

Trapped in the service of debt
How the burdens of repayment are fuelling
the health poverty trap in rural Cambodia



Research findings report

Dalia Iskander, Fiorella Picchioni, Long Ly Vouch, Laurie Parsons, Vincent Guermond, Sébastien Michiels, Katherine Brickell, Giacomo Zanello, Nithya Natarajan. Department of Geography, Royal Holloway, University of London, September 2022. This report is published in 2022 by Royal Holloway, University of London under a Creative Commons Attribution-Non Commercial 3.0 license.

This report is part of a larger research project funded by UK Research and Innovation's Global Challenges Research Fund (UKRI GCRF) entitled 'Depleted by Debt? Focusing a gendered lens on climate resilience, credit and nutrition in Cambodia and South India: This Cambodia-focused report evidences how household debt is manifesting as a public health crisis which is fuelling the health poverty trap in rural Cambodia. A second counterpart Cambodia-focused report shows how microfinance loans are leading to an over-indebtedness emergency that undermines borrowers' long-term coping and adaptive capacity in a changing climate. Together, the two reports offer new and compelling data on the multiple ways in which people's aspirations for good health and transformative climate adaptation are trapped by debt.

Citation information

Iskander, D., and Picchioni, F. Long, L.V., Parsons, L., Guermond, V., Michiels, S., Brickell, K., Zanello, G., Natarajan, N. (2022) *Trapped in the Service of Debt: How the Burdens of Repayment are Fuelling the Health Poverty Trap in Rural Cambodia*. Royal Holloway, University of London.

Photography

Sopheak Chann, Sophal Neak, Thomas Cristofolletti and participants.

Report design

Bison Bison www.bisonbison.co.uk.

Note

This report, its findings and recommendations, are based on the research and analyses of the authors only. It does not reflect the views of photographers and artists who participated in the study.



Contents

Part 1	Executive summary	4
	Summary recommendations	9
Part 2	Introduction	10
	Research methods	14
	Sustained health insecurity	17
	Sustained food insecurity	25
	Sacrifices made to repay debt	36
	Embodied suffering	43
Part 3	Conclusion	52
	Recommendations	53
Part 4	Acknowledgements	54
	About the authors	55
	References	57
	Endnotes	59



Executive summary

Over-indebtedness is fuelling, not alleviating, the health poverty trap in Cambodia. It is associated with increased short-term health sacrifices made to repay debt, and physical, mental, and social suffering that is endured in the longer term.

Executive summary

For rural Cambodians to be able to escape the health poverty trap, acknowledgement is needed that the household debt crisis in Cambodia is a public health crisis.

The Cambodian government has committed to ensuring 'Health for All' and is undergoing a range of reforms to align with this goal (Asante et al., 2019). However, a number of challenges remain among rural groups which make up the majority of the country's population. Despite sharp declines in recent years, the poverty rate in Cambodia is highest in rural areas where people rely largely on subsistence agriculture for their household income (World Bank, 2020). The COVID-19 pandemic has severely exacerbated impoverishment, especially among the poor (World Bank, 2022). Although Cambodia's health sector developments over the past two decades have benefited many, the gains are less felt in rural, poor areas (Jacobs, de Groot, & Fernandes Antunes, 2016), exacerbating inequality and trapping vulnerable people in deeper poverty (Fernandes Antunes et al., 2018). As well as ill-health, poverty in Cambodia is also closely associated with a lack of food security and nutrition (Monthivuth, 2011). Again, although economic gains over the last two decades have been accompanied by a substantial decline in the food deficit and the number classified as undernourished (USAID, 2021), these improvements obscure the fact that severe disparities in food security remain and are encountered at regional and particularly rural household levels (Monthivuth, 2011).

Cambodia is also one of the world's most vulnerable countries to climate change with unpredictable rainfall, floods, and droughts undermining the viability of smallholder livelihoods and severely threatening both health and food security. Rarely however are poverty, health, food and climate change treated together in policy directed at achieving 'Health for All'. This report aims to show the significance of these complex interactions and the need for policy interventions to be designed in response to them.

'Health for All' cannot also be achieved without considering the significance and impacts of debts – most commonly microfinance ones – taken on by rural households to cope with poverty, the costs of healthcare, food, and small-scale efforts to adapt to climate change.¹

Microfinance has been put forward as one potential way of tackling social determinants of ill-health (McHugh, Biosca, & Donaldson, 2017: 209). This is significant in a country like Cambodia where levels of microfinance borrowing outstrips GDP per capita by double². However, the proposition that microfinance can be used to tackle ill-health lacks a conceptual base and the pathways to impact are difficult to measure (McHugh et al., 2017). In Cambodia different sources of credit – including from microfinance institutions – are used by the rural poor to deal with already fragile health and food security systems. Resultant over-indebtedness is, however, fuelling not alleviating, the health poverty trap in Cambodia. Over-indebtedness is associated with increased short-term health sacrifices made to repay debt, and physical, mental, and social suffering that is endured in the longer term.

Based on an original and extensive mixed-method data set, this report evidences these findings among rural, poor Cambodians in three case study villages. It shows how they are increasingly vulnerable, caught in an inescapable health poverty trap that is part characterised by health and food insecurity. Health insecurity is felt through high levels of major illness, high levels of out-of-pocket expenses (OOPE)³ incurred largely through the use of private sector healthcare, and reports that climatic factors (such as increased heat) are contributing to ill-health. Climate change is also worsening the effects of an unstable and insecure food and nutritional landscapes as the rural, poor are experiencing reduced stability in availability, access and use/utilisation of sufficient, safe, and nutritious grown, foraged and bought foods.

Together, these factors are contributing to low productive capacity and income deprivation in a negative feedback loop. As a result of being trapped in health poverty, many are taking on unprecedented levels of debt to handle the costs of everyday life, leading to conditions of over-indebtedness. Rather than alleviate health and food insecurity, in the long-term, over-indebtedness is increasing health precarity, with many rural households having fewer reserves to draw on and reduced resilience in the face of shocks such as COVID-19. Crucially, over-indebtedness is worsening physical, mental and social pain in the long-term. As a result, health inequality is becoming embodied as negative social experiences are becoming incorporated biologically and expressed in population patterns of ill-health and well-being, compounding marginalisation.

