resilient to shocks, such as crop losses or market fluctuations.

There are clearly a number of risks for Brazilian farmers, particularly relating to the high levels of deforestation and pesticide use in the country. In our sample, tobacco does not appear to be a significant contributor to forest loss, with all tobacco farmers sourcing wood sustainably for curing. However, some small-scale incidents of forest clearance were found.

All BAT farmers wear personal protective equipment (PPE), and they reported no incidents of pesticide intoxication. The majority of farmers are also effectively mitigating the risks of water pollution from pesticides.

Despite 100% of BAT farmers reporting they wear PPE when harvesting tobacco, some incidents of GTS were reported in the last year – suggesting a need to improve farmer PPE training.



Kenya

Like Bangladesh, Kenya suffers from high levels of poverty and hunger, and so farmers in our sample choose to grow tobacco as the most lucrative cash crop available to them. Tobacco also appears to enhance their food security and overall wellbeing.

BAT farmers highly value the support they receive from the company, including best practice information and access to PPE and crop insurance. This results in the most pronounced and positive behaviour change and, in a country that has frequent floods and droughts, the insurance helps them to be more resilient.

Kenya has by far the highest prevalence of child labour among our research countries, and this correlates to the highest number of potential incidents identified among our samples. However, with one of the 12 child labour incidents identified relating to a BAT farm, this suggests a better level of understanding and compliance among BAT farmers.

BAT farmers appear to be effectively mitigating health and safety risks through the use of PPE, with no reported health issues, including GTS. However, awareness of GTS and its causes/symptoms is low, and so we recommend BAT works to address this gap.

Bangladesh

The evidence from our sample suggests tobacco growing plays an important and positive role in the livelihoods of tobacco farmers and labourers in Bangladesh, helping to improve their wellbeing and increase their resilience.

Country profile

Key indicators from the Human Development Index (HDI)⁵

Value
0.608 (medium)

Life expectancy at birth
72.8 years

Gross national income per capita
US\$3,677 2011 PPP (purchasing power parity)

Working poor at PPP US\$3.10 a day
67.3% of total employment

% of total employment in agriculture
39.1%

Other key indicators

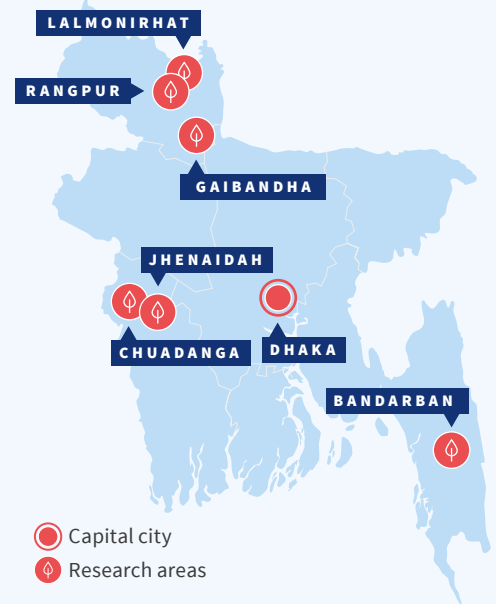
Freedom in the World 2018⁶
Partly free

Global Hunger Index 2018⁷
26.1 (serious)

Prevalence of child labour (% of 5–14-year-olds)⁸
4.3%

% of total agricultural land used for tobacco growing⁹
0.51%

Number of BAT contracted farmers¹⁰
30,000+



Context

While Bangladesh has made significant progress in recent years in income growth, human development, poverty reduction, food security and climate change adaptation, the country still faces major challenges, including ongoing forest loss and natural disasters, as well as high levels of poverty, hunger and child labour.

Agriculture remains one of the most important sectors for the Bangladeshi economy, and BAT has been sourcing tobacco from the region since 1910. Today, the company directly contracts over 30,000 farmers, who it supports through its extension services of expert field technicians.

Research approach

Using the sampling methodology described on page 8, 46.9% of interviewees were in the Bandarban district, where the majority of BAT farmers are located, which has a high poverty rate of 40%¹¹. 22.2% of interviewees were in Chuadanga (poverty rate: 28%), 19.8% were in Lalmonirhat (poverty rate: 35%) and the remainder were in the districts of Jhenaidah, Rangpur and Gaibandha. Within these areas, random households with different cultivation statuses and farm sizes were selected.

Our local research partner conducted the 85 interviews in early 2019, using a standardised questionnaire to investigate the environmental, social, and health and safety aspects of the respondents' farming experiences and the resultant livelihoods of different types of farmers.

Number interviewed by farm size in hectares (ha)

Interviewee type	Small (0.2–<1ha)	Medium (1–<2ha)	Large (2–<3ha)	Total
British American Tobacco farmers for >5 years	5	5	5	15
British American Tobacco farmers for <2 years	5	5	5	15
Ex-British American Tobacco farmers for <2 years	5	5	5	15
Tobacco farmers for other companies	5	5	5	15
Non-tobacco farmers	5	5	5	15
Tobacco farm labourers				5
Key informant stakeholders				5
Total				85

5 HDI (2018), *Bangladesh HDI profile*, United Nations Development Programme.

6 Freedom in the World (2018), *Bangladesh profile*, Freedom House.

7 Global Hunger Index (2018), *Bangladesh profile*, Welthungerhilfe and Concern Worldwide.

8 US Department of Labor (2017), *Findings on the Worst Forms of Child Labor 2017 – Bangladesh*, Bureau of International Labor Affairs.

9 *FAOSTAT 2018*.

10 BAT Group data (2018).

11 The World Bank (2016), *Bangladesh Interactive Poverty Maps*, Nov 2016.

Summary of key findings

Against our overarching research question, we found no evidence of tobacco cultivation in Bangladesh reducing resilience and preventing farmers and rural communities from prospering. In the Bangladeshi context, the issues identified in this research do not appear to be specific to tobacco cultivation.



Environmental

- All tobacco farmers use sustainable wood sources for curing, except for one BAT farmer and three farmers for other tobacco companies;
- We found no evidence of land or forest clearance for tobacco farming;
- Biodiversity, according to 100% of respondents, is not affected by tobacco growing; and
- Not all farmers appear to be following best practice approaches to mitigate the risks of water pollution from pesticides, and some of the insecticides they use could negatively impact bee colonies.



Social

- All tobacco farmers said that tobacco is their most lucrative and reliable cash crop, which increases their livelihood resilience and leads to a sustained increase in their wellbeing and socioeconomic status;
- Tobacco farmers and labourers are relatively food secure;
- Child labour in tobacco growing appears to be significantly less prevalent than the national average; and
- We found no evidence of entrapment in tobacco growing, but all farmers reported not being aware of, or using, grievance mechanisms.



Health and safety

- 100% of BAT tobacco farmers reported receiving training on how to use PPE and maintain it effectively;
- 61% of tobacco farmers always wear PPE when handling agrochemicals, and no incidents of pesticide intoxication were reported;
- 77% said they always wear PPE for harvesting tobacco, and no incidents of GTS were reported; and
- 78% of tobacco growers said they received information about prevention of GTS, but only three reported understanding its causes and symptoms.



The stakeholders interviewed for this research almost unanimously agreed that tobacco farming provides better income opportunities when compared to other crops, due to price fluctuations and the low prices of other crops.”

Environmental

There is limited evidence of tobacco cultivation contributing to forest or biodiversity loss

Forest coverage in Bangladesh is among the lowest rates in the world, with just 6.7% of the country's surface area covered by forest, and weak environmental legislation and pressures of a growing population resulting in the loss of 2,000 hectares (0.3%) of forest per year¹². However, among our sample, there was limited evidence of tobacco cultivation being a major contributor.

Two incidents of forest clearance for growing crops were reported by farmers, neither of which were for tobacco. A farm labourer also reported clearing land for growing his own crops.

100% of all tobacco farmers reported using wood from sustainable sources to construct curing barns. For curing fuels, 79% of all tobacco farmers use wood and the remainder use rice husk briquettes as a sustainable alternative. All BAT growers use wood from sustainable sources, with the exception of one who reported using waste wood washed down from the hilltops during the rainy season. In comparison, 67% of non-BAT farmers reported using wood from

sustainable sources and 33% from untraceable sources from local markets.

Biodiversity, according to 100% of respondents, is also not affected by tobacco growing, with no change in biodiversity, ecosystems and local species reported.

Not all farmers are effectively mitigating the potential impacts of pesticide use

Farmers reported receiving detailed information regarding fertilisers, pesticides and their proper use, with information from BAT extension services reaching 100% of contracted tobacco growers. While some farmers reported various limitations in their understanding of the information, this was generally more pronounced for non-BAT farmers. This indicates that the quality of information from BAT is better than from other available information sources.

We found a variety of different pesticides are used by farmers in our sample, the most common of which can potentially have negative impacts on aquatic life if they pollute local water sources and on bees that are exposed to direct treatment on blooming crops/plants or adjacent areas. Therefore,



it's important that farmers understand the risks and implement appropriate practices to mitigate them.

