



BLOOD BRICKS

Untold Stories of Modern Slavery
and Climate Change from Cambodia



B L O O D B R I C K S

Research findings report

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LEFT: Aerial view of a dump containing garment off-cuts. These are used by some brick kilns as fuel.

Foreword

In Cambodia, as in many other countries, economic growth has not led to decent work for all. In fact, quite the opposite scenario has been unfolding over the past years: Poor farmers who are unable to earn a living from agriculture as a consequence of climate change move to urban and peri-urban areas and become victims of forced and of bonded labour which are contemporary forms of slavery. In this way, the economic growth which flourishes due to a booming construction industry has created in itself a trap for the poor and vulnerable. It is a vicious cycle which is enabled by development which is not sustainable. Not for the environment and not for the people who are behind it.

To break this vicious and dangerous cycle, the interlinkages between contemporary forms of slavery and climate change need to be understood by the government of Cambodia in order to create viable alternatives. The present report illustrates these linkages in an eye-opening way, shedding light on a so far scarcely researched yet so essential subject.

Governments have an obligation to protect, respect, and fulfil not only the human rights of the business community and of employers but more importantly of the poor and vulnerable such as subsistence farmers. In this sense, I fully support the recommendations made in the report with regard to the need to improve the conditions of workers including in the construction sector.

The report reinforces why decent work is a powerful protection against contemporary forms of slavery: It can alleviate poverty and provide security for people, allowing them to meet basic and other needs. Decent work also creates conditions under which workers can unionize and protect themselves and others against contemporary forms of slavery and other human rights abuses. Without safeguards like these, exploitative labour of the sort explored here remains deeply rooted and often hidden.

I congratulate the research team on this ground breaking report and I have no doubt that it will contribute significantly to improvements in the lives of the people who are currently working in brick production in slavery-like conditions all over the world.



Urmila Bhoola, UN Special Rapporteur on Contemporary Forms of Slavery, including its causes and consequences

Foreword

Climate change is not just an environmental challenge. It is an ethical and political issue that demands action. This report based on original and innovative research shows how the burdens of climate change are unequally experienced and how concerns over livelihoods and the environment must go hand in hand.

It is crucial that we act and support the poorest and most vulnerable already suffering from the effects of climate change.

Modern slavery in Cambodian brick kilns arises as an adaptation cost to climate change that no family should have to pay. These two global issues are therefore not separate, but part of a spectrum of vulnerability that encompasses economic, ecological, and social dimensions.

The 2019 UN Secretary General's Climate Summit will focus global attention on the threats posed by our changing climate, and how we can overcome them.

As a permanent member of the Security Council, the UK fully supports this agenda. In 2014, the UK Government also introduced the Modern Slavery Strategy, with the aim of significantly reducing the prevalence of the issue. This report signals the importance of a global approach to fighting climate change and modern slavery in tandem.

Part of a broader strategic partnership between the UK's Department for International Development (DFID) and the Economic and Social Research Council (ESRC), the Joint Fund which supported this study funds research which provides a robust conceptual and empirical basis for development, with strong potential for impact on policy and practice for poverty reduction.

The Blood Bricks study is one of several ESRC-DFID funded studies which have been undertaken in Cambodia since its set up in 2005 and which have fostered growing collaboration between UK and Cambodian scholars.

I welcome the valuable contribution this study makes to greater understanding of certain aspects of our diplomatic mission in Cambodia including education, human rights and good governance, climate change, modern slavery and child protection.



Tina Redshaw, Her Majesty's Ambassador to the Kingdom of Cambodia



Executive summary

Blood bricks embody the converging traumas of modern slavery and climate change in our urban age.

Cambodia is in the midst of a construction boom. The building of office blocks, factories, condominiums, housing estates, hotels, and shopping malls is pushing its capital city upwards. But this vertical drive into the skies, and the country's status as one of Asia's fastest growing economies, hides a darker side to Phnom Penh's ascent. Building projects demand bricks in large quantities, and there is a profitable domestic brick industry supplying them. This industry relies upon a multigenerational workforce of adults and children trapped in debt bondage – one of the most prevalent forms of modern slavery in the world.¹ Tens of thousands of debt-bonded families in Cambodia extract, mould, and fire clay in hazardous conditions to meet Phnom Penh's insatiable appetite for bricks.²

This exploitation is a violation of national laws³ and international human rights treaties which Cambodia is signatory of.⁴ Blood bricks raise the question, who is the city built for? And whose lives are being sacrificed in the long shadows of its peaks and penthouses?

Our research on blood bricks reveals more than just the vertical aspirations of a business elite built on modern slavery; rather it also foregrounds stories of climate change. Phnom Penh is being built not only on the foundation of blood bricks, but also climate change as a key driver of debt and entry into modern slavery in brick kilns.

Moving from the city, to the brick kiln, and finally back to the rural villages once called home, the report traces how urban 'development' is built on unsustainable levels of debt taken on by rural families struggling to farm in one of the most climate vulnerable countries in the world. In trying to repay loans taken on to cope with the destructive impacts of climate change on agrarian production, families from rural villages across Cambodia are forced to leave their homes to live and work in brick kilns from which they may never escape.

Kiln owners repay farmers' debts and offer a consolidated loan. In return, farmers and their families are compelled to enter into debt bondage with the kiln owner until the loan is repaid. In our study, the lowest reported debt to the kiln owner was US\$100 and the highest was US\$4,000. The average level of debt was US\$712 across our sample of kiln workers. Whilst debt bondage is purported to be 'interest free', as the report will show, the human costs are high.⁵

Our research highlights how climate change continues to impact upon workers' lives through unseasonal rain that halts brick production and deepens levels of debt. The excavation of clay for bricks, and the emission of noxious gases into the atmosphere through the burning of pre-consumer garment waste in the kiln, also contributes to the dynamic relationship between modern slavery, environmental degradation, and climate change.⁶ Our original and innovative research newly evidences connections between the two converging emergencies of modern slavery and climate change. Too often they are entirely divorced from each other in policy and planning debates. Our report goes beyond these siloes. Cambodian brick

kilns and their supply chains show the need for joined-up approaches to tackle interconnected challenges within and beyond Cambodian borders.

In this report we tell ten untold stories of modern slavery and climate change. These do not constitute an exhaustive review of our research findings, but rather offer an evocative and varied sense of the connections that fieldwork between September 2017 – April 2018 identified. They speak to the structural factors that facilitate debt bondage, from the impacts

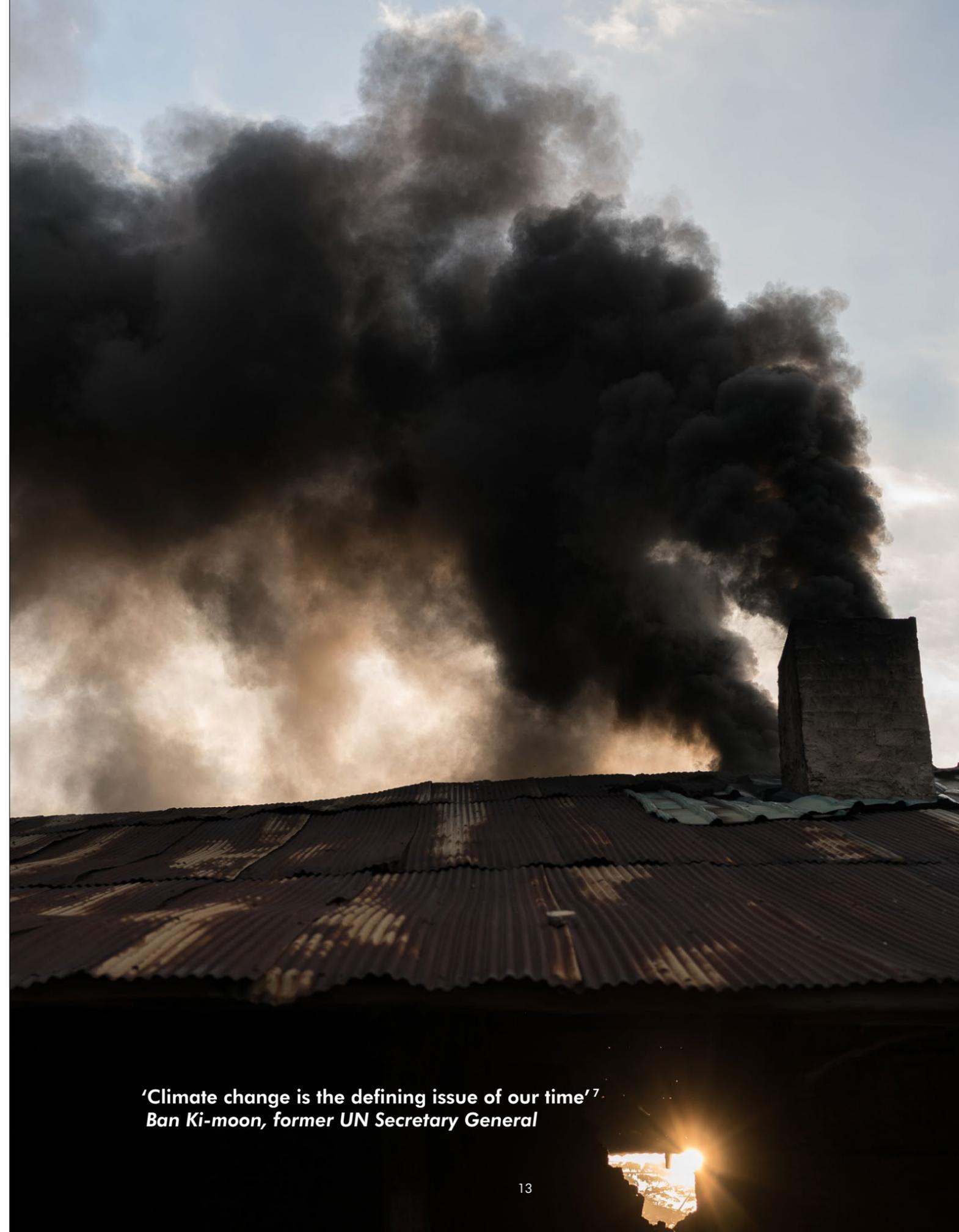
of climate change; absence of state support for agriculture and rural development; lack of social protection or affordable and accessible health services; the largely unregulated microfinance sector; corruption and weak