For rural Cambodians to be able to escape this health poverty trap, acknowledgement is needed that the household debt crisis in Cambodia is a public health crisis. Action to lessen the burden of debt should also be a direct intervention for achieving 'Health for All'. To prevent health inequities from widening and to guarantee long-term sustainable reforms, there is an urgent need for governments, international donors and humanitarian agencies alike to adopt a 'Health in All Policies (HiAP)' approach and initiate inter-and multi-sectoral reforms to healthcare and social protection, food and nutrition landscapes, climate policy and the financial sector so as to mitigate the burden put on individuals and households to sustain health through debt.

Over-indebtedness is increasing health precarity, with many rural households having fewer reserves to draw on and reduced resilience in the face of shocks such as COVID-19. Crucially, over-indebtedness is worsening physical, mental and social pain in the long-term.

Based on an original and extensive mixed-method data set, this report shows how rural poor Cambodians are caught in an inescapable health poverty trap, partly characterised by health and food insecurity.



Summary findings

Rural, poor Cambodians are excluded from health and nutrition security which is being exacerbated by climate change. They are left vulnerable and caught in a health poverty trap on account of:

1

Health insecurity

Sustained health insecurity characterised by high levels of major illness, high levels of out-of-pocket expenses (OOPE), and reported ill-health arising from climatic factors (e.g. rising temperatures).

2

Food insecurity

Sustained food insecurity characterised by reduced stability in availability, access and use/utilisation of sufficient, safe, and nutritious grown, foraged and bought foods, all made worse by climatic factors.

3

Sacrifices

Individuals and households report needing to take on more debt to deal with situations of over-indebtedness. This leads to short-term sacrifices in order to repay debt, which undermine health, including: reduced quantity, quality and/or diversity of food, foregoing treatment for illness and payment for basic amenities (e.g. electricity, solar power, gas or fresh water supplies).

4

Inescapable debt

An inescapable cycle of servicing debt repayments, directly resulting in physical, psychological and social pain⁴ that is undermining health and the quality of people's lives in the long-term.

Summary recommendations

1

Acknowledging a public health crisis

Cambodia's debt crisis needs to be acknowledged and addressed as a public health crisis. Debt plays a significant role in fuelling different facets of the health poverty trap and yet remains absent in key policies (e.g., Social Protection Policy Framework 2016-2025; Second National Strategy for Food Security and Nutrition 2019-23; Cambodia Climate Change Strategic Plan 2014-23). Debt forgiveness and supporting community-based institutions (Guermond et al., 2022) should be considered as a direct intervention for achieving 'Health for All'.

2

Structural reforms

Initiate structural reforms across multiple policy areas that directly improve financial, health, food and climate insecurity and mitigate the need for rural, poor individuals and households to sustain their health through debt, enabling them to escape the health poverty trap.

3

Health in All Policies

Adopt a 'Health in All Policies (HiAP)'⁵ approach that systematically takes into account the health and health systems implications of different decisions and avoids harm in the design of inter – and multi-sectoral approaches to tackle the social determinants of health across multiple policy areas in tandem.

4

Health for All

International donors and humanitarian agencies should champion and fund 'Health in All Policies (HiAP)' as a route to achieving 'Health for All' through inter – and multi-sectoral approaches to ensure accessible and sustainable public provision of care for the rural poor in Cambodia.



Introduction

Ill-health conditions and related health and social costs trap individuals and households into low productive capacity and income deprivation in a negative feedback loop, otherwise known as the health poverty trap.

Introduction

The health poverty trap and debt

Since 2016, Cambodia has been classed as a lower-middle income country (Ly, 2016) with a population of 16.94 million and a gross domestic product (GDP) per capita of US\$1334 in 2021. Poverty has declined sharply in recent years but the World Bank (2021) estimates that among the formerly poor, 4.5 million people are still living on the margins at risk of falling into poverty in the event of shock or crisis. The Royal Government of Cambodia has now established the reduction of poverty, vulnerability, and inequality as explicit policy goals in its National Social Protection Policy Framework (NSPPF) 2016–2025 (RGC, 2017) to deal with the fact that there are large segments of the population that presently have no social health protection mechanism in the face of such poverty.

This study evidences how many rural Cambodians remain vulnerable, exposed to combined economic, societal, institutional, personal and biological risks (Kolesar et al., 2020). The research participants are among the 76% of the population who live in rural areas and largely rely on subsistence agriculture for their household income (World Bank, 2020). It is well documented that among this population, the poverty rate is highest at nearly 23% with the COVID-19 pandemic only exacerbating income loss, unemployment and inequality, likely leading to further impoverishment among this group (World Bank, 2022). Ill-health is the single most widespread hazard affecting poor households and health shocks have been identified as a key driver of downward mobility due to the lost labour of individuals and their carers, altering household dependency ratios, and the costs of seeking treatment (Bird, 2013). Ill-health conditions and related health and social costs trap individuals and households into low productive capacity and income deprivation in a negative feedback loop, otherwise known as the health poverty trap (Nyakato & Pelupessy, 2008).

**"We don't use the money on useless things.
We borrow money to handle our problems."**

Boupha, Village B

In this report, the health poverty trap is characterised by both health and food insecurity. Health insecurity among research participants is typified by high levels of major illness, exacerbated by heavy rain and increased heat, and associated high levels of out-of-pocket expenses (OOPE), predominantly incurred through private providers of treatment and care. In addition, many participants are food insecure, characterised by reduced stability in the availability, access and use/utilisation of sufficient, safe, and nutritious grown, foraged and bought foods, all made worse by climatic factors. Combined health and food insecurity in this context is reducing people's ability to work and earn an income. Trapped in this cycle of ill-health, nutritional and economic poverty, many are turning to distress financing to cover basic health and nutritional costs (Ir et al., 2019). Distress financing is the phenomenon of individuals and households using savings, borrowing money (both with interest or without) or selling household assets to meet everyday costs (Joe, 2014). Data from this study concurs with others that show how rural, poor households are more likely to resort to distress financing in Cambodia (Ir et al., 2019). This report provides better understanding of how and why rural, poor Cambodians are turning to distress financing, and particularly microfinance borrowing, to deal with everyday problems related to ill-health.