100% of BAT's farmers reported having information on the risks of water pollution from pesticides, and all of those with a watercourse on their farms received this from BAT. The majority of tobacco farmers for other companies and farmers growing other crops are not accessing any information on water pollution, and all types of farmers reported various limitations in understanding the information they do have.

¹² FAO (2009), *State of the World's Forests 2009* (page 111).

Bangladesh country case study

continued

“

The field teams observed that around 91% of interviewees' villages had reliable electricity and 88% had safe and clean drinking water. In addition, 88% of interviewees were considered to live in decent housing.”

Consequently, not all farmers appear to be following best practice approaches to mitigate the risks of water pollution. Currently, just over half (54%) of all farms in our sample with a watercourse maintain a riparian strip to filter out any pollutants in water run-off from the soil. In total, seven BAT farmers with a watercourse did not maintain a riparian strip. Our survey did not establish if farmers are aware of potential impacts on bees, or if BAT extension services provide this information. If not, it is recommended they do so and that farmers implement best practice guidelines for mitigating actions, such as controlling flowering weeds, using more targeted application methods and exploring alternatives or integrated pest management approaches.

We found no evidence of monocropping or tobacco causing greater loss of soil fertility or erosion than other crops

All tobacco farmers said they rotate tobacco with other crops, including paddy, maize and vegetables, which helps to protect and enhance soil health. 88% of all interviewees also believed that tobacco

cultivation does not cause greater loss of soil fertility or erosion compared to other crops.

All BAT growers reported receiving information from the company on best practice soil management. It is also clear that farmers contracted to other tobacco companies often rely on BAT information, which is also used by ex-BAT tobacco farmers and by farm labourers. We also found evidence of a high level of behaviour change as a result of this information.

Social

There is no clear evidence to support a causal link between tobacco cultivation and poverty, food insecurity or lack of resilience

All tobacco farmers reported that tobacco is their most lucrative and reliable cash crop, which increases their livelihood resilience and leads to a sustained increase in their wellbeing and socioeconomic status. They could not name any alternative crops that are equivalent or more lucrative but, as well as tobacco, all reported also growing other crops for food and as additional sources of income.

While few keep written records that evidence their livelihood, interviewees were able to conceptualise their place on a 'ladder' (representing wellbeing), by recalling family circumstances in previous periods and projecting where their socioeconomic status might be heading.

BAT tobacco farmers perceive the trajectory of their wellbeing over a 10-year period to be on a positive upward trend. Tobacco farm labourers, on the other hand, are less optimistic about their socioeconomic status than farmers, but do expect their situation to improve over the next five years.

All but one labourer also grow their own food and consider their wages to be comparable to the local average, with one reporting that it's worse.

Child labour in tobacco growing appears to be significantly less prevalent than the national average

Child labour is a major issue in Bangladesh, with an estimated five million child labourers in the country, of whom 46% are in agriculture¹³.

In our sample, 96% of all interviewees perceive child labour in tobacco farming to be very rare and less prevalent than in other crops or farm work. However, we identified five children (3% of all under-18s in the sample) who were potentially engaged in child labour on their families' tobacco farms. This included two children of non-BAT farmers aged 13 and 16, carrying out work such as watering, weeding and preparing tobacco bales. The other three were children of BAT tobacco farmers: a six-year-old and an 11-year-old who sometimes helped with the light, non-hazardous tasks of watering and weeding; and a 14-year-old reported to help with stitching or stringing tobacco leaves and feeding fuels for tobacco curing.

Importantly, in all cases the children were reported to attend school and their work did not interfere with their education. However, under Bangladeshi law and international standards, they are underage for these types of activities.

We found no evidence of entrapment in tobacco growing, but awareness of rights and grievance mechanisms is low

The evidence of farmers leaving and entering tobacco growing, as well as farmers' comments about their choices and their prospects, provided no suggestion of any lack of freedom of choice or entrapment in tobacco growing.

However, we did find tobacco farmers' awareness of human rights issues was low (52%) and, of these, 81% reported that some labour standards are not always observed – for example, those relating to child labour, wages, benefits and working hours.

Awareness and membership of unions was also low overall, but the six who did report union membership were all BAT farmers. All farmers also reported not being aware of, or using, grievance mechanisms.



¹³ Carter, B. (2017), *Prevalence and impacts of child labour in agriculture*, K4D Helpdesk Report, Brighton, UK: Institute of Development Studies.



Occupational health and safety (OHS)

BAT farmers all receive training on personal protective equipment (PPE)

Many of the OHS risks in tobacco growing, including GTS and pesticide intoxication, can be mitigated through the correct use of appropriate PPE. So, it's essential that suitable PPE is available, as well as training and information in how to use it.

100% of BAT tobacco farmers reported receiving training on how to use PPE and maintain it effectively. 77% reported always using it for harvesting tobacco and 61% always use it when handling agrochemicals. Nine farmers, including three BAT farmers, reported never using PPE when handling agrochemicals, and the remainder use it sometimes.



No incidents of GTS or other health issues were reported

No incidents of GTS, pesticide intoxication or dermatological or respiratory disorders were reported by any interviewee.

78% of tobacco farmers reported receiving information about prevention of GTS, with 50% saying this came from the contracting company. However, only three understood what GTS is and its causes and symptoms (including one recent BAT farmer); and just two tobacco farmers knew what GTS is, but not its causes and/or symptoms, including one longer-term BAT farmer. Nevertheless, as outlined earlier, 77% of tobacco farmers always wear PPE when harvesting tobacco, indicating they understand there are risks, but without necessarily knowing specifically what these are.

Awareness of best practice guidelines for applying agrochemicals, to avoid the risks of pesticide intoxication, was higher. Of longer-term tobacco farmers, 63% of BAT farmers and 36% of farmers growing tobacco for other companies reported having lots of information that they understand.

Of longer-term tobacco farmers with BAT, 60% reported having lots of information that they understand on best practice guidelines for applying agrochemicals, compared to 40% of farmers with other tobacco companies. Of recent entrants to tobacco farming, 50% of BAT farmers reported having lots of information that they understand on best practice guidelines for applying agrochemicals, compared to no farmers from other tobacco companies.

DIVERSIFICATION AND FOOD SECURITY

Diversification is a vital element of sustainable agriculture and livelihoods.

From an environmental perspective, growing the same crop continuously on the same land (known as 'monocropping') depletes soil nutrients. Crop rotation is therefore recognised as a best practice approach to protecting and enhancing soil health.

In countries vulnerable to food insecurity, farmers' ability to grow enough food on their farms to feed their households is crucial. Out of the three countries in our research, Bangladesh has the most serious levels of hunger, according to the Global Hunger Index.

Among our sample, we found all tobacco farmers also grow other crops for food and as additional sources of income, including paddy, maize, mango, papaya and vegetables.

In our sample, 72% of all tobacco farmers produced enough food to sustain their households for 12 months or more, and the remainder produced enough for 3-9 months. 100% of labourers also said their food security had been improved by working on tobacco farms. In a country where much of the population suffers from serious levels of hunger, this indicates tobacco farmers and labourers are relatively food secure.

Engaging in a mixed portfolio of crops and farm activities also helps to enhance farmers' incomes and livelihoods, as well as their resilience to unexpected shocks. 35% of the surveyed farmers have experienced shocks to their livelihoods in the last five years, the majority of which were due to crop failures or natural disasters, such as flooding, to which Bangladesh is particularly vulnerable. However, this did not appear to impact upon their perceived socioeconomic status or optimism for the future.

Brazil

The evidence from our sample suggests growing tobacco, often along with other lucrative crops, plays an important and positive role in the livelihoods of tobacco farmers and labourers in Brazil, helping to improve their wellbeing and increase their resilience.

Country profile

Key indicators from the Human Development Index (HDI)¹⁴

Value
0.759 (high)

Life expectancy at birth
75.7 years

Gross national income per capita
US\$13,755 PPP (purchasing power parity)

Working poor at PPP US\$3.10 a day
6.4% of total employment

% of total employment in agriculture
10.3%

Other key indicators

Freedom in the World 2018¹⁵
Free

Global Hunger Index 2018¹⁶
8.5 (low)

Prevalence of child labour (% of 5–14-year-olds)¹⁷
2.1%

% of total agricultural land used for tobacco growing¹⁸
0.13%

Number of BAT contracted farmers¹⁹
20,000+



Context

Brazil is a middle-income country, rising to be a major global economic player. It is ranked in the high human development category, with far lower levels of poverty and hunger than Bangladesh and Kenya. However, environmental challenges remain, particularly relating to biodiversity loss and deforestation, much of which has been the result of cattle ranching and soybean production in the Amazon rainforest.

Today, the country is the world's largest producer and exporter of a wide range of agricultural products, including soybean, coffee, sugarcane, orange juice, meat and tobacco. BAT's subsidiary Souza Cruz has operated in Brazil since 1903 and sources from over 20,000 tobacco farmers in the southern states.

Research approach

Our sampling in Brazil focused on three states in the southern region, where BAT sources tobacco, which do not have the same levels of poverty as the poorer northeast region where black tobacco and leaf for cigar wrapping is grown, but BAT does not source from. The majority (46%) of interviewees were in Rio Grande do Sul, 33% were in Santa Catarina and the remainder were in Paraná. Within these areas, random households with different cultivation statuses and farm sizes were selected.