rule of law; and finally, the operations and ethics of global corporate companies from construction to fashion. We hope that our research will open up space for dialogue and further research to support better understanding and effective action on these complex root causes of exploitative labour practices.

Our recommendations to eliminate modern slavery in Cambodian brick kilns are available at the end of this report. Here we also provide recommendations specific to the Sustainable Development Goals (SDGs) and the United Kingdom's Modern Slavery Act 2015.

Blood bricks raise the question, who is the city built for? And whose lives are being sacrificed in the long shadows of its peaks and penthouses?

RIGHT: A thick column of blackened smoke emerges from one of the kilns where garment off-cuts are used as fuel.



**'Climate change is the defining issue of our time'⁷
Ban Ki-moon, former UN Secretary General**

Summary recommendations

1

Increase social protection, regulate microfinance, and enforce labour and trafficking legislation

2

Decouple expectations of 'decent work' from 'economic growth' and hold capital to account

3

Foreground occupational health and access to universal health coverage as key areas for global health policy

4

Adopt a more holistic approach to climate change as a phenomenon that is fuelled by economic growth and deepens existing vulnerabilities

5

Improve effectiveness and accessibility of judicial mechanisms for holding UK business to account for human rights violations committed overseas



THE PATH TO THE KILN

CLIMATE CHANGE

CHANGING RAINFALL PATTERNS ☁️🌧️

MORE PESTS & VERMIN

POOR STATE SUPPORT FOR AGRICULTURE

NEED FOR IRRIGATION 🚰

NEED FOR PESTICIDES 🐛

POOR PUBLIC HEALTH COVERAGE

NEED FOR COSTLY MEDICAL CARE

HIGH-INTEREST \$ LOANS

UNABLE TO REPAY DEBT 💰

KILN OWNER BUYS DEBT

LONG-TERM DEBT BONDAGE

DYING TO WORK

HEALTH ISSUES +

- Bleeding nostrils
- Lung inflammation
- Respiratory infections
- Vomiting
- Dizziness and fainting
- Physical exhaustion
- Limb amputation
- Premature deaths
- Depression
- Alcoholism
- Domestic violence

FUELLING DEMAND

DOMESTIC AND FOREIGN INVESTMENT

CONSTRUCTION OF PHNOM PENH

BLOOD BRICKS 🧱

KILN 🏠

ENVIRONMENTAL IMPACT

BRICK 🧱 CLAY 🧱

EXCAVATION OF SOIL ↓

LAND PURCHASE BY KILN OWNER

TIMBER USED FOR FUEL

ILLEGAL LOGGING

GARMENT OFF-CUTS USED FOR FUEL

POOR WASTE MANAGEMENT

GLOBAL FASHION BRANDS

TOXIC EMISSIONS ☠️

Introduction

Despite an average annual Gross Domestic Product (GDP) growth rate of 7.6% (1994–2015)⁸ propelled by the expansion of construction, garment, and service sectors in its cities, 79% of Cambodians continue to live in rural areas.⁹ Nearly half of the populace depend predominantly on agriculture for their livelihood (42%)¹⁰ and the sector accounted for 27% of GDP in 2017.¹¹ Yet agriculture remains largely subsistence-based, with little government support for modernisation. 60% of agricultural landholdings in the country are less than one hectare, and 63% of land remains rain-fed.¹² Land grabbing and forced eviction are also serious problems leading to rising landlessness.¹³

The sustainability of agriculture-based livelihoods is also being undermined by climate change. Cambodia is consistently identified as one of the most climate vulnerable countries in the world.¹⁴ This status derives not only from the heightened climate risks its population faces in the form of floods and droughts, but also the lack of capacity to adapt and respond. 70% of its rural populace rely on agriculture that is heavily sensitive to climate change.¹⁵ The impacts of repeated ecological shocks and climate change have a detrimental effect on production, and farmers lack state support for mitigation and adaptation to counter this.¹⁶

Rainfall patterns have altered significantly over the past hundred years with severe droughts and floods becoming more common.¹⁷ Every year, events like these leave Cambodian farmers around the country unable to grow crops to survive. A common response to the vagaries of the rural economy has been to migrate into the burgeoning garment and construction sectors within the country. Yet urban work is characteristically low paid, comprises long working hours, and lacks social protections such as healthcare, pensions, and union membership.¹⁸ Over 80% of work in the country is within the informal sector.¹⁹ Therefore while levels of employment in Cambodia are high, the quality of the jobs being created under economic growth is poor.²⁰ Brick work is a good example.

Furthermore, whilst the city provides work for many former farmers and the opportunity to send monies home, the influx of such remitted wages has been limited due to high levels of rural indebtedness, which absorbs any excess. Microfinance has taken hold rapidly in Cambodia and with scant regulation, household debt has spiraled. Average household loan amounts have risen from 54% of Gross National Income (GNI) per capita in 2003 to 220% of GNI per capita in 2014.²¹ Microfinance first came to Cambodia in the 1990s as a specific programme of small loans aimed at enabling demobilised soldiers to develop small enterprises and reintegrate into social life. It has now transformed into a for-profit model comprising high interest rates and increasing loan amounts, leading microfinance institutions (MFIs) to provide credit more freely and in greater volumes.²² State policies have largely failed to regulate interest rates or the remit of MFI loans, enabling a flourishing sector of local MFIs to expand. This combination of government deregulation, escalating interest rates, and unsustainably high loan amounts, has been accompanied by a rapid rise in clients, increasing from 300,000 in 2005 to nearly 1.3 million in 2013.²³

The impacts of repeated ecological shocks and climate change have a detrimental effect on production, and farmers lack state support for mitigation and adaptation

At the same time, labour out-migration from rural areas has seen rural wages triple²⁴ and the price of agricultural inputs has also risen rapidly. As a result, smallholder farmers require more credit for the seeds, chemicals, fertilizer, and labour in order to farm. When the crop fails, often due to climate change-related environmental stresses and shocks, the result is mounting debt with no means to reduce it. Loans may be covered with other loans, sometimes for long enough to undertake another farming cycle, but for many this simply prolongs the inevitable move into brick production.

Another key driver of indebtedness is the lack of social protection in Cambodia. Research suggests that coverage of this is patchy, and largely confined to a minority of workers in the formal sector.²⁵ The situation is particularly acute with regards to healthcare, as one instance of illness can drive a family into serious debt to cover costs.²⁶ Therefore, rather than improving people's developmental prospects through driving entrepreneurship, microfinance loans are shown to be used for daily expenditure on household costs such as health,²⁷ and are unrelated to any poverty reduction that is taking place in Cambodia.²⁸

Overall, smallholder farmers face multiple and compounding forms of insecurity in rural areas. Structural support in the form of either state assistance for agriculture or state social protection is minimal, and their mainstay – small-scale agriculture – is increasingly threatened by climate change in the face of this. As such, predatory lending is shown to be a last resort, but also to have pernicious effects, as the following stories in the report reveal.



1

Kiln

30 brick kilns and 80 interviews with brick kiln workers.²⁹ 31 interviews with kiln owners, union leaders,³⁰ former kiln workers, residents around the kilns, and Buddhist monks. All names in the report are pseudonyms.