Speculative evidence suggests microfinance has the potential to be a 'non-obvious' public health intervention that helps alleviate the upstream 'complex, interactive processes and systems that lead to ill-health' (McHugh et al., 2017: 209). However, the proposition lacks a conceptual base and the pathways to impact are difficult to measure (*ibid.*). Conversely, there is a growing evidence base suggesting that once people take on debt of any kind, while short-term relief may be obtained, longer-term over-indebtedness can exacerbate their overall exclusion from health (Ir et al., 2019). Over-indebtedness is the situation in which repayment, and costs associated with it, inflict an unduly high and ongoing set of sacrifices to meet loan obligations (Schicks, 2013). This presents a 'catch-22'⁶ situation – debt both alleviates, and exacerbates, ill-health in direct and indirect ways over different temporal horizons. The research data shows in the short-term how compromises are being made to people's health to repay debt. These include reduced quantity, quality and/or diversity of food, foregoing treatment for illness and payment for basic amenities (such as electricity, solar power, gas or fresh water supplies). With very few financial reserves to draw on, their resilience is depleted particularly in the face of shocks ranging from one-off injuries to the economic impacts of the Covid-19 pandemic. As a result, many are plunged into dire situations very quickly. Living in this inescapable cycle of servicing debt repayments is directly associated with physical, psychological and social pain in the form of exhaustion, stress and isolation. Over the long-term, social experiences become embodied and manifest as ill-health, fuelling the trap of health poverty still further.

"Over-indebtedness is a situation in which the repayment, and costs associated with it inflict an unduly high and ongoing set of sacrifices to meet loan obligations."

Schicks, 2013

The remainder of this report tells the stories of four participants, Kunthea, Waan, Amar and Champey. Their experiences exemplify the main facets of the health poverty trap: sustained health insecurity; sustained food insecurity; short-term sacrifices; and long-term embodied suffering. We demonstrate how each is exacerbated, not alleviated, by the over-indebtedness that the rural poor are living with in order meet their basic needs. The debt-fuelled health poverty trap, constituting a cycle of ill-health, low productive capacity, and income deprivation, is posing a significant threat to people's health and wellbeing. The research report points to the pressing need to acknowledge that the debt crisis in Cambodia is a public health crisis and take urgent steps to reduce the burden of debt as a direct intervention for ensuring 'Health for All'.



The research report points to the pressing need to acknowledge that the debt crisis in Cambodia is a public health crisis and take urgent steps to reduce the burden of debt as a direct intervention for ensuring 'Health for All'.

Research methods

This report draws from field research carried out in three villages in the provinces of Prey Veng, Kampong Cham, and Battambang.



Research methods

This report draws from field research carried out in three villages in the provinces of Prey Veng, Kampong Cham, and Battambang primarily between October 2020 and February 2022. To ensure anonymity for respondents, each village is referred to as Village A, B and C (see the counterpart Cambodia report, Guermond et al. (2022), for further information about the villages).

Quantitative Household Survey (October – November 2020)

621 quantitative household surveys complemented by 1220 individual questionnaires were carried out in 3 villages with differentiated vulnerabilities to droughts and floods, and distinctive reliance upon rice-based agriculture. Surveys examined demography, household occupations, migratory histories, household assets, and liabilities, saving, borrowing, and lending practices, as well as experiences of and capacity to adapt to the impacts of climate change. In each of these three villages, enumerators attempted to deliver the survey to every villager over the age of 18. However, due to a combination of migration patterns, agricultural schedules, and refusals, the final figure was lower than the total estimated population.

Nutrition, time-use and physical activity study (January – February 2021)

30 purposefully sampled households (60 participants, mostly 30 husband-wife couples) took part in the data collection for seven consecutive days, during which they (1) wore an accelerometry⁷ device to capture energy expenditure; and (2) took part in daily 24h recall time-use and food intake surveys. A stratified sample of households was first drawn from the quantitative household survey, representing different levels of indebtedness. Ten households per village were randomly selected across the five indebtedness strata.

Qualitative interviews with villagers (March – May 2021)

Semi-structured interviews were carried out in the three villages with the same 30 households that took part to the nutrition, time-use and physical activity study (60 participants overall). For each household, two members were interviewed, often but not always comprised of the two spouses. A stratified sample of households was first drawn from the quantitative household survey, representing different levels of indebtedness. Four households in each of the five indebtedness strata were then purposively sampled based upon survey data on land ownership, sources of debt, as well as migration trajectories. Interviews with participants explored the links between debt, nutrition, physical and emotional health, and climate and environmental change and disasters. All participants' names in the report are pseudonyms.

Photo elicitation (March – May 2021)

Researchers provided cameras to 15 households (30 participants, i.e., half of the qualitative interview participants) for one week, asking them to photograph key elements of their daily livelihoods, relating to food and financial challenges in particular. After one week, two members of the research team returned to the research sites with a colour printer, collected memory cards from informants' cameras, and printed two copies of the images they had captured during the previous week. These images were then numbered, with one set returned to each participant and one identical set provided to the enumeration team. Using these identically numbered images, the research team then conducted interviews with informants by telephone, in which images and the rationale for taking them were discussed. All participants' names in the report are pseudonyms.

Local stakeholder interviews (December 2021 – February 2022)

39 interviews were conducted in the three villages with local authorities, microfinance institutions, informal credit providers, health professionals, religious figures, and local NGOs. Interviews discussed broad socio-economic changes in the villages, the impacts of climate and environmental change on the villagers, the role of formal and informal credit, and the various challenges that villagers face regarding debt repayment. For participants who did not wish to be identified, names and organisations are anonymised.

National stakeholder interviews (January – February 2022)

22 interviews were conducted in Phnom Penh with government ministries, central and regional development banks, microfinance institutions, academics, and international financial and development institutions. Interviews explored the links between microfinance and climate change adaptation, the impacts of COVID-19 on the microfinance sector, the emergence of digital financial inclusion as well as issues around over-indebtedness and land sales. For participants who did not wish to be identified, names and organisations are anonymised.

Environmental profiling of the study villages (January 2018 – December 2021)

Semi-structured interviews with villagers and local stakeholders were undertaken in addition to primary and secondary GIS data collection, secondary environmental, climate, and agricultural data collection, as well as landscape observation and documentary photography, allowing the analysis of annual and seasonal socio-ecological changes in all three villages. These included changes in rainfall patterns and intensity, temperatures, agricultural practices, land use, water usage, and irrigation systems at the provincial and sub-provincial levels.