Our local research partner conducted the 86 interviews in early 2019, using a standardised questionnaire to investigate the environmental, social, and health and safety aspects of the respondents' farming experiences and the resultant livelihoods of different types of farmers.

Number interviewed by farm size in hectares (ha)

Interviewee type	Small	Medium	Large	Total
	(1.2–<33ha)	(33–<66ha)	(66–<100ha)	
British American Tobacco farmers for >5 years	5	5	5	15
British American Tobacco farmers for <2 years	5	5	5	15
Ex-British American Tobacco farmers for <2 years	5	5	5	15
Tobacco farmers for other companies	5	5	5	15
Non-tobacco farmers	5	5	5	15
Tobacco farm labourers				6
Key informant stakeholders				5
Total				86

14 HDI (2018), [Brazil HDI profile](#).

15 Freedom in the World (2018), [Brazil profile](#).

16 Global Hunger Index (2018), [Brazil profile](#).

17 US Department of Labor (2017), [Findings on the Worst Forms of Child Labor 2017 – Brazil](#).

18 [FAOSTAT 2018](#).

19 BAT Group data (2018).

Summary of key findings

Against our overarching research question, we found no evidence of tobacco cultivation in Brazil reducing resilience and preventing farmers and rural communities from prospering. There are clearly a number of risks for Brazilian tobacco farmers, such as those relating to pesticide use and green tobacco sickness (GTS), but we found evidence of effective management practices in place to help mitigate key risks, as well as comprehensive support and information being provided to farmers through BAT's extension services.



Environmental

- 100% of tobacco farmers use sustainable wood sources for curing;
- Some evidence of land or forest clearance for tobacco farming was found;
- Tobacco farming does not cause greater loss of biodiversity or soil health compared to other crops;
- The majority of farmers are effectively mitigating the risks of pesticides polluting water systems by maintaining a riparian strip; and
- BAT extension services are reaching all contracted farmers with best practice information, resulting in positive behaviour change.



Social

- Over 90% of farmers who grow tobacco said it provides a substantial and increasing contribution to their household income;
- BAT farmers perceive their wellbeing over a 10-year period to be on a positive upward trend;
- Tobacco farmers are highly diversified and grow other crops as additional sources of income;
- We found no evidence of child labour among the children of tobacco farmers, but two teenage sons of a labourer were found to sometimes engage in hazardous tasks; and
- Tobacco farmers have high awareness of human rights and grievance mechanisms.



Health and safety

- 100% of tobacco farmers wear PPE when harvesting;
- Brazilian farmers have the highest awareness and understanding of GTS among our three research countries;
- This may account for it being the only country where incidents of GTS were reported, including six by BAT farmers from the last year;
- Tobacco farmers have good access to information on best practice regarding safe pesticide use; and
- 100% of tobacco farmers wear PPE when handling agrochemicals, and no incidents of pesticide intoxication were reported among BAT farmers.



The stakeholders interviewed for this research told us there were several benefits to growing tobacco, including guarantee of purchase, free technical assistance, credit schemes and access to technology and capacity building. However, they also said the crop is not without risks, mainly relating to climate and health issues such as GTS.”

Environmental

BAT extension services are clearly doing a good job at sharing environmental information

100% of BAT farmers reported receiving lots of information that they understand on issues such as soil management, pesticide and fertiliser application, and preventing water pollution from agricultural production. This has resulted in the most pronounced and positive behaviour change, reported by all BAT farmers.



BAT's information also continues to be used by its ex-tobacco growers and is the main source of information for farm labourers. In comparison, some other tobacco companies' information does not reach all their growers and so they often rely on other sources – sometimes from BAT, but also the government or other sources.

Tobacco farmers source wood for curing sustainably, but evidence of forest clearance was found

100% of the tobacco farmers reported using sustainable wood sources for barn construction and curing fuels, from small plots of trees grown on their farms. This is encouraging in light of stakeholders in the key informant interviews telling us there are traceability issues in the country with wood sourced off-farm.

Clearing forest for farming and livestock, in general, has been a major environmental issue for Brazil, mainly in the Amazon rainforest, but also in the Atlantic Forest, which is located in the southern tobacco-growing states.

Among the three countries in this study, we found the highest level of land and forest clearance for farming in Brazil, reported by just under 17% of our respondents in the country.

Of the 13 incidents reported, 10 were land clearance and three were forest clearance. The forest clearance included two BAT growers, one of whom cleared forest for growing tobacco and the other for both tobacco and other crops. One labourer also reported clearing forest for tobacco.

Brazil's Forest Code 2012 requires landowners in this area to conserve at least 20% of their land as legal forest reserve. Our survey did not identify if the reported incidents were in compliance with this legislation or if they were historical incidents occurring prior to 2012.

Nevertheless, this small number of incidents suggests forest clearance does not appear to be significant for tobacco growing, compared to the high levels of deforestation in the country for agriculture in general.

Brazil country case study

continued



The majority of farmers are effectively mitigating the risks of pesticides polluting water systems

The farmers interviewed use a wide range of different pesticides and some of the most common could potentially have impact on local aquatic habitats. As such, special care is needed to ensure they don't pollute water sources.

A high proportion of all farmers interviewed (58 in total) have a watercourse running through their farms, including 42 of the tobacco farms. Of these, we found the majority are effectively maintaining a riparian strip to mitigate the risks of water pollution, but there was one BAT farmer and two non-tobacco farmers who did not have one.

Studies have shown that, to protect natural resources generally from the impacts of farming, it is advisable for riparian strips to be at least 30 metres wide. Of those farmers who maintain a riparian strip, we found the majority follow this best practice approach. However, there were five tobacco farmers (including four contracted to BAT) and two non-tobacco farmers who have a riparian strip of less than 30 metres.

Tobacco does not cause greater loss of biodiversity or soil health compared to other crops

Almost 97% of all interviewees reported no change in biodiversity and local species in tobacco-growing areas. One BAT tobacco farmer reported that biodiversity increased, while one tobacco farmer growing for another company reported a decrease in biodiversity in the areas.

78% of all interviewees believed soil fertility either increased or stayed the same as a result of tobacco farming, and three-quarters felt that it does not cause greater loss of soil fertility or erosion compared to other crops. All BAT farmers reported having lots of information they understand from the company on best practice soil management, and 100% reported changing their behaviour as a result. All farmers surveyed also practise crop rotation, which helps to enhance soil health.

Social

Tobacco growing appears to play a positive role in farmers' wellbeing and livelihoods

The perceptions of BAT tobacco farmers in Brazil of the changes in their circumstances indicate a sustained increase in their wellbeing over time. Their perceptions for the future are also more optimistic than those of non-tobacco and ex-tobacco farmers.

Over 90% of farmers who grow tobacco stated that it's their most lucrative and reliable cash crop and provides a substantial and increasing contribution to their household income. The most common alternative crops they named that are equivalent or more lucrative in Brazil are soya (especially for larger farms) and, to a smaller extent and where smaller plots of land are available, onions.

83% of longer-term BAT tobacco farmers reported having increased or significantly increased their income from tobacco farming in the past five years, compared to 50% for those growing for other tobacco companies. For labourers, 67% said that the rate they receive for working on a tobacco farm was better compared to the government-defined minimum wage, with the other 33% saying it was about the same.

Tobacco farmers are highly diversified

There is no evidence of tobacco farmers practising monocropping – all are highly diversified and report growing other crops as additional sources of income, such as beans, soya, corn and onions. This helps ensure they're not overly reliant on one crop and are therefore more resilient to unexpected shocks, such as crop losses or market fluctuations.

In contrast to Bangladesh and Kenya, where farmers' food security is a major issue, Brazilian farmers do not need to rely on their ability to grow enough food themselves for their households for the year. All but three tobacco farmers use crops they grow as a source of food, but only 10% produce enough for 12 months. However, this is still higher than among ex- and non-tobacco farmers, none of whom grow enough food for the full year.

All tobacco labourers also reported that their income 'improves' (33%) or 'significantly improves' (67%) their family food security.

This indicates that in Brazil, food self-sufficiency grown on one's own farm is not a common practice. Farmers and labourers are much more likely to use their income to purchase the food they need.

BAT farmers are more resilient to livelihood shocks

Farmers in Brazil experienced far fewer livelihood shocks than those in Kenya and slightly fewer than those in Bangladesh. Only 26% of longer-term tobacco farmers reported experiencing a shock

to their livelihood in the previous five-year period, primarily resulting from crop failures, compared to 80% in Kenya and 35% in Bangladesh.

The level of shocks for non-tobacco Brazilian farmers was broadly equivalent at 28% but, in contrast, the majority were due to health issues. Just one BAT grower reported having crop insurance to cope with the shock, and the remainder reported simply being able to “bear the loss”.

Child labour in tobacco growing is far less prevalent in Brazil

Nearly two-thirds of all respondents believe that the incidence of child labour in tobacco is about the same as in other crops or farm work and one-third think it never happens in tobacco farming. All respondents also said that no child labour has been reported from their farm or their community.

All the tobacco farmers interviewed reported their children aged under 18 all attend school, and we found no evidence of any engaging in child labour.