2

Sender villages

308 quantitative household surveys in 3 villages that comprise high levels of out-migration to brick kilns. All brick-sending households were surveyed in each village, followed by a randomised sample of other households. Geospatial data on the locations of household and agricultural land as well as irrigation features such as wells and waterways were collected and linked to the dataset.

3

Commodity tracking

Tracking of bricks from the kilns to the building sites of Phnom Penh. Tracking of pre-consumer garment waste from garment factories to a Phnom Penh dump and onwards to brick kilns. Commissioned photo-journalist to document and further evidence our findings and tracking.

ABOVE: Transported from the northern reaches of the country, workers unload wood under the cover of darkness. It is likely to have been illegally logged and will be used to fuel the kilns.

CITY



Described as ‘lurching upwards’, Phnom Penh has taken a rapid vertical turn over the past two decades.³¹ Yet as recently as the late 1970s, the city was emptied of its population by the Khmer Rouge regime (1975 – 1979). Following the genocide’s official end, Cambodia endured over a decade of further political instability, during which time Phnom Penh was re-populated.³² A paucity of state policy and planning in this period meant that the rules of resettlement were forged organically.³³

In 1989, the Cambodian government enacted land titling rules, marking the beginnings of a broader structural transformation in Cambodia towards a market economy.³⁴ The introduction of titling led to rising land prices, speculation, and a flurry of foreign investment in land and buildings over the next two decades as the state underwent a process of economic liberalisation.³⁵ This was first ushered in by the United Nations under the ‘United Nations Transitional Authority in Cambodia’ (UNTAC), and then taken forward by what is now the ruling Cambodian People’s Party (CPP) under Prime Minister Hun Sen.³⁶ The drive for foreign investment in construction began in the UNTAC period in 1991, when thousands of UN and non-governmental organisation staff from around the world arrived in the capital city looking for high-end residences and leisure spaces.

Today the construction boom continues unabated, buoyed in particular by an expanding demand for luxury gated complexes for Cambodian and foreign elite, and low-cost housing for thousands of migrant workers in the garment and services sectors.³⁷ Sustained increases in foreign capital investment, combined with a proliferating domestic capitalist elite, are forging new projects across Phnom Penh.³⁸ From 2006 to 2016, the construction sector grew by an annual average of 17%, and it represented the largest contributor to growth in 2015.³⁹ Indications from the past year suggest that the rate of growth in the sector may be slowing down. Yet in 2017, Cambodia saw a 36% increase in imports of building materials, and a 27% increase in approved construction projects.⁴⁰

While modern slavery has been highly-publicised in the building of mega-sporting events, from Qatar to Brazil, in Europe the construction sector ranks second after the sex industry in terms of the prevalence of labour exploitation.⁴¹ On these counts, the construction industry has been termed ‘bipolar’ for the stark contrast between the ‘inspirational buildings’ that are constitutive of it, and the ‘systemic exploitation of millions of migrants’ that are sacrificed in their construction.⁴² The use of blood bricks reveal how labour exploitation is a much wider problem embedded in the operations of the construction industry, before even reaching the construction site.

The use of blood bricks reveal how labour exploitation is a much wider problem embedded in the operations of the construction industry, before even reaching the construction site

Built on slavery

Tracked from brick kilns to construction sites, we identified the use of blood bricks in the foundations of eight developments in Phnom Penh including a mix of condominiums, shops, restaurants, hotels, and office blocks. In doing so, the research highlighted that bricks moulded by debt-bonded labourers were embedded in some of the most prestigious construction projects across the city.

These were mostly domestically-funded but evidence of foreign investment, from the United Kingdom, United States, and Singapore, was identified in at least one case. Blood bricks therefore offer a focal point from which to understand people's lives behind the domestic and global growth story of Cambodia's capital city.

BELOW: A replica Arc de Triomphe is built at The Elysee development using blood bricks, located on Phnom Penh's 'Diamond Island' (Koh Pich). The island is home to Phnom Penh's most expensive and ostentatious building projects.





Construction projects found to be using blood bricks

The Peak, near Koh Pich

'An oasis of luxury in the clouds'⁴³
55 storey mixed-use development

The Penthouse Residence, Tonle Bassac

'360 degree panoramic view of the city skyline'⁴⁴
36 floor luxury condo complex

Highland Condo, Chroy Changvar

'An open sky bar for stargazing at night!'⁴⁵
18 storey condo complex

One Park, Boeung Kak

'A New World within the City'⁴⁶
7.9 hectare mixed-use development

UK Condo, Chamkar Mon

'A modern design for elite people'⁴⁷
Western-style condo complex

The Elysee, Koh Pich

'Little Paris'⁴⁸
Mixed-use development

Chip Mong, Royal Borey, Sen Sok

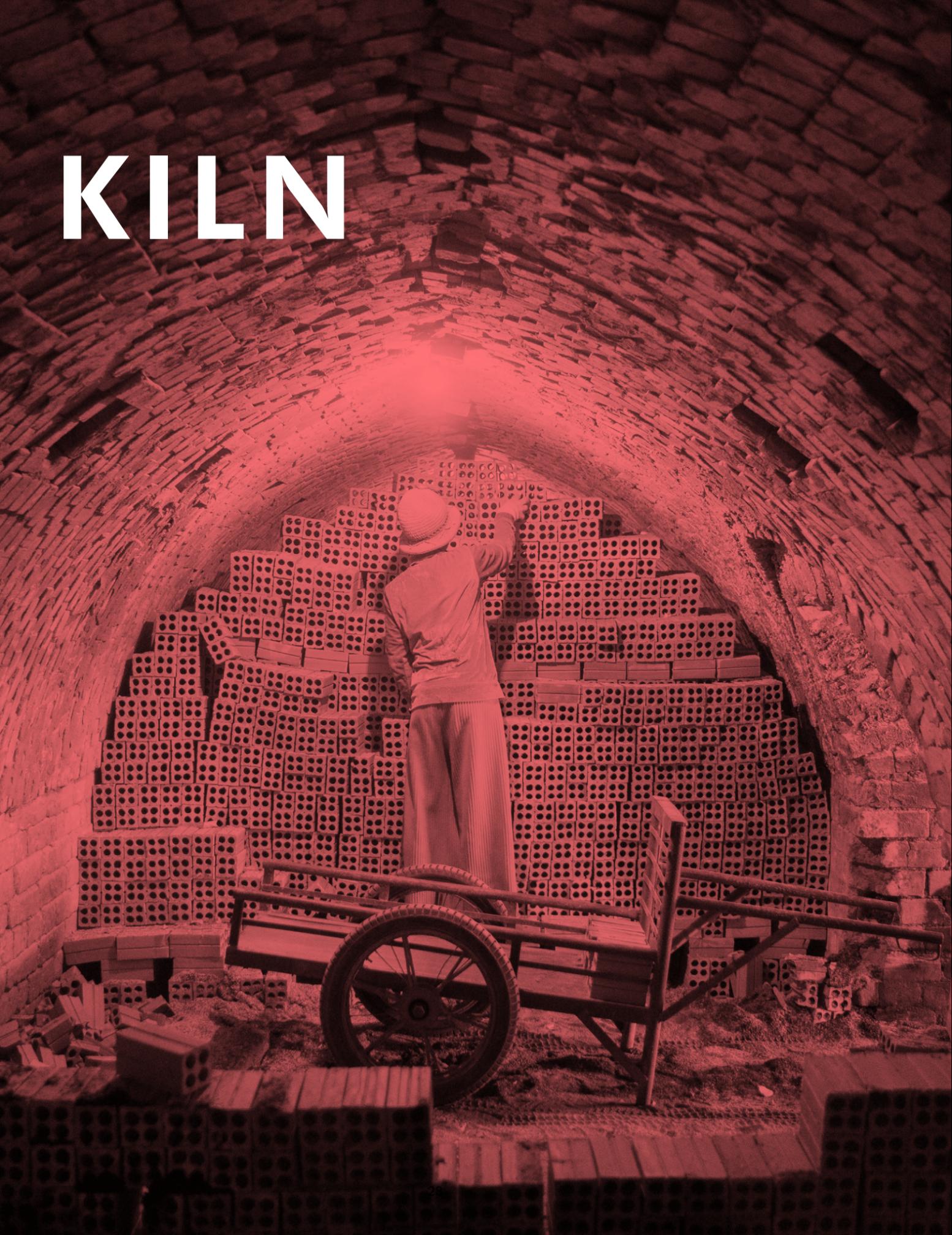
'Choose from King Villas and Queen Villas'⁴⁹
20 hectare luxury residential development

Borey Pipub Thmey, Phnom Penh Thmei

'Quality and excellence for your money'⁵⁰
Mixed-use development

ABOVE: The One Park development in central Phnom Penh was constructed using blood bricks. Two-bedroom apartments are advertised for sale upwards of US\$260,000; totaling more than two hundred years' wages for the average Cambodian. The high-end residential blocks are built on the former Boeung Kak Lake which was pumped with sand in 2008. Thousands of families were forcibly evicted from their homes with little or no compensation.⁵¹

KILN



In this second part of the report, we journey beyond the cityscapes of Phnom Penh to the urban peripheries where bricks are formed and fired. We focus on the lives of those mired in debt bondage who labour to meet the material demands of a rising city. Debt-bonded workers live and work on kiln sites; their corrugated houses typically arranged in rows around the perimeter. They are paid on a piece-rate and work comprises gruelling physical conditions to increase productivity.