Sustained health insecurity

Inequality and unfairness remains in the structure of health care payments and private healthcare facilities remain the most-available and -used option. Many rural poor incur significant health care costs and economic hardship from out-of-pocket expenses as a result.



Sustained health insecurity

Comprehensive public health reforms in Cambodia started in 1996 and by 2018, total health expenditure represented about 6% of Cambodia's GDP (Asante et al., 2019). Progress has been made in improving some health outcomes but in rural areas, health remains an important challenge with widening gaps between the health status of urban and rural populations. In fact, inequality and unfairness remains in the structure of health care payments and private healthcare facilities remain the most-available and – used option. Many rural poor incur significant health care costs and economic hardship from out-of-pocket expenses as a result.

This part of the report evidences the high levels of major illness among the rural poor, exacerbated by the effects of climate change which are reported to be affecting villagers' health. It demonstrates how many people, often within the same household, are suffering from a range of illnesses that are seriously damaging household livelihood strategies and increasing their risk of impoverishment. Given their exclusion from health in a context of inadequate public healthcare provision and financing, many fund their healthcare costs through distress financing. This, in turn, compounds the problem of sustained health insecurity given the burdens of repayment then faced: 'If we were not so poor, I would not let my illness become so serious. Maybe it was treatable a long time ago if I had money to pay the treatment fee.' (Da, Village B)

Health Insecurity includes the inability to secure adequate healthcare today and the risk of being unable to do so in the future as well as impoverishing healthcare expenditure.

Gama, 2015

Kunthea's story

'I thought that I would die, but I am lucky enough to be alive. I have spent a lot of money on my treatment – that's why I took a loan of 2-3 thousand [US] Dollars from the bank. I went to a hospital in Vietnam every other year and a hospital in Cambodia, but later on, when I could not repay the loan anymore, I just stopped my treatment. I cannot afford the big hospital. Now, once a week, I go to the local hospital but if I am not better, I just buy local medicines plus food supplements...

One of my children is always getting sick too with abdominal pain, so I have to go to the city to take care of her. My other daughter was also sick recently and I spent a lot of money caring for her. The main problem we face is how to pay the loan fee. I really didn't want to borrow the money, but we are really poor...

The weather has also changed now so it is hard for us to make a living – we cannot find any food and when we try to grow rice or vegetables, they die because of the heat. It is really hard to adapt to the weather when it's too hot because I'm not healthy. My family is facing many problems, I have many illnesses so all the money that I get from my daughter, I use to buy some medicine, to fertilize the rice, and to pay for the loan fee...

Since I have the debt, I cannot afford a good meal to satisfy my hunger! We cannot have healthy food to eat so our health becomes worse from day to day. All the money that we have is for the loan fee! It's so awful! I don't know what to tell you! I feel sick everyday and I don't have a solution. Every time when the loan fee date is coming, I am so worried. I cannot fall asleep; I cannot eat anything. It makes me exhausted and lose energy. I might need to borrow some more money from my neighbour just to pay the loan fee! Look at me, I am also sick, and I have to be responsible for the loan, so I think a lot.' (Kunthea, Village A)

Kunthea is a farmer living in Village A with her husband and two of her three daughters. She has been suffering from chronic vascular disease for the last four years and, as well as her own ill-health, contends with illnesses amongst other household members. Kunthea's eldest daughter works in a garment factory in Phnom Penh and sends money back to the family to help pay for everyday living costs, largely health expenses. However, since the pandemic, Kunthea's daughter has been unable to work due to factory closures. Research with garment workers across the pandemic has revealed the hardships they face, including the struggles to maintain remittances back to their rural households and their own deepening debts (Brickell et al., 2022). As a result of her daughter losing her job, Kunthea's family has needed to withdraw one of their other daughters from school to help try and find work to support the family. As with many of the research participants, the combination of ill-health, high out-of-pocket health costs, and the stresses of a worsening climate sustain Kunthea's health insecurity and means that high levels of debt are taken out to cope. As a result, the burden of debt is one the biggest obstacles Kunthea and others like her face in securing their health.

'I went to a hospital in Vietnam every other year and a hospital in Cambodia, but later on, when I could not repay the loan anymore, I just stopped my treatment.'

Kunthea, Village A

High levels of major illness are threatening livelihoods and increasing risk of poverty

Like Kunthea, sickness in the family is the highest-ranking stress that participants (26% of them) are dealing with. 91.5% of respondents who took part in the nutrition and photo-elicitation methods said they had faced health problems within the past two months. Table 1 illustrates the kinds of health problems respondents had experienced or were currently experiencing with cold/flu, long-term knee pain, back pain, arthritis, and heart and blood pressure problems being most common.

Both quantitative and qualitative data reveal how participants are suffering from a range of one-off acute episodes of cold/flu, stomach ache, headache, fever and minor injury to more serious and long-term afflictions needing surgery such as appendectomies, gall stone surgery and pregnancy/birth-related procedures, or longer-term treatment for chronic conditions such as pain, hypertension, kidney disease, cancer, and mental health issues. While the majority of illnesses participants suffer from are non-communicable or as a result of accident and injury, some participants are also suffering from communicable diseases such as AIDS, meningitis, tuberculosis, dengue fever, typhoid, diarrhoea and flu.

As Ir et al. (2010) explain, many 'minor' illnesses and injuries are relatively mild and can be easily cured with little cost while 'major illnesses are defined as those that seriously damage the household's livelihood strategies with increased risk of impoverishment' (*ibid.*: 8-9). All major illnesses last a long time, cost a lot to treat, do not necessarily respond to treatment and create associated anxiety, stress, and mental health issues.

In line with similar studies (e.g., Ir et al., 2010) that have found that every year a considerable proportion of the rural population in Cambodia, especially the poor and vulnerable, are affected by major illnesses, data in this report shows how the majority of participants are currently or had recently been at risk of impoverishment due to major illness that they, someone in their household, or both, were suffering from. 19% of those that report having been sick in the last twelve months, had been so for at least three consecutive months. 28% report that they have been absent from usual activities including work for between 1 and 120 days due to their illness, leading to further hardship, stress, anxiety, and overall ill-health.