However, we did identify two sons of a tobacco labourer, aged 16 and 17, who were reported to sometimes transplant seedlings and handle agrochemicals, but that this didn't interfere with their education. In addition, one 17-year-old son of a non-tobacco farmer was reported to sometimes engage in farm work.

According to the US Department of Labor, 2.1% of 5 to 14-year-olds in Brazil are estimated to engage in child labour, over 56% of whom in the agricultural sector²⁰. In this context, our findings indicate the issue in tobacco growing is far less prevalent and that tobacco farmers have a good understanding of the issue and the legal requirements. However, it may be that this information is not reaching all hired labourers.

Tobacco farmers have high awareness of human rights and grievance mechanisms

100% of tobacco farmers said they were aware of the term ‘human rights’, compared to 89% for non-tobacco farmers. 59% of longer-term tobacco farmers were aware of unions and just under half reported being members.



20 US Department of Labor (2017), *Findings on the Worst Forms of Child Labor 2017 – Brazil*.

21 Rigotto et al. (2014), *Pesticide use in Brazil and problems for public health*, Cad. Saúde Pública vol.30 no.7.

In addition, 93% of all tobacco farmers are aware of grievance mechanisms. These had been used to raise grievances by 60% of longer-term BAT farmers and 45% of non-BAT farmers. Of these, 60% of BAT farmers and 56% of non-BAT farmers felt the mechanisms were effective in resolving their grievances. This indicates there may be opportunities for improvements in grievance resolution procedures.

Farmers' movement in and out of tobacco growing also does not indicate any picture of entrapment or debt bondage. We found 45% of all tobacco farmers have debts, typically for crop inputs such as fertilisers and for longer-term farm investments. 27% of BAT farmers said that they will be able to pay the debt off in less than a year, compared to 18% of non-BAT tobacco growers.

Occupational health and safety (OHS)

BAT tobacco farmers understand, and are effectively mitigating, the risks of pesticide intoxication

The large-scale use of pesticides in Brazil is considered to be a major public health issue²¹ and so it's vital that farmers and farm workers understand these risks and how to mitigate them.

In the literature review, we identified a study showing that the level of active chemicals used per hectare of tobacco in Brazil is less than 2kg. This is one of the lowest rates in the country, with many other crops using as much as 20kg per hectare, but no clear explanation was found for these deviations. Nevertheless, in our sample, the different pesticides tobacco farmers reported using can have health impacts if PPE isn't used.

The tobacco farmers interviewed have good access to information on best practice pesticide use – with over 89% of longer-term tobacco farmers (92% BAT) and 75% of recent tobacco farmers reporting they receive lots of information that they understand. Other farmers reported having information, but with various limitations in understanding it.

Use of PPE, among all tobacco growers, when using agrochemicals was 100%.

No incidents of pesticide intoxication or respiratory or dermatological issues were reported by any BAT farmer. One non-BAT tobacco grower and one non-tobacco farmer both said they'd suffered from pesticide intoxication, and one incident of dermatological problems was reported by a non-BAT tobacco farmer.



GREEN TOBACCO SICKNESS

We found the highest awareness and understanding of GTS among Brazilian tobacco farmers.

Compared to our findings in Bangladesh and Kenya, tobacco farmers' awareness and understanding of GTS is much higher in Brazil. All longer-term and 75% of all shorter-term tobacco farmers reported knowing about GTS, and 90% understood its causes. Of the eight who reported not understanding its causes, three were BAT farmers.

All tobacco farmers also reported receiving information from extension services on how to prevent GTS and about the proper use of PPE.

As a result, 100% of all tobacco farmers and labourers reported that they and all workers always use PPE when harvesting.

Nevertheless, 15 instances of GTS occurring in the past year were reported by interviewees in Brazil (including six BAT farmers). These all involved adult males, which contrasts with findings from the literature review that showed prevalence rates are generally higher among women than men. A further 20 historical incidents were also reported, but these dated back to up to 30 years ago.

The high level of GTS awareness in Brazil may account for this being the only one of the three research countries where incidents were reported. The fact that all tobacco farmers reported always wearing PPE when harvesting may also indicate that improvements could be made in educating farmers in how to use and maintain it to ensure effectiveness.

Kenya

The evidence from our sample suggests tobacco growing plays an important and positive role in the livelihoods of tobacco farmers and labourers in Kenya, helping to improve their wellbeing and increase their resilience.

Country profile

Key indicators from the Human Development Index (HDI)²²

Value
0.59 (medium)

Life expectancy at birth
67.3 years

Gross national income per capita
US\$2,961 PPP (purchasing power parity)

Working poor at PPP US\$3.10 a day
26.8% of total employment

% of total employment in agriculture
38%

Other key indicators

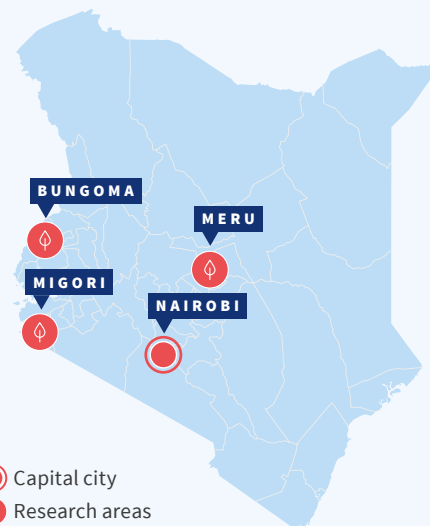
Freedom in the World 2018²³
Partly free

Global Hunger Index 2018²⁴
23.2 (serious)

Prevalence of child labour (% of 5–14-year-olds)²⁵
35.6%

% of total agricultural land used for tobacco growing²⁶
0.05%

Number of BAT contracted farmers²⁷
4,000+



Context

Agriculture is key to Kenya's economy, contributing 26% of GDP and employing over 40% of the total population and more than 70% in rural areas²⁸. Despite significant economic growth, social development and political gains over the past decade, the country still faces major challenges, including widespread poverty, food insecurity and child labour, and vulnerability to climate change and economic shocks²⁹.

BAT has operated in Kenya since 1907 and currently sources tobacco from over 4,000 farmers, who the company supports through its extension services of expert field technicians.

Research approach

Using the sampling methodology described on page 8, the majority (73%) of interviewees were in the county of Migori, which has a poverty rate of 46.7%³⁰. 24% of interviewees were in Bungoma (poverty rate: 52.9%) and the remainder were in Meru (poverty rate: 28.3%). Within these areas, random households with different cultivation statuses and farm sizes were selected.

Our local research partner conducted the 86 interviews in late 2018, using a standardised questionnaire, to investigate the environmental, social, and health and safety aspects of the respondents' views and experiences and the resultant impacts on rural livelihoods and landscapes.

Number interviewed by farm size in hectares (ha)

Interviewee type	Number interviewed by farm size in hectares (ha)			Total
	Small (0.6–<4ha)	Medium (4–<8ha)	Large (8–<12ha)	
British American Tobacco farmers for >5 years	5	5	5	15
British American Tobacco farmers for <2 years	5	5	5	15
Ex-British American Tobacco farmers for <2 years	5	5	5	15
Tobacco farmers for other companies	5	5	5	15
Non-tobacco farmers	5	5	5	15
Tobacco farm labourers				6
Key informant stakeholders				5
Total				86

22 HDI (2018), [Kenya HDI profile](#).

23 Freedom in the World (2018), [Kenya profile](#).

24 Global Hunger Index (2018), [Kenya profile](#).

25 US Department of Labor (2017), [Findings on the Worst Forms of Child Labor 2017 – Kenya](#).

26 [FAOSTAT \(2018\)](#).

27 BAT Group data (2018).

28 FAO (2019), [Kenya profile](#).

29 The World Bank (2019), [Kenya overview](#).

30 The World Bank (2015), [Poverty headcount data](#).

Summary of key findings

Against our overarching research question, we found no evidence of tobacco cultivation in Kenya reducing resilience and preventing farmers and rural communities from prospering. We identified a number of risks for Kenyan tobacco farmers, but these do not appear to be specific to tobacco cultivation when viewed within the overall Kenyan context.



Environmental

- All tobacco farmers use sustainable wood sources for curing;
- Land and forest clearance for farming, including tobacco, does not appear to be a significant issue among our sample;
- Tobacco farmers are effectively mitigating the risks of pesticides polluting water systems;
- Some of the insecticides farmers use could negatively impact bee colonies; and
- BAT extension services are clearly doing a good job in providing farmers with best practice information, resulting in the most pronounced and positive behaviour change.



Social

- Farmers who grow tobacco see it as their most important and reliable source of income;
- Tobacco farmers perceive a sustained increase in their wellbeing over time;
- Tobacco farmers are highly diversified and relatively food secure;
- Child labour in tobacco growing appears to be significantly lower than the serious levels in the country, but some potential incidents were found and it's important to maintain vigilance;
- BAT farmers are more resilient to livelihood shocks, with 94% having crop insurance; and
- Grievance mechanisms are well known and effective.