The bricks they produce begin as clay mud in the earth of rural Cambodia. Kiln owners initially purchase small parcels of land in villages known to have good clay soils, and then proceed to build their land reserves in these villages such that small farmers are forced to sell their land as access to water facilities and the farming community in general is lost. The environmental degradation of brick making begins here, with the excavation of fertile, clay soils. This also leads to the displacement of farmers, many of whom are forced to work in brick kilns given that they are no longer able to farm. Clay is excavated by labourers, and brought in trucks to the kiln site, where it is piled up in mountains, ready for use.

Once on the kiln site, adults and children use hoes to break up large clumps of wet clay, and clean it by removing dirt and stones with their hands. The clay is then carried and hand-fed into automated moulding machines, although levels of mechanisation do vary across kilns. Both adults and children push the wet clay inside the rotating metal mould. The wet, moulded bricks are then carried and stacked to dry.

Kilns are loaded up with the air-dried bricks. Once fired, the bricks are carried out of the kiln to fully cool. A wheelbarrow is typically used to take the bricks to the merchants' trucks for transportation to construction sites in Phnom Penh. Kiln fires are usually fuelled by wood but as our report goes on to show in our fifth story, this is not always the case. Transported from the northern reaches of the country, the wood used to fuel kilns is likely to have been illegally logged. To evade detection, workers unload logs at night. Once home to some of Southeast Asia's oldest and most diverse forests, Cambodia has one of the world's highest rates of deforestation.⁵² Blood bricks tell stories of environmental harms being perpetrated across Cambodia's fields and forests.

Kiln owners initially purchase small parcels of land in villages known to have good clay soils, and then proceed to build their land reserves in these villages such that small farmers are forced to sell their land as access to water facilities and the farming community in general is lost

LEFT: Leakena collects fired bricks from the kiln to stack and transport for sale. Like other workers, her debt is repaid on a piece-rate basis and to increase production, fired bricks are often taken out of the kiln before being fully cooled. Workers report regular migraines, nosebleeds, and other, more serious illnesses.

Economics of brick production*

Material costs	US\$
Soil	636
Wood	1,980
Total	2,616
Labour costs⁵³	
Moulding and drying	200
Carting bricks to kiln	125
Taking bricks in/out of kiln	125
Firing the kiln through the nights	250
Total	700
Total costs	3,316
Sale price	8,000
Profit	4,684

*For 1 firing of 200,000 bricks at a wood-fuelled kiln where the factory owner buys soil from a middleman. Labour costs make-up 21.1% of production costs, and just 8.8% of the cost of each brick sold by the kiln owner.



RIGHT: Excavation of clay and environmental degradation in the brick-production area north of Phnom Penh. The industry has hollowed out rice fields for several miles around the kilns and up to 6 meters in depth. Under worsening agricultural conditions caused by climate change, many smallholder farmers have been forced to sell their land and some now work in the brick kilns.



Bricked in

'If the workers want to go to their homeland, they have to keep the mother at the kiln or let the mother go but keep the children. They don't allow everyone in the family to go together because they want to prevent runaways... they have to stay at the kiln forever until they have enough money to pay back all the debt... They cannot run away because the boss will print out photos and post them everywhere to catch the workers. They have no choice. The boss is too strict and cunning. Also if they want to go to their hometown they will have to take on more loans.'

Sroy, father of debt-bonded brick worker

The majority of families are bonded to the kilns with high levels of debt to the kiln owner and are not allowed to leave until it is repaid. Kiln owners showed a preference for families over single workers as they were apparently less likely to run away. In rare instances where a worker was permitted to leave temporarily, family members, even children, were used as collateral to ensure the worker returned. Family bonds are therefore instrumentalised to ensure that the bonds of debt are not broken:

'I asked the owner if I could take my husband to the hospital. My mother and children had to stay on the kiln to assure the owner that we wouldn't escape from our debt.'

Ponleu, female former debt-bonded brick worker

Those that do runaway are often tracked down by the kiln owner with the help of state police officers. Despite the fact that debt-bonded labour is illegal, rather than penalising kiln owners, a number of runaways who were discovered by state police were forced to repay extra debt or sent to jail. Others who remained on the kiln recounted having to take on debts from runaway workers from their natal village or extended family, and pleading with them to return. Thus bonds of affection and family become bonds of incarceration:

'I just told the runaway worker that the kiln owner would come and force me to pay back their money, and I had to work in order to pay off their debts. I don't know what year or what month I will be finished. If all of you don't come back, I will die. I can't do all the work!'

Nisay, male debt-bonded brick worker

Furthermore, debt bondage is also often inter-generational and children are forced to take on their parents' debts once they die, or become incapable of working on the kiln:

'When I came of age, they told me to sign by thumbprint on the debt contract in place of my parents...my debt keeps on increasing now that I have a husband and children. In the future, my children will do the same, sign their thumbprints in my place.'

Achariya, female debt-bonded brick worker

Kiln sites are therefore carceral spaces, where workers are rendered immobile by the bonds of debt, affection, and as the next story shows, climate change.

LEFT: Srei Mom, a 10-year-old girl, helps her parents to collect fired bricks from inside the kiln. Most brick workers come to the kilns as a family unit with children a constant presence both playing and working on site. Many begin to help their parents with light work in their early teens or even earlier, and trapped in intergenerational debt bondage, follow their parents into the industry.



Under darkening skies

'We worry when the sky darkens like this... work is regular for people when the sky is blue, but it stops when the sky darkens.'
Kolab, female debt-bonded brick worker

ABOVE: Rotha stacks bricks to dry in the sun before firing in the kilns. Rotha has been working with her husband for over 20 years in the same kiln and still owes the kiln owner US\$1,300.

Despite low wages and poor conditions, some brick workers are able to make money during the dry season, when 'the sky is blue' and months of bright sunlight make brick drying fast. Yet the rainy season, when 'the sky darkens', brings a different set of conditions. Kiln sites are typically uncovered, and workers are forced to cover their drying bricks so that their quality is not compromised. This means that rains can put a temporary halt on production. Not permitted to leave the kiln site to find alternative sources of income, our research found that workers are often forced to borrow further money from the kiln owner to meet their daily expenses during rainy periods on the kilns. This means that they become more indebted, rendering escape from the kiln even less likely.

A wealth of research has documented the sustained and debilitating impacts of climate change on the Mekong basin region, notably in Vietnam, Laos and Cambodia.⁵⁴ The primary impact identified across all the studies is unseasonal rainfall, leading

to flooding. Thus the impacts of climate change on the kiln serve to deepen the immobility of kiln workers, as kiln owners choose to shift the insecurity of unseasonal rainfall on to them:

'I am not sure [when I will pay off my debt] because my revenue is not stable. I cannot earn in the rainy season. When the rain falls the bricks don't dry well and this means that workers don't have any money for food. If there are no jobs, the owner offers loans to workers for daily spending.'
Kunthea, female debt-bonded brick worker

The unpredictability and intensity of rainfall bound up in climate change is therefore a factor in the inability to escape debt bondage, and is experienced by debt-bonded workers in both urban and rural Cambodia.



Dying to work

'Kiln work has harmed my health, and I nearly died. I suffered from bleeding because the place was extremely hot... most workers have health problems like me, like problems with their lungs. Most of them became thinner and thinner, and whilst some workers were allowed to go home, some died, and the owner's only assistance to them was in giving them a coffin to be buried in.'

Tola, female debt-bonded brick worker

ABOVE: Boran feeds clay into a manual brick-moulding machine. Machines like this present a serious danger of limb loss, but most workers have little choice but to use them given debts to the kiln owner.

Unsafe machinery, extreme temperatures, brick dust, and overwork contribute to a range of reported health issues, both chronic and fatal. Unrelenting and extreme working conditions also mean that workers turn to coping mechanisms, like alcohol consumption, which also have adverse health and social impacts. Furthermore, some female participants reported an up-scaling of domestic violence encountered since moving to the kiln site. Such reports heighten the significance of debt-bonded labour as a human rights issue, and as one that has gendered dimensions to be further examined.