Health issues faced within past 2 months	Men	Women	Total
Dental	2	2	4
Diarrhoea	4	7	11
Ear/throat/nose (ENT)	2	5	7
Cold/flu	15	20	35
Injury	1	0	1
Ophthalmic	1	0	1
Skin disease	4	3	7
Tuberculosis	1	0	1
Other	4	8	12
Total	34	45	79

Current health issues

Heart or blood pressure problems	4	8	12
Long-term knee pain	13	10	23
Caesarean	0	1	1
Arthritis	10	11	21
Back pain	0	8	8
Total	27	38	65

Table 1: Health problems reported by men and women in past two months and currently (data collected between January and February 2021).

Exposure to the effects of climate change is exacerbating exclusion from health

As Kunthea suggests, the research data reveals how changes to the climate, in the last five to ten years in particular, is further compounding people's exclusion from health. People describe changes in weather as the increased 'irregular' or 'upside-down' nature of the climate and for many, this is directly making them sicker. The elderly, children and those with existing health conditions are especially vulnerable to the negative effects of an unpredictable climate. This view is corroborated in an interview with a Senior Health Specialist at the World Bank, Cambodia:

'The unusually heavy rain in recent years is creating a lot of mosquitoes and dengue fever which used to only be in the children but is now being reported in the adult population as well.'⁸ (Health Specialist, World Bank, Cambodia)

Rising temperatures are also a major concern. As noted by the World Health Organization (2018), rising ambient temperature is a significant risk to health as heat gain in the human body 'due to exposure to hotter than average conditions compromises the body's ability to regulate temperature and can result in a cascade of illnesses, including heat cramps, heat exhaustion, heatstroke, and hyperthermia'. Infants and children, the elderly, pregnant women, outdoor and manual workers and the poor are especially vulnerable to physiological stress, exacerbated illness, and an increased risk of death from exposure to excess heat.

A number of study participants report that increased heat or what they describe as 'sizzling', 'boiling', 'blazing' and 'airless' conditions are leading to increased incidences of acute, minor, physical conditions such as fatigue, headache, fever, faintness, dizziness, dehydration, loss of appetite and insomnia. The World Bank Health Specialist too, confirms that 'particularly for people in the rural areas during the dry season, diarrhoea

cases are increasing due to [inadequate] water and sanitation.⁹ As well as acute afflictions, for others, increased heat is also exacerbating the effects of ongoing major illnesses. In addition to physical ill-health, many report the increased stress and anxiety that rising heat creates, especially as a result of threats to livelihoods and the increase in the use of toxic chemicals. This usage affects both physical and mental health as Vibol, a farmer from Village A states:

'I think it's changed so much because it's hot and very humid. It has made me sick. I am really worried about it but I am afraid to talk. It was like this before but now it's very clear. We lost lots of agriculture and many are using chemicals and it's having very bad effects on our health.' (Vibol, Village A)

High out-of-pocket expenses (OOPE) are fuelling health insecurity

The study reveals how the vast majority (88%) of respondents surveyed who were sick in the last year sought medical assistance or consultation from private providers. Private pharmacies are by far the most common source of treatment but participants make use of a range of treatment options including private Registered Medical practitioners (RMPs) and traditional healers, private clinics and government primary health care centres. When care in Cambodia is too expensive, insufficient or has failed, some even travel for private treatment in countries such as Vietnam, like Kunthea did.

Health equity funds (HEF) emerged in Cambodia in 2000 as a strategic purchasing mechanism used to fund exemptions and reduce the burden of health-care costs for people on very low incomes by providing free healthcare for the rural poor (Bigdeli & Annear, 2009). Although some participants are recipients of different forms of health coverage, some report how 'inequality in the system of registration for IDPoor cards' means they do not receive support when they need it.¹⁰ Even among those in receipt of assistance, nearly all spoke of incurring out-of-pocket expenses (OOPE) for their treatment. In fact, on both an individual and household level, the main expense over US\$250 over the past 10 years is health costs with 12.1% of individuals and 21.6% of households reporting spending an average of US\$1,076 and US\$1,124 respectively on health over the same time period.¹¹ This is consistent with recent national data that suggests in Cambodia, OOPE constitute 60% of total health expenditure, implying a high risk for healthcare-related hardship (Kolesar et al., 2020). As a result, many participants report how the high burden of OOPE means making sacrifices to everyday life such as 'saving one portion of income to have a small amount of money to buy medicine or pay for treatment'; 'spending economically to have money for hospital fees'; or 'cutting down on buying more food to pay for medicines.'

Like Kunthea, the data reveals that nearly all participants in the study report that they and/or their household members meet OOPE through distress financing – i.e., drawing on their savings, selling assets or borrowing. The household survey reveals that borrowing for health costs takes the form of both informal, interest-free loans and formal, interest-bearing loans. Participants who use loans for health costs obtain them from informal lenders such as relatives and friends (20%), wealthy individuals (18%) and employers (8%) and formal lenders such as licensed money lenders (20%), Microfinance institutions (16%) and banks (10%). Participants report often struggling to maintain treatment even after drawing on multiple sources of distress financing to fund OOPE as Vimean explains:

'I was sad because my grandchild got sick. She has a problem with her lungs. I am stopping her from taking medications right now because I do not have money. When I have money, I bought medicine for her but when I have no money, I cannot not buy it. Now her waist is swollen, and I asked the Khmer [practitioner] to use Khmer herb for her every day. I offered him a cigarette and a banana. Medications cost more. Before, her mother went to Thailand, she sent me some money 100.000 – 200.000 Riels [US\$25 – 50], and I owed the pharmacist and paid them back when I got money. It is very difficult. It has affected my health and I have headaches.'

(Vimean, Village A)



Summary

The Cambodian government has committed to universal health coverage (UHC) and is reforming the health financing system to align with its goal of achieving 'Health for All' (Asante et al., 2019). This is namely through the Social Protection Policy Framework 2016 – 2025. However, recent evidence suggests that although health financing in Cambodia appears to benefit the poor more than the rich overall, a significant proportion of spending remains in the private sector which is largely pro-rich (*ibid.*). In this context, two-thirds of total health expenditure consists of patients' out-of-pocket spending at the time of care, mainly for self-medication and private services (Bigdeli & Annear, 2009).