Health and safety

- BAT farmers highly value the free provision of PPE from the company and 92% always use it when harvesting and handling agrochemicals;
- Health issues in tobacco growing appear limited, with no incidents of GTS, dermatological disorders or pesticide intoxication reported, and just one respiratory problem was reported by a non-BAT farmer; and
- However, while its prevalence is limited, tobacco farmers' and labourers' awareness and understanding of GTS are low.



Our findings should be viewed within the wider Kenyan context. Out of the three countries in this research, Kenya has the lowest value in the Human Development Index, high vulnerability to climate change and economic shocks, serious levels of hunger and poverty, and by far the highest prevalence of child labour.”

Environmental

Deforestation and biodiversity loss, as a result of tobacco growing, is limited

100% of all tobacco farmers reported using wood from legal sustainable sources for the construction of curing barns and for fuels for the curing process. The majority is from trees on the farmers' land, which are grown from saplings commonly provided by tobacco companies.

Land and forest clearance for farming, including tobacco, does not appear to be a significant issue among our sample, compared to the high level of forest clearance reported in Kenya for

agriculture, development projects, illegal logging, uncontrolled grazing or charcoal. Fewer than 5% of all respondents in our survey reported having cleared land or forest to grow crops, including three incidents for tobacco farming (two BAT-farmers and one non-BAT) and one incident reported by a non-tobacco farmer for growing other crops.

Almost 89% of all interviewees reported no change in biodiversity and local species in tobacco-growing areas, and 9% reported that biodiversity increased. Only 2.5% reported a decrease in biodiversity in the areas.

Tobacco farmers effectively mitigate the risks of pesticides polluting water systems

The farmers interviewed use a wide range of different pesticides, some of which could potentially have an impact on aquatic life, so special care is needed to ensure they don't pollute water sources. 100% of the sampled tobacco farms with a watercourse maintain a riparian strip to filter out any pollutants in water run-off from the soil.

An insecticide some tobacco and non-tobacco farmers use can also be toxic to bees that are exposed to direct treatment on blooming crops/plants or adjacent areas.

Our survey did not establish if farmers are aware of this, or if BAT extension services provide this information. If not, it is recommended they do so and that farmers implement best practice guidelines to mitigate the risks, such as controlling flowering weeds, using more targeted application methods and exploring alternative integrated pest management approaches.

Tobacco does not cause greater loss of soil fertility or erosion compared to other crops

Two-thirds of all interviewees believed soil fertility either increased or stayed the same as a result of tobacco farming, and almost all felt that it does not cause greater loss of soil fertility or erosion compared to other crops.



Kenya country case study

continued

This may partly be attributed to the fact that all tobacco farmers interviewed rotate tobacco with other crops, including maize, groundnuts, sugarcane and cassava. This crop rotation is recognised as a best practice approach to protecting and enhancing soil health.

Social

Tobacco growing appears to play a positive role in farmers' wellbeing and livelihoods

In Kenya, the agricultural sector is estimated to contribute to the livelihoods (employment, income and food security) of more than 80% of the population but, currently, 46% of the population live on less than US\$1 a day³¹.

However, among our sample, rather than a causal link to poverty, tobacco farmers' perceptions of the changes in their circumstances indicate a sustained increase in their wellbeing over time. Their perceptions for the future are also more optimistic than non-tobacco and ex-tobacco farmers.

All farmers who grow tobacco stated that it's their most lucrative and reliable cash crop, and provides a substantial and increasing contribution to their household income. They could not name any alternative crops that are equivalent or more lucrative but, after tobacco, they reported good prices for coffee, tomatoes and sugarcane.

Almost three-quarters of longer-term tobacco farmers reported having increased or significantly increased their income from tobacco farming in the past five years. For labourers, over 83% said that the rate they receive for working on a tobacco farm was much better than the government-defined minimum wage, with just under 17% saying it was about the same.

“

The stakeholders interviewed for this research said tobacco is one of the most important agricultural contributors to the Kenyan economy. Unlike for many other agricultural commodities, there is a ready, assured market for tobacco, more prompt payments for farmers and better access to inputs and support, such as credit, insurance and training on good agricultural practices.”



Tobacco farmers are highly diversified and relatively food secure

There is no evidence of tobacco farmers practising monocropping – all are highly diversified and report growing other crops as additional sources of income, such as maize, groundnuts, sugarcane and cassava. This helps ensure they're not overly reliant on one crop and are therefore more resilient to unexpected shocks, such as crop losses or market fluctuations.

With the exception of one interviewee, all farmers and labourers interviewed grow their own food (such as maize or beans). This on-farm food production is particularly important in countries vulnerable to food insecurity such as Kenya, which according to the Global Hunger Index suffers from serious levels of hunger.

Over 71% of the tobacco farmers reported producing enough food for their households for the whole year, compared to 64% of non-tobacco

growers. The one tobacco farmer who does not grow food earns enough profit to purchase all they need. All tobacco labourers also reported that their income 'improves' (33%) or 'significantly improves' (67%) their family food security. This indicates that tobacco farmers and labourers are much more food secure than many other Kenyans.

BAT farmers are more resilient to livelihood shocks

Kenya is highly vulnerable to frequent floods and droughts, particularly in El Niño years. These events can result in crop failures, sending families back into poverty.

We found that 80% of longer-term tobacco farmers interviewed experienced a shock to their livelihood in the previous five-year period, primarily resulting from crop failures. Over 94% of BAT growers could cope with these shocks due to having crop insurance.

This is in contrast to the non-BAT tobacco farmers, where 100% lacked crop insurance. They reported that, in its absence, they relied on family savings, bank loans or simply "bearing the loss".

Child labour in Kenya is a major issue, but is perceived to be rarer in tobacco growing than in other crops

Out of the three research countries, Kenya has by far the highest prevalence of child labour. According to the US Bureau of International Labor Affairs³², 35.6% of Kenyan children aged 5–14 work and

DRIVING BEST PRACTICE

Providing farmers with best practice information, training and support via extension services is a vital tool for ensuring they're able to effectively mitigate risks and change their behaviour to implement sustainable farming practices and protect the environment.

We asked farmers and labourers about the sources of best practice information they receive, their level of understanding and resultant behaviour change, covering issues such as protecting soil health, preventing water pollution, fertiliser and pesticide application, health and safety and proper use of personal protective equipment (PPE).

Over 92% of BAT farmers reported receiving best practice information from the company that they understand. It is also clear from our sample that information sources from BAT continue to be used by farmers who have stopped growing tobacco and also by farm labourers.

BAT extension services are clearly doing a good job of providing farmers with best practice information. In our sample, BAT's advice reaches the most people and, crucially, it's understood – resulting in the most pronounced and positive behaviour change.

Encouragingly, over 92% of BAT tobacco farmers had changed the way they work thanks to this best practice information, compared to just 30% of non-tobacco farmers. This can be seen, for example, in the fact that 100% of tobacco farms with a watercourse follow best practice by maintaining a riparian strip, and also in the 92% PPE compliance rate among BAT farmers.

31 FAO (2019), *Kenya profile*.

32 US Department of Labor (2017), *Findings on the Worst Forms of Child Labor 2017 – Kenya*.

23% combine work and school. While this is not broken down numerically by sector in the Bureau report, the ILO estimates that over 70% of all global child labour occurs in agriculture³³.

In our survey, all respondents said that child labour in tobacco farming is very rare and less prevalent than in other crops or farm work. 100% reported that child labour had never been found on their farm or in their community, and the majority believe it never happens in tobacco farming, while the remainder believe it occurs less than in other crops or farm work.

However, based on data gathered on interviewees' children and the type of farm work (if any) they undertake, we identified 12 children (4.2% of all under-18s in our sample households) potentially engaged in child labour in tobacco growing. This included 11 children of non-BAT growers, aged 11–15 years, who helped with hazardous tasks involving stitching tobacco leaves or feeding fuels. One child was the 15-year-old daughter of a BAT farmer, who was reported to sometimes help with tobacco harvesting. In all cases, it was reported that all children attended school and this did not interfere with their education.

While these figures are significantly lower than the serious levels of child labour in the country, they still demonstrate the need for continued vigilance and farmer education in this regard.



We found no evidence of debt bondage and high awareness of rights and grievance mechanisms

We found 64% of all tobacco farmers have crop-related debts, typically for inputs such as fertilisers, but the vast majority felt able to repay this with income from tobacco at the end of the season. Farmers' movement in and out of tobacco growing also does not indicate any picture of entrapment.

Awareness of their human rights was high among tobacco farmers, 87% for longer-term farmers and 89% for shorter-term, compared to 79% for non-tobacco farmers. While awareness and membership of unions was relatively low, 92% of all tobacco farmers are aware of available grievance mechanisms. 89% of longer-term BAT farmers who had raised grievances reported that they had been addressed and resolved, compared to 15% of non-BAT tobacco farmers.

Occupational health and safety (OHS)

Use of PPE is high among BAT farmers for effectively mitigating OHS risks

Farmers reported that PPE is expensive, but those contracted to BAT receive it free of charge, unlike the other interviewees. This is reflected in the higher number of BAT farmers (92%) who reported

always using it for harvesting and agrochemical use, compared to 54% of non-BAT tobacco growers. 96% of BAT farmers also reported receiving PPE training, compared to 62% of non-BAT tobacco farmers.