Kiln workers report a number of specific health impacts such as respiratory illnesses driven by the inhalation of kiln fumes and brick dust without protective equipment, and limb amputation resulting from unsafe brick-moulding machinery. They also report a myriad of broader health issues ranging from fainting and vomiting to organ failure, arising from continued exposure to kiln fires without adequate protection; and various conditions arising from exhaustion due to long and arduous work. Alarmingly, given their ubiquitous presence on the kiln, health impacts affected children as well as adults:

'My 14-year-old son ran to play with a water buffalo and then came here and put his arm into the machine... it was cut off... I had to borrow more money. He gave me 6,000,000 Riels (c.US\$1,400). However, he cut this from my wages.'

Piseth, male debt-bonded brick worker

In most cases, the health impacts of the kiln prevented workers from undertaking labour and led to added medical expenses. Yet rather than compensating workers and their families for occupational health injuries incurred on the kilns, owners choose instead to increase workers' insecurity by forcing them to take on increased debts to pay for ill health:

'Some of us coughed up blood; both male and female workers who carried heavy clay. At night, we couldn't sleep because of backache and chest pain and coughing blood. ...We had to borrow the boss' money to go to hospital. The boss would allow us to go to hospital. We went twice a month. The doctor would inject serum and give prescribed medications. We would have to spend around US\$210/month.'

Leakena, female debt-bonded brick worker

As seen in the case of unseasonal rains due to climate change, kiln owners choose to shift the burden of risk forged by ill-health onto workers; rather than bearing it themselves. The detrimental health impacts of kiln life thus contribute to the immobility of kiln workers, as ill health leads to increased debt. Furthermore, given the length of time spent living and working in the kiln – over seven years on average, with periods stretching into decades being common – ageing also renders older workers incapable of repaying debts through their labour:

'You see... before when I had enough strength, I could do all kinds of work, especially when 5–6 trucks came to transport bricks here, I carried bricks to fill the trucks. But now I am getting old, and I go on working here but not like before. I do so to survive, in exchange for food... I have nowhere to go... all I can do is do small things for food. Since I started working in the brick kiln I've led a life of hardship.'

Nuon, female debt-bonded brick worker

The kiln ultimately engenders detrimental health impacts upon workers' bodies that, in turn, strengthens insecurity and bonds of debt.



Toxic fashion

In peri-urban Phnom Penh, a visible indicator of there being a brick kiln in the vicinity is a column of thick black smoke towering into the sky above. The 2018 ‘State of Global Air’ report found that in India, which has a ‘brick belt’ across the central regions of the country, smoke emerging from kilns is the sixth-highest cause of respiratory-related deaths in the country.⁵⁵ No similar analysis exists vis-à-vis the Cambodian brick industry, however the palpable health impacts upon kiln workers were reported in our research.

ABOVE: Garment rags piled up to the rear of three old fashioned ‘elephant kilns’. Decades old, the single aeration point of this type of kiln makes it especially dangerous to workers due to the lethally high temperatures they experience when unblocking it after firing. At its peak, this kiln can reach 1200 degrees Fahrenheit.

Indeed, some columns of smoke are blacker than others. In a small number of kilns, owners purchase pre-consumer waste, namely garment offcuts, as fuel for kiln fires. This waste emanates from Phnom Penh’s burgeoning garment industry, a key driver of national growth accounting for 75% of all manufacturing output in 2010, up from 15% in 1995.⁵⁶ The sector comprises high-profile global brands, and is seen to offer a more socially-responsible environment for foreign investors in comparison to neighboring garment-producing countries. Yet notably, a wealth of research has documented the systematic rights abuses that take place within Cambodia’s garment sector, despite protestations to the contrary.⁵⁷

Our research highlights how these rights violations are not limited to garment factories but encompass its waste system. Garment offcuts, big and small, that are discarded by factories are transported to a large dump on the outskirts of Phnom Penh. En route to this dump, trucks are intercepted by middlemen who purchase the garments, and in some cases, sell them to brick kilns to be used as fuel for kiln fires.⁵⁸ As such, pre-consumer waste from the garment sector literally fuels the degradation of bodies in the brick-making sector. Interviews on one such garment-burning kiln highlighted the adverse health impacts felt by workers:

‘We use firewood to burn bricks, but the boss uses garment fragments instead. This impacts people’s health and causes various illnesses... burning fabric here causes more fumes and also impacts the local people around here, especially those working here...[health problems are] coughs, colds, flus, mostly caught by children... others even have lung inflammation.’

Nuon, female debt-bonded brick worker

Garment burning leads to streams of thick, black, tar-like liquid oozing from the rear of the brick kilns

The gaseous emissions from kilns also have the potential to contribute to climate change. Clothing commonly contains toxic chemicals including chlorine bleach, formaldehyde, and ammonia. Heavy metals, PVC, and resins are also commonly involved in dyeing and printing processes. In light of this, there is a clear

need for future research into the specific health and environmental impacts of burning garments; which we plan to pursue. This is particularly needed given that the practice of using garment frag-

ments for kiln fires has also been reported in Bangladesh.⁵⁹ The links between garment waste and air pollution are standalone and interwoven problems that extend beyond Cambodia and warrant greater attention.

This story once again connects the lives and experiences of debt-bonded brick workers in Phnom Penh to global capital, this time in the form of well-known fashion retailers. Labels found and photographed among garment fragments on brick kilns that were burning them include British (Marks and Spencer’s and George at Asda), Spanish (Pull&Bear), and US-run companies (J Crew; Walmart; Old Navy). These companies have internal commitments to eliminating instances of modern slavery within their supply chains and reducing, sometimes eliminating, waste in their businesses.⁶⁰ Despite this, global garment capital, a key component of Cambodia’s national growth, is shown to be complicit in fuelling human rights violations in, and toxic emissions from, brick kilns.

Toxic fashion also connects the individual consumer with the making of blood bricks and associated environmental and social harms. The garment and construction industries are sewn together in an unexpected plot line that has transnational reach.



ABOVE: Sann stands surrounded by clothing labels sourced from Cambodia's garment factories. The research identified well-known high-street brands on site; toxic fashion that connects the British consumer with the making of blood bricks and associated environmental and social harms.



Spirituality of hope(lessness)

'Some people are hopeless and helpless. They work just to make ends meet. When they get some money, they waste it on alcohol ... they don't think about the next life; I'm not sure [what they think about]. For me, when I have enough money, I pray for a better life in the next one.'

Sokhom, former debt-bonded brick worker and father of debt-bonded brick workers

ABOVE: An image of Buddha drawn on the walls of a kiln. Many brick workers are deeply religious and make sense of their current hardships through promise of a better next life. Brick kiln owners encourage workers to pursue a 'good character' as diligent workers and the subsequent merit it brings. In some cases this moral commitment is one of the key factors preventing workers from fleeing the kiln and abandoning their debts.

Religion is a crucial but ambiguous force in the life of the kilns: a source of hope and relief for many, but also a tool to subjugate workers and retain their labour

As the preceding stories illustrate, lifelong debts are effectively a prison sentence for many workers. More than a constraint, they are an immovable barrier; blocking prospects of physical escape. Yet as alluded to by Sokhom, not all brick workers feel hopeless. Meaning and hope are retained in brick workers' lives, but in a different guise, rooted in the next life and its possibilities.

Indeed, spirituality is ever-present in Cambodia's brick kilns. Buddhist shrines are a common feature of the compound, whilst alcoves that are cut into the face of each kiln hold spirit houses containing offerings and incense. Workers pay close attention to these spirits, visiting both pagodas and fortune tellers to understand the spiritual causes of misfortunes, illnesses, and accidents. In addition, religious festivals are some of the only times workers are allowed to leave the kilns for their rural homes, and some owners even provide transport to the pagoda.

Spirituality in the kilns helps many workers to cope with the difficulties of their everyday lives, but it also has a darker side. Certain kiln owners encourage religion as a way to keep workers in line, stating, as one kiln owner did, that to control workers, 'we rely on the dharma, telling them that as sinners they will suffer from their bad actions'.⁶¹ In some cases, conservative religious leaders tell workers that even the most devastating accidents, including limb loss, are the product of their own past actions:

'According to Buddha, we believe in karma. Why [do accidents] only happen to them while the rest of the workers are okay? If we do good deeds, we get good results. If we come to the pagoda to pray and send offerings, we will also get the good fortune in our next life.'

Head Monk

Religion is therefore a crucial but ambiguous force in the life of the kilns: a source of hope and relief for many, but also a tool to subjugate workers and retain their labour.

FIELD



The brutality of a life in brick-making is renowned beyond the kilns. Rural Cambodians from villages with out-migration to brick kilns are well aware not only of the difficulty of the conditions there, but also of the one-way nature of the journey. Those who enter the kilns rarely come back soon, plucked from the fields after generations of having farmed the same land. Indeed, the spontaneity and severity of the change gives it a sense of capricious ill-fortune: a sudden, unexpected decline in circumstances occurring almost at random.