This research suggests too that rural, poor Cambodians are suffering from a range of major illnesses that are caused or made worse by the effects of climate change. By and large, villagers are making use of private providers for healthcare and incurring significant OOPE as a result. This confirms that although Cambodia's health sector developments have benefited many people, the gains are less felt in rural poor areas (Jacobs et al., 2016), exacerbating inequality and healthcare-related financial hardship, trapping vulnerable people into poverty (Fernandes Antunes et al., 2018).

What remains missing from the Social Protection Policy Framework 2016 – 2025 and related health and social care policy is acknowledgment that as a result of inadequate public-healthcare provision and financing, many remain in a situation of sustained health insecurity, relying on debt to support their health costs. It is this health-related debt which is in turn fuelling the health poverty trap even further.

'The healthcare system the Government has designed is not really able to respond to the alarming rise of health issues.'

Health Specialist, World Bank, Cambodia¹²





Sustained food insecurity

Severe disparities in food security remain predominant at regional and particularly rural household levels. 45% of Cambodians live in moderate or severe food insecurity and an estimated 14.2% of the population face severe food insecurity.

Sustained food insecurity

Poverty in Cambodia is closely associated with lack of food security and nutrition (Monthivuth, 2011). Cambodia's economic gains over the last two decades have certainly been accompanied by a substantial decline in the food deficit and in the proportion of the population that the Food and Agriculture Organization (FAO) classify as undernourished (USAID, 2021). However, this obscures the fact that severe disparities in food security remain predominant at regional and particularly rural household levels (Monthivuth, 2011). 45% of Cambodians live in moderate or severe food insecurity and an estimated 14.2% of the population face severe food insecurity (FAO 2020).

This part of the report evidences the high levels of food insecurity among the rural poor. We show how many people, especially from non-farming households are at risk of not achieving active and healthy lives through food and nutrition, especially in the context of the COVID-19 pandemic. Deficient food and nutrition landscapes mean rural Cambodians are forced to mitigate the effects of their threatened livelihoods and poor food and nutrition by adopting a range of strategies. These include eating less and covering food costs by taking on more debt, which in turn exacerbates food insecurity even further.

'Food security, means that all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their food preferences and dietary needs for an active and healthy life.'

FAO, 2002



**'It feels difficult seeing this picture.
The food is not enough for my family.'**

Montha, Village B

Waan's story

'I just wish that there were more customers to buy my vegetables. I can pick vegetables from morning until evening. I am not a lazy person. I want to earn more money to handle my family issues, to buy food and repay the bank loan...

If there is some work for me to earn more money, I will do it even though I have a head injury and am physically exhausted. I have just come back from finding tamarind fruits to sell. I did not have any lunch before I went, just a bottle of water with me. I did not have any energy but I struggled through it because I saw my grandchildren had nothing to eat so I had to go out and find something for them. I could not find any tamarind because it was so hot so I got green vegetables instead. They do not sell for much, far cheaper than the past...

In the past, even though it was difficult, I never had this kind of poor food for my children. Now, I do not have anything to feed my children. This morning, I went to hospital and came home and I was crying because I did not make any money and I could not feed my sick son. My niece brought me a cake and some fish and then my tension released a little. I did not have any [of this food], I just persuaded my children to have some and told them to eat to be full this time and then we can think about how to get the next meal. Even though the food was not enough, we had to say it was enough...

I am trying hard every day for food and the debt. When I receive money from the ID Poor card, I go to repay the debt first. Normally, I buy food on credit each month. When I went to pay my food debt to the shop, they hesitated to take the money at first but I just pushed them to take it. They wanted me to keep the money for food or medicine because they saw I was getting thinner...

My children try their best to help me. They strive to find new jobs but the factories aren't recruiting new workers due to the COVID outbreak. My daughter who works in a factory in Phnom Penh always cries whenever she calls me. I tell her not to think too much. Although we are in debt, we have to survive. We can beg them to delay paying back the debt. I always motivate her and advise her because if her health is in critical situation, our family will collapse severely. Talking about this, my tears are falling down. I have to fight. I have to strive to earn money as my family totally depends on me.' (Waan, Village B)

'In the past, even though it was difficult, I never had this kind of poor food for my children. Now, I do not have anything to feed my children.'

Waan, Village B

Waan is a widow living in Village B with seven other family members. Following the death of her husband the main breadwinner became her son. However he then suffered from meningitis and is now unable to work. As a result, Waan and one of her daughters are the only members of her family earning an income. Although she works to sell foraged vegetables, receives a military widow's pension, and has an IDPoor card, her income is not enough to sustain her food security. Waan's situation exemplifies the difficulties with food security that many are facing, especially non-farming households like hers. As for many of our participants, reduced stability in availability and access and use/utilisation exacerbated by the effects of climate change is threatening livelihoods and food security. To cope with deficient nutritional landscapes, people are forced to adopt a range of strategies including taking on more debt. As a result, the burdens of debt are one of the biggest problems Waan and others like her face in achieving food security.

Reduced food stability, exacerbated by climate change, is threatening food security

Like Waan, most in the research study faced food insecurity, especially as a result of Covid-19. The mean (s.d.) Household Food Insecurity Score (HFIAS)¹³ among 1,150 respondents interviewed between October-December 2020, was 4.6 (4.9) with 33.4% of households considered food secure, while the rest were classified as mildly (30%), moderately (19%) and severely food insecure (18%). Food insecurity (mild, moderate and severe) was higher especially among non-farming households. 71% of non-farming households were classified food insecure, compared to 60% of farming households and 63% of households engaging in both farming and non-farming activities.

The data suggests that the biggest threat to achieving food security is the reduced availability and access to grown, foraged, and bought foods. The majority (66%) of the households interviewed had worried that they did not have enough food to eat at least once in the last month, reporting that food is 'not enough', 'lacking', 'in shortage', or 'not exactly enough'. The frequency of not having enough to eat ranges from 'once in a while' to 'every day' with many having to reduce the number of dishes they have with rice at each meal.