We also found that detailed information regarding fertilisers, pesticides and their proper use is provided to farmers. There is evidence that farmers understand and act on this information and that BAT extension services and documentation inform better than information from some other tobacco companies, government sources and other information providers.

Among all interviewees, there were no reported incidents of pesticide intoxication or dermatological problems, and one reported respiratory problem by a non-BAT tobacco farmer.

Awareness of GTS is low, but its prevalence appears limited

Half of longer-term tobacco farmers, almost 44% of recent tobacco farmers and 67% of labourers reported knowing about GTS and its causes/symptoms. Given this is a risk specific to tobacco growing, we would expect to see higher levels of awareness.

However, no incidents of GTS were reported among the households of any interviewees, suggesting that the high levels of PPE compliance are effectively mitigating GTS risks.

³³ ILO (2017b), *Global Estimates of Child Labour: Results and trends, 2012-2016*, International Labour Office, Geneva, September 2017.

Conclusions

Overall, in response to our overarching research question, we found no evidence of tobacco growing reducing resilience and preventing farmers and rural communities from prospering.



There is limited evidence of tobacco growing specifically contributing to forest or biodiversity loss

The evidence from the literature review found that tobacco cultivation does not pose a greater threat to biodiversity than other crops and that soil degradation is a challenge faced by the agricultural sector in general and is not specific to tobacco. It also found that forest and land clearance impacts are site specific but can be mitigated through interventions by both farmers and tobacco companies.

This is reflected in our field research, where we found evidence of the success of industry efforts to mitigate deforestation impacts as a result of tobacco leaf curing, with 99% of farmers sourcing wood sustainably across all three countries.

Clearing forest for growing crops can also be a driver of deforestation, and we found evidence of small-scale land and forest clearance among our samples for growing both tobacco and other crops. While this does not appear to be a significant issue specifically related to tobacco, compared to the high levels of land and forest clearance in these countries for agriculture in general, we do recommend BAT carefully monitors this issue. This should include ensuring any land or forest clearance is only done after being evaluated against both local legislation and potential environmental impacts.

Environmental impacts of pesticides are not specific to tobacco

In the literature review, we found that the risks of pesticides polluting water systems are not specific to tobacco. Our field research also showed that BAT provides its farmers with information on the risks of water pollution and, in the main, farmers follow best practice approaches to mitigate them.

However, we did find that some of the insecticides commonly used by all types of farmers in Bangladesh and Kenya have been shown in new research to have possible negative acute and chronic impacts on bee colonies. Our survey did not establish if farmers are aware of this or if BAT extension services provide this information. If not, it is recommended they do so, including implementing best practice guidelines for mitigating actions, such as controlling flowering weeds, using more targeted application methods and exploring alternatives or integrated pest management approaches.

MAIN FINDINGS

We conclude from the evidence in the literature review and our country research that:

- Tobacco growing would seem to pose no greater environmental threat than other crops;
- There is no clear evidence to support a causal link between tobacco cultivation and poverty;
- There is no basis for connections between tobacco cultivation and poor social outcomes; and
- Few specific linkages between tobacco cultivation and the realisation of the risks examined were found.

This does not mean, though, that we did not identify some issues in the research, but it is important to note that, with the exception of green tobacco sickness (GTS), these are not specific or unique to tobacco cultivation. Caution should therefore be exercised about expecting them to be resolved by encouraging tobacco farmers to switch to other crops.

BAT extension services are clearly doing a good job

The fact that there is a risk does not mean the risk is realised, since mitigation procedures can reduce or even remove the chance of occurrence. As such, the role of extension services in providing best practice information is a vital tool for sustainable agriculture and to drive behaviour change.

The findings in all countries show that BAT's advice reaches the vast majority of contracted farmers and occasionally is the source of extension information for non-BAT farmers too. In the main, they report understanding the information, and this has resulted in the most pronounced and positive behaviour change.

However, there were some instances where we found gaps in reach and/or limitations in farmers' level of understanding. Consequently, there were some cases in Bangladesh and Brazil where not all farmers are implementing the best practice mitigation procedure of maintaining a riparian strip between the cultivated area and any watercourses, to filter out pollutants from pesticides.

Given these farmers are using pesticides that can be potentially toxic to aquatic life, we recommend BAT pays particular attention to this issue.



We also recommend BAT reviews its approved agrochemicals against the new research and considers removing these insecticides from the list.

Tobacco growing appears to play a positive role in farmers' wellbeing and livelihoods

While many tobacco growers live in poverty, as is common for most smallholder farmers in developing countries, the evidence from the literature review was not clear as to whether this is *because* they are tobacco farmers.

Our country research showed that, rather than a causal link to poverty, tobacco farmers' perceptions of the changes in their circumstances imply that they perceive a sustained increase in wellbeing and their socioeconomic status over time.

In all countries, tobacco farmers reported that they choose to grow tobacco because it's their most lucrative and reliable cash crop, and that it provides a substantial and increasing contribution to their household income. Nearly two-thirds of farmers who have recently started growing tobacco did so due to income and profit motivations.

Tobacco farmers are highly diversified, and there's no indication of tobacco growing resulting in food insecurity

Wide reference was given within some of the published literature we reviewed to tobacco being a monocrop. However, we found no evidence of monocropping, instead finding that tobacco farmers in all three countries are highly diversified, engaging in a mixed portfolio of crops and activities.

Bangladesh and Kenya are both classified by the 2018 Global Hunger Index (GHI) as suffering from serious levels of hunger. As such, farmers' ability to derive sources of food from on-farm production is crucial. Among our samples, we found tobacco farmers and labourers grow their own food and are consequently relatively food secure.

On the other hand, farmers in Brazil appear to grow other crops to maximise farm income and profitability, rather than as a source of food. This reflects the fact that, according to the GHI, levels of hunger are low in the country.

We found no evidence of entrapment or indicators of debt bondage among tobacco farmers

Across all countries, there is movement in and out of tobacco cultivation, suggesting a degree of choice; this movement does not support any picture of entrapment through debt.

It is also important that farmers know about available grievance mechanisms and that these are effective in resolving any issues they raise. BAT farmers' awareness of grievance mechanisms was high in Brazil (89%) and Kenya (92%), but there are some indications of opportunities to improve their effectiveness in Brazil. Of greater concern, though, is the fact that no farmers in Bangladesh were aware of, or had used, any grievance mechanism. We strongly recommend BAT works to address this gap.



Child labour is a major issue across agriculture but is no more prevalent in tobacco cultivation than other crops

The evidence from the literature showed that child labour is no more prevalent in tobacco cultivation than in cultivation of other crops. This was reflected in the perceptions of interviewees in all three countries. However, in all three research countries, we found evidence of children of tobacco farmers or labourers sometimes engaging in light, non-hazardous work, as well as hazardous tasks on family farms.



Importantly, in all cases, the children reportedly attend school, and this work does not interfere with their education – but they were below the appropriate age for such activities, as defined by the ILO³⁴. Given the serious levels of child labour in agriculture in all three countries, particularly Kenya, there was nothing to indicate that this is an issue specific to tobacco cultivation.

Nevertheless, tobacco companies need to ensure vigilance is continually maintained, alongside efforts to educate farmers and tackle the root causes that lead poor farming families to share their labour burden with their children.

Use of PPE is high among BAT farmers, and they appear to be effectively mitigating health and safety risks

The evidence from the literature review showed that GTS is an additional risk to tobacco farmers and workers, particularly for women, but research shows that the proper use of PPE will minimise the risk.

We found that where PPE is made available to registered tobacco growers by the contracting company, this is valued by farmers and impacts positively on PPE compliance. Use of PPE when harvesting tobacco and handling agrochemicals was particularly high among BAT farmers in Brazil (100%) and Kenya (92%), although in Bangladesh it was lower at 77%. The majority had all received best practice information and training in its proper use.

Consequently, among BAT farmers and their households, no incidents of pesticide intoxication, dermatological problems or respiratory disorders were reported.

Brazil was the only country where farmers reported incidents of GTS, which also correlates to a high level of awareness of GTS and its causes/symptoms. GTS awareness was lower in Bangladesh and Kenya, which may be the reason for the lack of reported incidents, so we recommend BAT pays particular attention to raising GTS awareness in these countries.