However, a closer look reveals an underlying pattern. Although the final tipping point may rest on a few inches of lost rain, an ill-timed heatwave, or the destructive efforts of mice or insects, the fate of those who find themselves working in the brick kilns was often sealed long before, in the years when land was allocated, or a family member's illness set the household finances on a new and precarious path. To an equal extent, it is rooted in wider global processes of marketisation and global integration that have transformed Cambodia's rural areas.

This third section of the report examines the role played by climate change in deepening this sort of structural vulnerability. Focusing on the handful of provinces along the flood plain of the Mekong delta, where the high prevalence of floods and droughts makes livelihoods especially precarious, it asks why spiraling rural debt accrual is becoming increasingly common throughout the country and what role this plays in leading people to the kilns.

In doing so, these final four stories aim to draw out wider lessons for the relationship between modern slavery and climate change throughout the Global South. However, the aim here is not to establish general truths, but highlight small-scale complexities. Although Cambodia is ranked amongst the most vulnerable to climate change in the world,⁶² livelihood uncertainty is not a problem that affects everyone equally even within its most vulnerable regions. Rather, as the following stories testify, it is an issue rooted in subtle and often historical inequalities that climatic and economic change work together to exacerbate.

Although the final tipping point may rest on a few inches of lost rain, an ill-timed heatwave, or the destructive efforts of pests, the fate of those who find themselves working in the brick kilns was often sealed long before

LEFT: Veasna spreads pesticide over his field. Many rural Cambodians report an increased presence of pests and rodents in recent years, understood to be driven by climatic shifts. This forces farmers to borrow money for chemical pesticides. Debt bondage is the adaptation cost of climate change.



Poverty and assets

‘We were poor as in we had no house, no farmlands. When there were rains, we stayed inside a small hut without walls because everything else got flooded. We just sold some chickens. Whenever it rained, everything got flooded... we were given 25 Ares [1/4 Ha] of farmland each after the Pol Pot regime. However, some families have more than 10 children with only 50 Ares of farmlands: mother 25 Ares, father 25 Ares. They left the lands untouched because they had no buffalos or cows so they went to work in the brick kiln for a living.’
Srey, mother of debt-bonded brick workers

ABOVE: Channary takes a rest after lunch. Her family has a debt of US\$1,000, incurred when her brother had a major accident in their rural village. Unable to repay his medical expenses, they were forced to sell their house and move to the kiln.

As Srey’s story shows, the reasons that families enter brick work are varied. Failed harvests, business loans gone wrong, or medical bills for family members are some of the points of entry. Underlying all of these scenarios, though, is poverty.

Subject to limited government intervention, rural areas across Cambodia have in recent years been transformed by the twin forces of labour-migration remittances and microfinance, creating an increasingly unequal economic landscape, within which some people are better positioned than others.

A key axis of inequality is gender. Reflecting a broader national trend,⁶³ female-headed households in our study were more likely to be landless. 25% of female-headed households in our study possess agricultural land, compared with 50% of male-headed households. Female-headed households are over 25% more likely to contain brick workers than male-headed households.

More broadly, although brick workers – or potential brick workers – are not necessarily a class apart from other villagers, they are overall worse off than those who have no connection to the kilns. This is evidenced across all asset categories: from televisions to transportation, brick workers have less of everything. Furthermore, this is reflected not only in assets but also income. Brick workers earn less on average, possess less agricultural land, and have fewer productive assets of all types.

74% of non-brick worker households in our study possess agricultural land compared with 56% of brick worker households. This lack of assets makes brick workers not only poor but also vulnerable. Assets are key to responding to shocks, meaning that people with more assets are better able to withstand the impact of climate change. For example, those who possess mechanised harvesting equipment are able both to collect their crops rapidly and at low cost, and hire out their services to others. Those with fewer assets, by contrast, are only ever one illness, drought, or infestation away from the brick kilns; a vulnerability that is exacerbated by climate change.

25% of female-headed households in our study possess agricultural land, compared with 50% of male-headed households. Female-headed households are over 25% more likely to contain brick workers than male-headed households.

Average number of assets per household

Asset	Non-brick workers	Brick workers
Water pumps	0.51	0.38
Televisions	1.1	0.55
Radios	0.37	0.22
Mobile phones	1.49	1.14
Motorbikes	0.91	0.57
Bicycles	1	0.81
Cows	2.39	1.42
Ducks	2.76	0.94
Chickens	7.72	2.23
Pigs	0.87	0.03



Leaking debt

‘Those who don’t have enough water have gone to find work [outside the village]. People down in those fields [there], they only grow rice once a year using the stream water [so] when the stream dries out, they cannot grow it anymore. No one drills the wells there because they cannot stay to guard the wells. Only people who can afford to drill the wells have enough water. If there are a lot of farmers in one particular place, they can get a well. If there’s no water, it’s useless having farmland.’
Vimean, female smallholder farmer

ABOVE: A water pump in the process of irrigating a rice field in a rural sender village. In the past decade the village has experienced a drastic change in the amount of water available for irrigation. Whereas reliable seasonable floods once made the soil extremely fertile, farmers are now forced to spend money on gasoline to run pumps and on fertilisers and pesticides, thus reducing their income and heightening the financial risks of farming.

The Cambodian population remains heavily dependent on agriculture, thus water can bring life. Yet in an environment where water is becoming increasingly expensive and subject to marketisation, the fine margins of debt-funded agriculture make reliance on the rain a potential source of ruin for farmers and their families. Those who lose their gamble fall into unmanageable debts and move to work in the kiln.

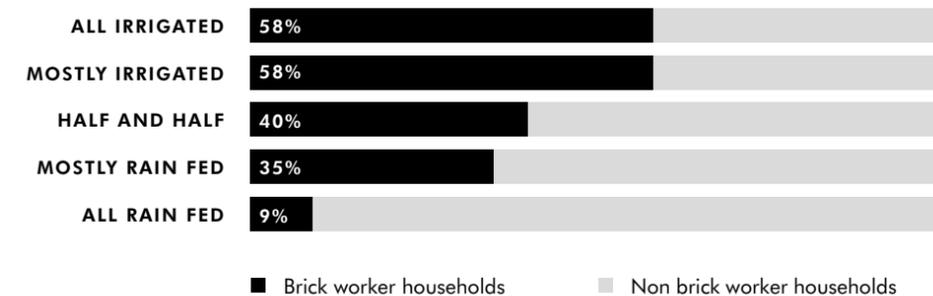
Our research found that rural households who invest in and rely on irrigation are more likely to have family members working in brick kilns than those who depend on rainfall alone, due to the capital risk entailed in the cost of hiring pumping equipment and purchasing fuel:

‘Amongst those villagers who have money, some take out a loan of around 3 million Riel [c.US\$750] to drill a well. They are constantly worried that their rice will go bad and they will have no money to pay it back.’

Vimean, female smallholder farmer

Yet wider interviews highlighted that relying on rain-fed production alone was not sufficient to enable a household to survive, thus those looking to invest in irrigation have little choice. This comes in a context where state investments in rural infrastructure are scant, and state support for agriculture more broadly remains very scarce.⁶⁴ Therefore, the ability of a household to access water sources is key to determining how it adapts to the vagaries of Cambodia’s changing environment. The impacts of climate change however render the risks of irrigation investments incredibly high. The next step for many is the brick kilns and all that they entail.

Irrigation status of household land and occupation



Irrigation status of land and levels of household debt (USD)





One illness away

'Because my parents were sick, I sold our land and our house to treat them... I sold them all to try and cure my mother's illness. After they passed away, I had nothing... I came to work at the brick kiln. If the boss shuts down the kiln, I don't know where I would go.'
Roumjong, female debt-bonded brick worker

ABOVE: Tevy, a 73-year-old woman, applies a mixture of rice wine and wild roots to her grandson's broken arm in order to help reduce the swelling. A few days earlier he fell from a tree whilst collecting tamarind. Our research in sender villages found that many families are only one illness away from having to follow departed neighbours who have entered brick work due to unsustainable debt.

As Romjoug's account testifies, brick work and health are tightly intertwined. Although moneylenders have long been present in rural life, increasingly easy access to unregulated credit has seen families with ailing members accrue vast medical debts in recent years. Public facilities are often distant and difficult to access for those who need them most, leading many to favour expensive pharmacies and private clinics. Health inequality is therefore a key issue in Cambodia's rural areas⁶⁵ and health problems in the family are a key factor driving people into unsustainable debt and ultimately debt bondage.

Interviewees report serious health consequences from working in the extreme conditions of the Cambodian brick industry, leaving many of those who return (which is usually only possible by passing on debt to a younger family member) reporting chronic pain from worn-out joints and lungs scarred by toxic smoke. Furthermore, even setting aside the direct health impacts of brick kiln work, our research in the three sender villages found that households containing brick workers are unwell on average 8 days per month, compared with only 5 days for those unassociated with the brick industry.