For many participants, this is predominantly due to the inability to produce enough rice through cultivation to meet not only their nutritional but also financial needs through sale. As described extensively in the counter-part Cambodia focused report (Guermond et al., 2022), threats to availability and access related to rice cultivation are being exacerbated by the impacts of climate change, as, consistent with other literature, increased temperatures and fluctuations in rainfall significantly affect production yields (Chhinh & Millington, 2015; Sok, Borges, Schmidt, & Ajzen, 2021). Some farming households keep chickens or ducks for consumption which they can rely on when times are particularly hard. However, animal husbandry is also highly susceptible to the effects of 'hot and cold weather irregularity', especially with regard to infectious diseases. Most households grow a range of fruits and vegetables to supplement diets and reduce household expenditure on purchased food. This however is increasingly a challenge due to climatic and agro-ecological factors as Kanya explains:



'I took the photo of a yard-long bean. I grow it so I don't have to buy it from the market. I don't grow it in the dry season because we don't have enough water. The land is so hot. It doesn't grow well and we can't get good production.'

Kanya, Village A

Many villagers also experience problems with pests (insects, worms, snails) which makes growing enough produce for own consumption or sale difficult (see Guermond et al., 2022 for more information). Issues with availability and access of food also extend to an inability to gather enough foraged food which is especially significant for non-farming households like Waan's. Many rely on augmenting their diets through animal-source proteins such as fish, snails, frogs, birds and insects as well as gathering seasonal fruits and vegetables. A mix of climatic factors, land-use changes, lack of demand and reduced sale prices, especially during the pandemic means foraged food is also insufficient in meeting people's dietary and financial needs. As a result, many like Waan, resort to borrowing money for food.

As suggested above, COVID-19 has played a central role in deepening various aspects of food insecurity (Brickell et al., 2020; ReFashion, 2021). Figure 1. Illustrates the change in households responding to questions about food insecurity questions before and after the start of the pandemic in 2020.

Change in food insecurity before and after the pandemic

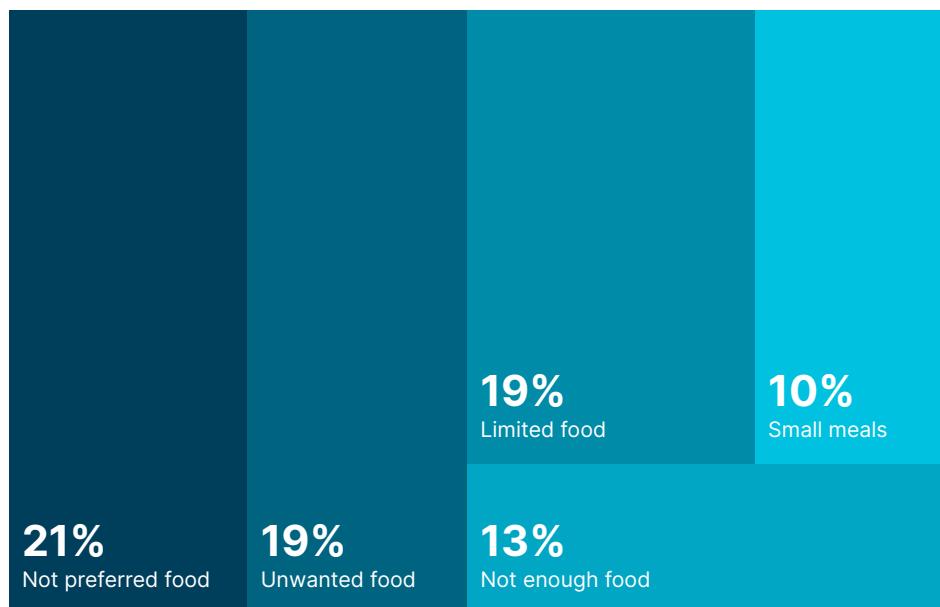


Figure 1: Percentage change of households responding positively to food insecurity questions before and after the pandemic. Data collected in October – November 2020.

In particular, the percentage of households that report not being able to eat their preferred foods increased by 21% since the beginning of the pandemic. Similar figures were observed in the increase of households consuming unwanted foods and limited foods (which both increased by 19%). The pandemic means choice is limited – less options were available at the time of the research either because fewer sellers or vendors operated or because people are avoided foraging or buying food from public places where they felt at higher risk of contracting COVID-19.

As Figure 2. illustrates, while the pandemic has exacerbated food insecurity for all types of households, non-farming ones like Waan's were the most affected by food insecurity compared to others (farming and mixed-activity households).