34 ILO (2018), *ILO Convention No. 138 at a glance*, International Labour Organization, June 2018.

BAT's Response

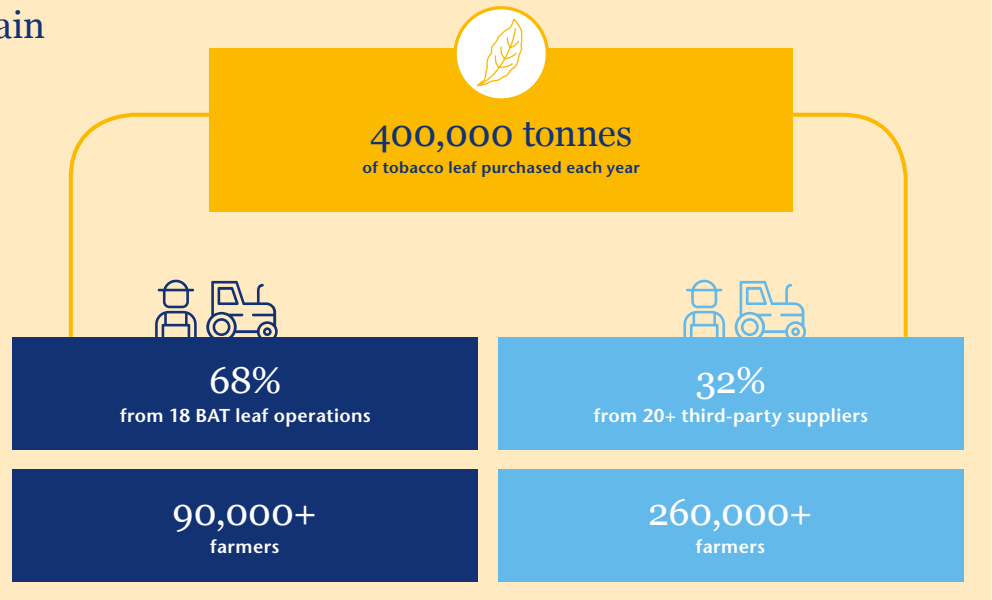
As this research has demonstrated, tobacco, like all crops, has inherent risks and impacts. Operating in such diverse geographies around the world always brings challenges, but our approach is designed to mitigate the risks while enhancing the sustainability of farming communities and landscapes.

Our tobacco leaf supply chain

We have a long and proud 100-year+ history of sourcing the majority of our tobacco leaf from directly contracted smallholder farmers, who we support via our network of extension services.

The remainder is from a small number of long-term third-party suppliers, which use a similar sourcing and extension service model. This enables a vertically integrated supply chain, with traceability to farm level.

The majority of farms in our supply chain are smallholder family farms of a hectare or less, with a smaller number of larger farms that employ hired labour to tend and harvest the tobacco leaf.



Our strategic approach

Sustainable agriculture and farmer livelihoods is a key strategic area of our Group Sustainability Agenda and is focused on our commitment to **advance sustainable agriculture and work to enable prosperous livelihoods for all farmers who supply our tobacco leaf.**

Our strategy is closely aligned with the UN Sustainable Development Goals, including:



1. No poverty: We help our farmers to optimise the profitability of their farms and enhance their livelihoods, such as by increasing yields and productivity, generating additional sources of income through growing other crops and supporting rural savings and loans cooperatives or insurance schemes.



13. Climate action: We're committed to reducing our environmental impact across our supply chain and operations and have targets in place to reduce our Scope 1, 2 and 3 carbon emissions by 2030, approved by the Science Based Targets initiative.



2. Zero hunger: We support our farmers to diversify and grow a range of other crops alongside, or in rotation with, tobacco, such as cereals, fruit and vegetables. This helps to enhance their resilience, self-sufficiency and food security.



15. Life on land: We're working to protect and restore natural resources, such as through our long-running afforestation programmes, sustainable soil and water management and natural 'biocontrol' techniques to reduce the use of pesticides.



8. Decent work and economic growth: We're helping to improve farm working conditions and are working to tackle child labour through farm monitoring, training, awareness programmes and community-based projects focused on long-term root causes.



17. Partnerships for the goals: Working as part of multi-stakeholder partnerships is central to our approach. We're a founding member of the Eliminating Child Labour in Tobacco Growing (ECLT) Foundation, and we partner with NGOs and other stakeholders on long-term community-based projects around the world.

Our response to each of IMC's conclusions on pages 22–23



BAT extension services are clearly doing a good job.

Our response

We are pleased this research has found that our extension services are clearly doing a good job in reaching our contracted farmers with best practice information and that this has resulted in the most pronounced and positive behaviour change.

Our global Leaf Science & Research develops sustainable farming techniques and technologies, often in partnership with leading universities, such as relating to soil and water management or reducing agrochemical use. These are rolled out to farmers as part of comprehensive agri-support packages by our extension services, comprising a global network of expert field technicians, who provide on-the-ground support for all our 90,000+ contracted farmers worldwide.

The field technicians provide farmers with technical assistance and capacity building at each stage of the crop cycle. They also run training sessions and awareness-raising programmes throughout the year, such as through farmer clubs, field schools, demonstrations and workshops. These cover a wide range of topics including environmental protection, child labour, human rights, and health and safety.

Our third-party suppliers use a similar extension services model to provide guidance, technical assistance and capacity building for the 260,000+ farmers they contract.

We're pleased IMC found our information reaches some non-BAT farmers too. Many of our demonstrations and field days are open for other farmers and community members to participate in too, and our farmers often act as leading examples for the wider community. For example, in Bangladesh,

90,000+

farmers benefited from our training in 2018 on environmental protection, human rights, health and safety and other key issues.

Policies, standards and programmes

- Our **Standards of Business Conduct** comprises our core Group-wide policies and is complemented by our **Supplier Code of Conduct**, covering areas such as human rights, health and safety, and environmental sustainability.
- Our **operational standard on child labour prevention** supports our child labour policy by providing detailed guidance and procedures for tackling child labour, as well as steps for remediation actions to improve the situation of affected children and their communities.
- Our **Leaf Supplier Manual** outlines the mandatory BAT standards our tobacco leaf suppliers must sign up and adhere to, including our Agrochemical Compliance Standard and a range of environmental, health and safety requirements.
- The **Sustainable Tobacco Programme** defines industry-wide standards for issues such as safe working conditions, preventing child and forced labour, and environmental protection, and is used to conduct due diligence on 100% of our leaf operations and third-party suppliers.
- We monitor our farmers at each stage of the growing cycle using our **Farmer Sustainability Monitoring system** – a mobile-based digital solution that helps ensure a globally consistent approach, fast and accurate data analysis and the prompt identification and remediation of any issues.
- Our **Thrive programme** takes a holistic and collaborative approach to identifying and addressing the long-term risks that could impact on the sustainability of agriculture and farmer livelihoods.

we introduced our farmers to more fuel-efficient designs for curing barns, which not only had environmental benefits, but also saved the farmers time and money. The barn designs are now being rapidly adopted by other tobacco farmers in the area.

We recognise that some farmers in this research reported limitations in understanding the information provided, and we're committed to addressing this. For example, in Bangladesh, we've engaged the Bangladesh Agricultural University to conduct an independent study into farmers' satisfaction of our extension services and plan to use the results to strengthen and improve the services we provide.



There is limited evidence of tobacco growing specifically contributing to forest or biodiversity loss.

Our response

In the past, deforestation has been associated with tobacco growing due to farmers using wood as a fuel for curing tobacco leaves, and so it's an issue we've long been focused on addressing.

We have long-standing afforestation and biodiversity programmes around the world, such as in Kenya, where we work in partnership with farmers and local government to plant trees and restore the habitats of key nature conservation sites.

We're also continually working with farmers to raise awareness and promote the sustainable use of forest resources, such as by providing training in forest management, distributing tree saplings for a sustainable source of fuel and helping farmers to switch to locally available, alternative fuels – for example, sugarcane bagasse briquettes in Kenya; and jute sticks, rice husk briquettes and other agricultural waste in Bangladesh. Our monitoring of farmers' wood use for curing has shown 99% was from sustainable sources for the last three years³⁵ – we're pleased this figure has been further validated by this research.

³⁵ www.bat.com/wooddata

BAT's Response

continued

The clearing of land and forest is an issue that is common across agriculture, and we recognise that IMC found some small-scale incidents of this for tobacco growing. Under the requirements of the Sustainable Tobacco Programme, a detailed environmental and regulatory evaluation must be conducted prior to any expansion into new farmland.

All our farmer contracts in Brazil include a specific clause to comply with the Forest Code, and we conduct regular farm monitoring as well as training and awareness programmes on the issue. We're also part of a multi-stakeholder partnership for the preservation of the Atlantic Forest, for which independent monitoring (as identified by IMC in the literature review) found native and planted forest in tobacco-growing areas increased between 2011 and 2017.

In Bangladesh, our afforestation programme has been running since 1980 and, with over 99 million tree saplings distributed, it is recognised as the largest private sector-driven programme in the country. An independent impact study found it had resulted in a 50% increase in forest coverage in the area, as well as diversifying the types of trees available; and 97% of local residents interviewed said the ecology of the local habitat had improved³⁶. We also assess farmers' land each year, as part of the contracting process, including the presence of native forest and biodiversity to ensure it's conserved and not used for farming. We're reassured this research demonstrated the effectiveness of this, with no incidents of land or forest clearance for tobacco growing found in Bangladesh.



Environmental impacts of pesticides are not specific to tobacco.

Our response

We're working with farmers to reduce the use of pesticides and other agrochemicals through implementing integrated pest management and natural 'biocontrol' techniques.

For example, in Bangladesh, our farmers use bio-fungicides in seedbeds and pheromone traps for insect control. We also have standards to ensure our farmers use only approved agrochemicals with the lowest possible toxicity according to the World Health Organization classification.