The reasons for this are complex. Lifelong deprivation of the sort that makes brick work more likely places pressures on nutrition and medical care. Those whose families enter the brick industry are often also those who have suffered the greatest deprivation beforehand, as story seven indicated. In addition, sickness, medical expenses and debt are closely linked. Households containing brick workers spend over 50% more than non-brick working households: US\$22 per month on average on medical bills, compared with US\$14 per month for non-brick working households.

Households containing brick workers spend over 50% more than non-brick working households: US\$22 per month on average on medical bills, compared with US\$14 per month for non-brick working households

Beyond this, debt is itself a bringer of illness and disease. The privations associated with unmanageable interest payments and spiralling debt burdens create ripe conditions for physical problems of all kinds. As malnutrition saps strength and a lack of money for fuel impedes mobility even to free local clinics, the conditions are put in place for a vicious cycle of poverty, illness, and debt. Brick work is thus both a cause and consequence of this cycle.



Weathered lives

‘Our rice production was poor. For the last several years, our cultivated land wasn’t growing...for the last several years, there were floods, more insects and more grasses... my rice field is located in a low lying area. For the rice fields in higher areas it’s not such a problem... but droughts in some years and floods in some years meant that rice production was not so good for me... we lacked water for cultivating our rice fields over the last several years, so production was not so good.’

Chouma, female debt-bonded brick worker

ABOVE: Munny provides medical and spiritual services to residents of this brick sending village. This type of traditional medicine is particularly popular with brick workers and sending village families who in many cases cannot afford to access formal medical services.

As Chouma explains, environmental changes have in parts of Cambodia been experienced as an everyday part of life for years. Indeed, taken as a whole, the numbers demonstrating this are stark.

Across our three rural study sites, 83% of people stated that the temperature has risen in recent years, whilst 73% of people believe that the nature of rainfall has changed. Rooted in these shifts, 76% stated that drought has become more common, whilst a secondary impact on flora and fauna is also widely noted. 42% report more insect infestations and new animal species, whilst 35% indicated a higher rate of livestock disease.

Nevertheless, arresting though they are, these figures should not be taken to suggest an universal story. Chouma highlights the complex relationship between climate, economy, and livelihoods. Moreover, the experience of climate change depends greatly on who is experiencing it. Small differences in circumstances, from the topography of a household’s land to the possession or otherwise of a water pump, can spell the difference between a failed crop and a healthy harvest. The research found that despite the broader impacts of climate change upon villages, livelihood uncertainty does not affect everyone equally and within any given sender village: some people are harder hit than others due to their likelihood of flooding. At the same time, other areas far from water sources such as wells must expend the most money to undertake irrigation.

Even relatively small differences in access to water, topography, or elevation can make a huge difference to how farm land responds to droughts or floods. More fundamentally, the size and quality of land and the assets possessed by a household significantly shapes that household’s ability to cope with agricultural stresses. Both socio-economic and geographical inequality, in other words, play a key role in how the climate and its vagaries are experienced.

Moreover, these inequalities reflect a wider truth about both brick work and climate change: those most vulnerable to shifts within the environment – and thus those most likely to enter bonded or exploitative labour – are not randomly chosen, but historically engendered. In many cases, the roots of their current marginality can be traced back to the provision of land decades earlier: a social marginality which has dogged multiple generations. Far from being a phenomenon directly experienced, therefore, the lived experience of climate change is as social – and political – as it is physical.

Even relatively small differences in access to water, topography, or elevation can make a huge difference to how farm land responds to droughts or floods

Conclusion

Cambodia's development over the past two decades has been one of breakneck growth. Natural resource stocks have plummeted downwards, but all the while urban momentum has retained its upward thrust. Today, Phnom Penh, a city that twenty years ago lay mired in the ruins of its past, is now looking to the skies.

Steadily erasing the memory of its low-rise colonial past, dozens of high-rise buildings now pepper the urban landscape. Gold Tower 42, the half-finished forty-two story prestige project whose concrete skeleton once provided a monument to architectural hubris, now appears more remarkable for the modesty of its conception. Even when finally completed, it will be dwarfed by the half kilometre monoliths now intended to endow Phnom Penh with the tallest peaks in Asia. The price of all this altitude, though, is paid by those at the bottom.

Market forces operating in the absence of enforced legal frameworks have seen the most vulnerable slip into inescapable debt, creating a pool of resources that have been greedily subsumed into the national project of construction. The very earth that thrusts Cambodia's growth materially skywards, now baked into brick form, is that which once belonged to the disenfranchised and indebted.

Indeed, the role of those former fields in shaping the city's rise should not be forgotten. Each household's position in the new urban order is to a great extent rooted in rural factors: the location of a family's land in relation to a water source, or whether the tools are possessed to effectively work it. Who rises with Cambodia's buildings and who remains behind to mould the bricks that construct them is shaped, in part, by acts of the rural climate.

Indeed, although the Cambodian climate itself is regarded by farmers as increasingly capricious, its impact is predictably channelled through structured vulnerabilities that strip the remaining assets from the poorest and most precariously positioned, leaving them with little recourse beyond an increasing dependency on debt. Where this becomes unsustainable, debt may become debt bondage and thus modern slavery: a path of exploitation exacerbated by climate change but rooted in poverty and inequality.

This, then, is the meaning of the blood brick: a material testament to vulnerabilities ratcheted up by the twin forces of market and climate, clawed from former farmland by its former farmers. Above all, though, these dusty red blocks are a reminder of the earthbound quality of global forces. Development and environment written on the body, as they are written on the land.

Market forces operating in the absence of enforced legal frameworks have seen the most vulnerable slip into inescapable debt, creating a pool of resources that have been greedily subsumed into the national project of construction



Recommendations

The findings from this project raise a number of issues that speak to policy. Alongside the Royal Government of Cambodia, NGOs and multilateral institutions play a particularly prominent role in Cambodia in terms of both enacting and monitoring policies around climate change, labour, and social protection. Furthermore, construction and garment capital are shown to be complicit in debt-bonded labour and the abject conditions experienced by workers.

As such, the following recommendations are addressed to the Cambodian government, corporations, and the three key institutions undertaking regulations with regards to labour and climate change: the UN through its Sustainable Development Goals (SDGs), the International Labour Organization (ILO), and the UN Environmental Programme (UNEP). We finish with recommendations for the United Kingdom government in respect to the Modern Slavery Act (2015).

LEFT: Phala, a debt-bonded brick worker, excavates clay. He normally works together with his wife and their children trying to repay US\$1,000.

Recommendations

1 Increase social protection, regulate microfinance, and enforce labour legislation

The Cambodian government is shown to be complicit in enabling the proliferation of debt-bonded labour in Phnom Penh's brick kilns in multiple ways. Remedies might include:

1A Increase social protection and rural livelihood support

Firstly, the poor social protection afforded to rural farmers in terms of public health facilities and support for rural agriculture is shown to render small, subsistence-oriented farmers incredibly vulnerable in the face of climate change in the countryside. As such, the government needs to focus more on providing stronger social protections to the poorest. This recommendation is in line with the ILO's recommendations in its Cambodia 'Decent Work Country Programme'.⁶⁶ The government also requires a more comprehensive programme with regards to rural development. The impacts of climate change are shown to render subsistence-oriented agriculture a wholly inadequate livelihood strategy. The government thus needs to address this and look to provide support and protections to agrarian development.

1B Increase regulation of the microfinance sector

Linked to this first issue is the influence of a pernicious and expanding microfinance sector. Microfinance requires a regulatory overhaul, particularly with regards to loan amount, interest rates, and purpose of loan. The National Bank of Cambodia made a good start in this direction in 2017 with the capping of interest rates on microfinance loans, yet much more needs to be done to ensure that the industry does not continue to plunge rural families into unsustainable debts.

1C Enforce Cambodia's Labor and Trafficking laws in curbing debt-bonded labour

Finally, the government needs to enact its own laws and address bonded labour in brick kilns. Cambodia's Labor Law,⁶⁷ adopted in 1997, expressly forbids forced and bonded labour. Article 16 explicitly states: 'Hiring of people to work to pay off debts is forbidden'.⁶⁸ The Labor Law is weakly worded, creates no criminal offence, and is unclear about enforcement, whereas the Trafficking Law creates a clear criminal offence of debt bondage. Despite this, the government is shown to turn a blind eye to bonded labourers on brick kilns, and even assist kiln owners in catching and imprisoning runaway labourers through state police. As such, the government needs to enforce its own labour laws more stringently, and focus on persecuting kiln owners, not labourers. This must begin with the cancellation of all outstanding debts to kiln owners, as advocated by LICADHO in their report.⁶⁹

2 Decouple expectations of 'decent work' from 'growth' and hold capital to account

Our research has highlighted how the growth of Phnom Penh and its appetite for bricks is directly supplied by brick kilns using debt-bonded labour. As such, growth in Phnom Penh is quite literally being built upon the bodies of bonded labourers. Yet despite this, the National Strategic Plan of Cambodia,⁷⁰ the ILO's 'Decent Work' country programme, and SDG 8⁷¹ all explicitly link economic growth with decent work, with the assumption that the former leads to the latter.

2A Uncover the links between economic growth and indecent⁷² work

Building on our research, we recommend that closer attention needs to be paid to the ways in which growth can fuel the rise of *indecent* work, thus seeking to shed light on labour practices that fall outside the purview of the ILO's Decent Work programme (see ILO, 2016). Our case highlights how the rapid expansion of a particular sector, construction, demands the cheap and rapid production of a particular commodity; bricks. This leads in turn to the rise of severe forms of exploitation, as kiln owners look to cut costs and retain compliant work forces through debt bondage. As such, we would ask that SDG 8, which states: 'Promote inclusive and sustainable economic growth, employment and decent work for all' offers a contradictory approach; as promoting growth can in fact lead to *indecent* work. Advocacy efforts towards 'decent work for all' need to be decoupled from the push for 'economic growth', to better uncover how the latter may lead to the former.

2B Focus more on work *outside* the factory floor

In shedding light on one example of *indecent* work in Cambodia's growth story, our research highlights the need for the ILO's gaze in its 'Decent Work' programme to move beyond factory floors alone. The less regulated spaces of waged work that exist in Cambodia require greater attention and action. In doing so, the full extent of *indecent* work that has proliferated through economic growth would be rendered more visible, thus highlighting the often inextricable links between good growth and bad work.

Recommendations

3

Foreground occupational health and access to universal health coverage as key areas for global health policy

Our report highlights how inadequate public health coverage forces families into taking on unsustainable levels of debt, and how brick kilns comprise incredibly unsafe working conditions. Neither the state nor kiln owners are taking adequate measures with regards to public and occupational health respectively. As such, the very bodies of Cambodian smallholder farmers-turned-brick workers are being sacrificed to the needs of economic growth.

3A

Include ‘occupational health’ as a goal of SDG 3, ‘Ensure Healthy lives and Promote Wellbeing for All at All Ages’

Our research evidences how the drive for increased growth in the construction sector leads brick kiln owners to subject their workforces to highly unsafe conditions. Furthermore, when injuries are invariably incurred, kiln owners look to save costs by *deepening debts* as opposed to paying for treatment. As such, the particularly exploitative conditions that are found in instances of forced labour more widely⁷³ require coherent attention on the part of the SDGs; particularly given their support for economic growth, which is shown in our case to drive corporeal exploitation.

3B

Advocate for universal health coverage in Cambodia, and in the UN SDGs

Our research highlights the devastating impacts of a single poor health event on household income. This is largely due to the inadequate coverage of public health provisioning across Cambodia. We therefore advocate an amendment to SDG 3.8, and suggest that it unequivocally promote free, universal health coverage.

4

Adopt a more holistic approach to climate change as a phenomenon that is fuelled by economic growth and deepens existing vulnerabilities

Throughout this report, climate and environmental change are shown to be linked to, and fuelled by, economic growth. They are also shown to deepen existing vulnerabilities rather than necessarily creating new ones. As such, policy addressing the impacts of climate change needs to focus more closely on the ways in which climate and environmental change are inextricably linked to Cambodia’s growth model, and how this is deepening structural insecurity for the poorest.

4A

Address the climate and environment-degrading aspects of ‘growth’

Our research has highlighted how growth is inextricably linked to processes of climate change and environmental destruction in the brick sector in Cambodia. Kilns producing cheap bricks fuelling Phnom Penh’s construction growth are directly drawing on clay soils across fertile tracts of Cambodia to do so, as well as emitting noxious gases into the air through lit kilns. This needs to be reflected in policy pertaining to climate change specifically. The UNEP’s position⁷⁴ on tackling this offers little by way of detail, both praising Cambodia’s economic expansion’ which is ‘lifting millions of people out of poverty’, yet lamenting the ensuing ‘environmental problems’. SDG 13 which focuses explicitly on ‘climate change and its impact’ posits this phenomenon as entirely *natural*, despite the now widely-held position that we are living in the anthropocene⁷⁵ – an era when human activity is the dominant influence on the environment and climate. We recommend a greater interrogation of the ways in which economic growth – promoted in SDG 8 – *accelerates* climatic and environmental change.

4B

Move beyond ‘adaptation and resilience’ to address the structural drivers of poverty in tackling impacts of climate change

Linked to 4a, our project highlights how climate change perpetuates existing inequalities rather than only creating new ones. Small-scale farmers that end up in brick kilns due to failed harvests following climatic events are shown to already be structurally poorer, as evidenced by the asset index we presented. Furthermore, debt-bonded labourers in kilns who were forced to increase their indebtedness to pay for inactivity due to unseasonal rains are already structurally insecure.

As debt-bonded workers, they are immobile, bound to the kilns by debt, forced to undertake arduous and unsafe work. In light of these findings, we suggest that SDG 13, which focuses on addressing the impacts of climate change through increasing ‘resilience and adaptive capacity to climate-related hazards and natural disasters’ needs to be more closely linked to other SDGs calling for broader measures tackling structural insecurity. Climate change-related insecurity thus needs to be reconceptualised as structural insecurity per se.

Recommendations

5

Improve effectiveness and accessibility of judicial mechanisms for holding UK business to account for human rights violations committed overseas

Our research indicates that modern slavery is located in construction supply chains which include investments from British firms. The research also identified unsafe waste management practices in the supply chains of some British fashion brands. Garment off-cuts were found in kilns being used as fuel. Both examples speak to the indirect harm caused by British multinationals in construction and garment manufacture. They clearly demonstrate the need for firms to improve visibility down their supply chains and to take practical steps in response. They also highlight how companies need a much fuller on-the-ground understanding of their supply chain risks.

The House of Lords and House of Commons Joint Committee on Human Rights (2017: 6) acknowledge that 'The Modern Slavery Act in 2015 has raised the profile of the problem of modern slavery within UK companies and their supply chains abroad. However, more action is needed before any meaningful changes brought about by the Act can be evaluated'.⁷⁶ Our recommendations to improve effectiveness and accessibility of judicial mechanisms for holding UK business to account for human rights violations committed overseas, include:

5A

Introduce legislation to make due diligence and its reporting compulsory for large businesses

The Modern Slavery Act (MSA)⁷⁷ requires that companies report on the due diligence they are undertaking with respect to slavery in their supply chains each financial year, but it does not require them to actually carry out due diligence. Our research indicates that this disclosure requirement is too weak. A legal duty to conduct and report due diligence should be mandatory for companies, including parent companies, in order to prevent human rights abuses. In other words, companies should be required to go beyond the disclosing of information about their policies and processes to provide detailed explanations of their human rights risks and the actual steps taken to manage those risks. Making this due diligence reporting public would also create an evidence trail which could be used by affected individuals and groups to seek justice where legal violations are found.

We recommend, in agreement with The House of Lords and House of Commons Joint Committee on Human Rights (2017: 59) that the Government pass legislation to impose a duty on all companies to prevent human rights abuses, as well as an offence of failure to prevent human rights abuses for all companies, including parent companies, along the lines of the relevant provisions of the Bribery Act 2010. This would require all companies to put in place effective human rights due diligence processes, both for their subsidiaries and across their whole supply chain. These changes would help the UK Government to fulfil its commitments under UN Guiding Principles on Business and Human Rights.⁷⁸

5B

Delete article 54(4)(b) in the MSA

Connected to recommendation 5a, Article 54 of the MSA states that a slavery and human trafficking statement for each financial year of the organisation must be prepared. We recommend the deletion of article 54(4)(b) which permits companies to submit 'a statement that the organisation has taken no such steps'.

5C

Create a public list of companies required to comply to the MSA

Create a public list of companies required to comply to the MSA and requiring their due diligence reports to be held in an accessible central repository for transparency purposes.

5D

Improve resourcing of the bodies with responsibilities for preventing human rights abuses and enforce penalties

In addition to a lack of resources, levels of knowledge and expertise within the UK's investigating agencies needs to be strengthened so that investigations can be effectively carried out overseas.

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The project took its lead from the NGO study 'Built on Slavery: Debt Bondage and Child Labour in Cambodia's Brick Factories' published in 2016 by the Cambodian League for the Promotion and Defense of Human Rights (LICADHO). The report demonstrated the widespread use of debt bondage in Cambodian brick factories and the role it plays in encouraging and sustaining child labour. We are grateful to Shanta Bhavnani for the inspiration and advice she provided to us in our subsequent research.

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Endnotes

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