We provide training and awareness-raising for our farmers on the correct and safe use, storage and disposal of agrochemicals to protect the environment and their health. And, if they have a watercourse on their farm, we advise them to maintain riparian strips to prevent water pollution. We're therefore disappointed to see that a small number of our farmers in this research are not maintaining a riparian strip. IMC found that our advice on pesticides and water pollution is reaching farmers, but there is clearly a gap in ensuring 100% compliance. We plan to strengthen our monitoring to address this.

The pesticides found by IMC to be used by farmers in Bangladesh and Kenya are the most widely used group of neonicotinoid insecticides, representing 25% of the global market. They're used on more than 140 crop varieties, particularly corn, soybeans and wheat. So, implementing mitigating measures to lessen the impact on bee populations, while seeking to find effective alternatives, is a priority issue across agriculture.

Since 2000, we have supported an industry-wide programme in Brazil, which reaches

100%

of tobacco farmers across the southern states, to collect empty pesticide containers for recycling.

We comply with legislation in all countries where their use is restricted. Where they are used, we implement best practice guidelines, tested and validated by our Leaf Science & Research, to mitigate the potential impacts on bee colonies. This includes targeted plant-by-plant applications, to prevent contamination to other plants or crops, and only using them in the first 60 days, when there are no flowers on the plant to attract bees. We are also researching, in partnership with the University of Santa Cruz do Sul in Brazil, alternative bio-control techniques for the specific aphids and insects the neonicotinoids control.

³⁶ Nielsen (2017), *Responsible Business for Sustainable Future*, CSR impact assessment, the Nielsen Company (Bangladesh) Ltd.



BAT Kenya gave me the first maize I planted this year and encouraged me to grow food crops at the close of the tobacco season. My good yield will be more than enough for my family, enabling me to sell what is left over and raise the money to complete the shop I'm building."

Simon Nyongesa,
tobacco farmer, Kenya

varieties, developed by our Leaf Science & Research, that increase yields and, therefore, their income. And we provide training and support for farmers on topics such as agri-business management and enterprise development.

We support our farmers to diversify and grow a range of other crops alongside, or in rotation with, tobacco, such as cereals, fruit and vegetables. For example, in Brazil, an industry-wide programme has been promoting crop and land diversification among tobacco farmers for over 30 years.

In Kenya, where there are serious levels of hunger and poverty, we donate maize seeds to our farmers and provide them with free support and training to grow it. We also support farmers to set up independent savings and credit cooperatives, which helps them to better manage their income and invest for the longer term. And, to help build their resilience, we facilitate crop insurance for all our contracted farmers. The benefits of this were seen in 2017, when a prolonged drought led to major crop losses across the country, for which over 2,000 of our tobacco farmers were able to claim back losses of some KSh79 million (approximately £600,000).



Use of PPE is high among BAT farmers, and they appear to be effectively mitigating health and safety risks.

Our response

We supply our farmers and their workers with PPE for both agrochemical use and harvesting and provide regular training and guidance in how to use, clean and care for it to ensure effectiveness.

Our training not only covers PPE, but also comprehensive health and safety best practice and green tobacco sickness (GTS), and this is supported by ongoing farmer communications and awareness-raising. We are therefore disappointed to see the low levels of GTS awareness in Bangladesh and Kenya, as well as the six incidents of GTS in the last year that were reported by our farmers in Brazil.

To help strengthen and reinforce our approach, we have developed a new operational standard on PPE for tobacco farming. It covers our mandatory requirements for 100% provision of PPE for farmers and workers; 100% training on PPE, agrochemical use and GTS; and 100% farm monitoring.

The standard also includes detailed technical specifications, based on independent research, for the types of PPE appropriate for agrochemical use and harvesting, and for different climates and conditions. We plan to roll out the standard to all our leaf operations and suppliers by the end of 2019.



Tobacco growing appears to play a positive role in farmers' livelihoods... and there is no indication of it resulting in food insecurity.

Our response

Rural poverty is recognised as one of the primary drivers for wider issues in agriculture, such as child labour and poor safety standards.

So, increasing farmer incomes and enhancing their livelihoods is central to our strategy. We're therefore encouraged to see the positive findings in this research regarding the high level of wellbeing reported by our farmers, and that tobacco provides a substantial and increasing contribution to their household income.

We work with all our farmers to help them optimise the profitability of their farms, such as by providing them with new tobacco seed



BAT's Response

continued



No evidence of entrapment or indicators of debt bondage among tobacco farmers.

Our response

We understand that debt bondage is a very real issue in agriculture, such as when farmers borrow money for crop inputs or farm investments but don't have a guaranteed buyer or price. This is not the way we work with our farmers and are pleased IMC found no evidence of it.

Our contracts with farmers are negotiated each year – guaranteeing to buy their tobacco crop at a fair and agreed price, as well as detailing the support and training they'll receive from our extension services. We also give them the option to access financial advances to pay for crop inputs, such as seeds and fertilisers, which they repay at the end of the season.

In some cases, farmers also choose to take out low-interest loans from us for larger farm investments, such as new equipment or technology, which they repay over a longer time period. This works in the same way as a bank loan, with a clearly defined interest rate and repayment period, and does not trap the farmers in growing tobacco in any way. In Brazil, for example, 25% of our contracted farmers have chosen to take advantage of these loans for inputs and investments. Since 2011, 99.9% have been fully repaid within the agreed time period.

We are grateful to IMC for highlighting the gaps in farmers' awareness of grievance mechanisms in Bangladesh and opportunities to improve resolution procedures in Brazil. We monitor access to, and use of, grievance mechanisms as part of our *Thrive* assessments, and all our contracted farmers can raise grievances with our field technicians as part of their regular farm visits.

In Bangladesh, we are working to increase farmers' awareness of grievance channels available through government mechanisms and plan to further develop our own grievance channels.

In Brazil, we will review the effectiveness of our grievance resolution procedures to identify where improvements can be made.



Child labour is a major issue across agriculture but is no more prevalent in tobacco cultivation than other crops.

Our response

Due to its high prevalence across all agriculture, we recognise that child labour is a reality in our tobacco leaf supply chain and we've long focused on addressing it.

We have robust policies and monitoring processes in place, but our primary focus is on tackling the root causes of child labour, including poverty, as well as lack of education and poor infrastructure.

Since 2011, ECLT has helped over

650,000

children, farmers and community members through its work for the progressive elimination of all forms of child labour in tobacco-growing communities.

As detailed on the previous pages, increasing farmer incomes and enhancing their livelihoods is central to our overall strategy. Through the work of our extension services, we're helping farmers to build profitable enterprises that don't need to rely on cheaper forms of labour, including children, and to have good enough incomes to support their children's education.

Our training and communications programmes also help to raise farmers' awareness and increase their understanding of the issue.

All our policies and standards on child labour are aligned with ILO Convention 138 on minimum age. We include specific 'no child labour' clauses in farmer contracts and conduct regular supplier due diligence and farm monitoring to check compliance. Following a successful pilot in 2017, our digital Farmer Sustainability Monitoring system now covers over 90% of our directly contracted farmers.

Yet this is a complex issue, and the ILO recognises that not all work done by children is classified as child labour. Some light work between 13 and 15 years old is acceptable, so long as it is not dangerous and does not affect their health and personal development or interfere with their education. In the context of family farming, the ILO acknowledges that "this can be a normal part of growing up in a rural environment"³⁷.

However, there is no definitive ILO list of what constitutes light and hazardous work in agriculture, and the distinction can sometimes be hard for farmers to understand – particularly in countries where there is widespread poverty and traditions for children to learn skills by helping out on their family farms.

That's why it's so important to take a holistic and collaborative approach to tackling the root causes and raising awareness, and not rely on policies and due diligence alone. For example, we were founding members of the industry-wide ECLT Foundation nearly 20 years ago, and we also support a range of community-based projects, in partnership with local stakeholders, around the world.

We are committed to continue to do all that we can to tackle this issue, through both our own initiatives and working collaboratively with the industry, governments, NGOs and farming communities.

Independent research and assessments are also crucial for helping to identify specific risk factors and root causes to help us further improve and strengthen our approach. So we are grateful for IMC's findings in this study. We are also commissioning independent human rights impact assessments in tobacco-growing countries, for which we will transparently report on the findings.

³⁷ ILO (2007), *World Day Against Child Labour 2007: Child labour and agriculture*.



In response to this research, we are committed to:

- 1 Continuing to enhance farmer livelihoods and tackling rural poverty as a root cause of child labour and other issues;
- 2 Reviewing and strengthening our extension services to improve farmers' levels of understanding of the information we provide on issues such as environmental protection and health and safety;
- 3 Striving for 100% sustainable wood sourcing for curing and closely monitoring any land or forest clearance for tobacco farming;
- 4 Strengthening our monitoring of farmers' actions to mitigate the risks of pesticides polluting watercourses;
- 5 Continuing to reduce overall agrochemical use through integrated pest management and our research partnership into alternative bio-control techniques that can replace neonicotinoids;
- 6 Implementing our new operational standard on PPE for tobacco farming;
- 7 Raising awareness of grievance mechanisms with farmers in Bangladesh and reviewing grievance resolution procedures in Brazil; and
- 8 Publishing a Human Rights Focus Report in 2020, including details of new human rights impact assessments.



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