Change in food insecurity before and after the pandemic

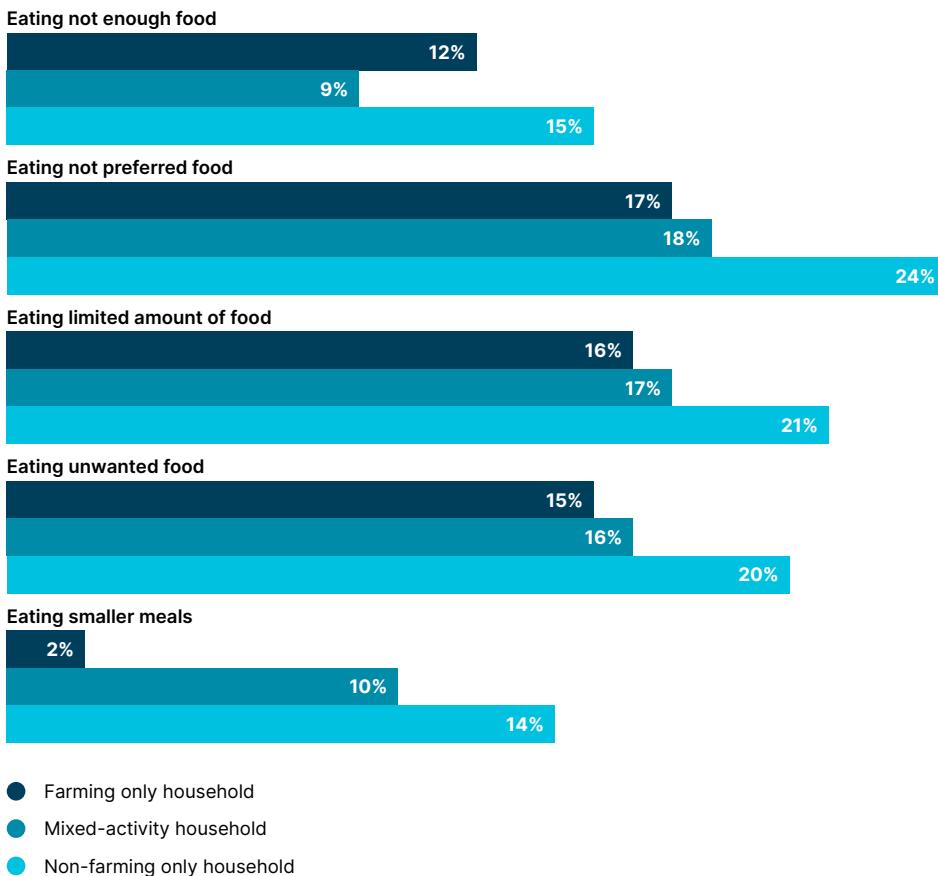


Figure 2: Percentage change of households responding positively to food insecurity questions before and after the pandemic, by level of household's engagement in agriculture. Data collected in October-November 2020.

In the face of difficulties procuring fresh foods, it is no surprise that many participants rely on processed and ultra-processed foods to augment their diets. For example, approximately 17% of the calorie intake of participants the research collected nutritional data on (30 pairs living in the same household across the three study areas) derives from processed (12%) and ultra-processed foods (5%). Significantly, adults report relatively low overall energy intakes in relation to their energy expenditure with a significant amount of their calorific intake coming from snacks and sweets. Figure 3. shows the calorie adequacy ratio (CAR), which calculates the ratio of total calorie intake over total energy expenditure. The average CAR was 1.23¹⁴ for 63% of the days for which we collected food intake data and an indication that amongst our sample, a high number of participants are at risk of being overweight or having other diet related non-communicable diseases such as hypertension, diabetes, and hypercholesterolemia. Average BMI among participants we collected nutritional data on was 23.14 for men and 24.2 for women meaning that 50%¹⁵ of respondents (of which 33% are women) are classified as overweight.

Probability density distribution of the calorie adequacy ratio (CAR)

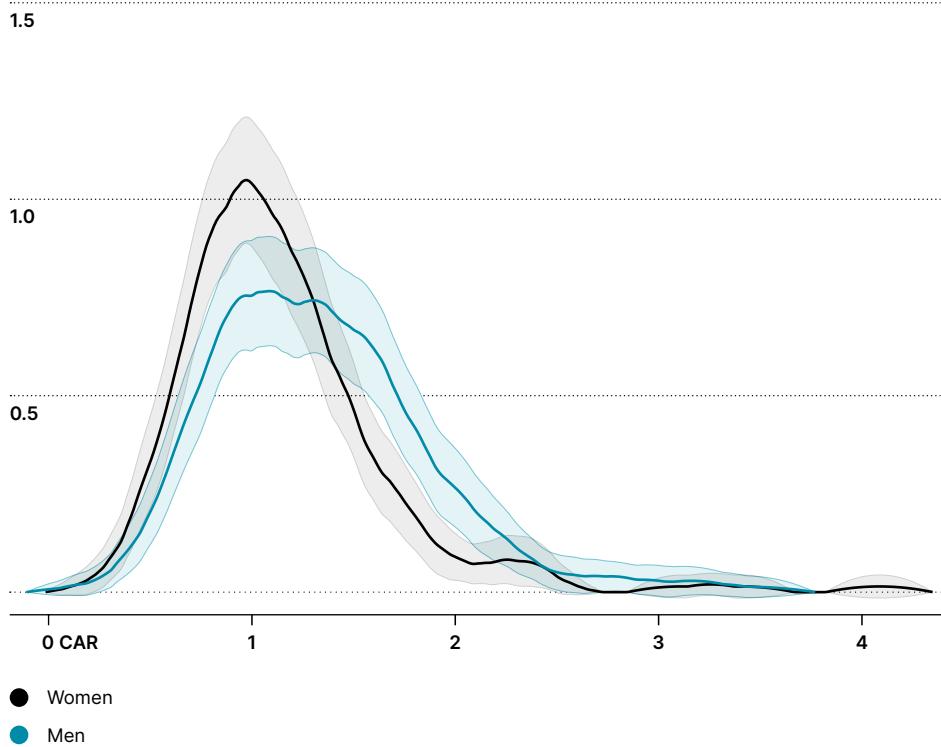


Figure 3: (CAR) – CAR > (<)1 indicates energy intake being greater (less) than energy expenditure.

This picture of illness compounded by food insecurity also points to the issue of inadequate use/utilisation due to health issues (i.e., illness reducing nutritional status) among study participants. In fact, many participants report how suffering from diet-related conditions including nutrient deficiency and high blood pressure means they are unable to eat the range and quantity of foods they want to and have to pay for treatment for their illnesses through OOPE, further compounding food insecurity. A number of participants also report how the weather, namely increased heat leaves them feeling 'exhausted', 'dizzy', 'thirsty' and 'lose appetite', making it harder to consume food and gain benefit including 'enjoyment' from it:

'It was not hot in the last 4 – 5 years like it is in the present. It is hard, I cannot do my work. It affects my health. I feel dizzy and I cannot enjoy my food.' (Kong, Village C)

As participants explain, having insufficient food is leading to an increase in illnesses such as fatigue, weight loss, insomnia and propensity to illnesses such as cold and flu as well as chronic illness:

'It was not hot in the last 4 – 5 years like it is in the present. It is hard, I cannot do my work. It affects my health. I feel dizzy and I cannot enjoy my food.'

Kong, Village C

'We don't have enough energy because we eat little food ... For the stomach is fine, but my blood pressure is getting worse due to this lack of energy. I've had this health problem for a long time but it is more serious since I don't have enough food to eat during COVID-19.' (Chan, Village C)

For others like Da, diet-related illness such as high blood pressure, reduces the sorts of foods she can eat. This, she feels, confines her to food-related ill-health:

'I was told to keep on a diet because I had high blood pressure and excess acid so I am prohibited to eat meat such as pork, beef, chicken, and duck. It makes me tired and exhausted until I eat some meat again then I can have more energy, but if I don't eat meat how can I gain energy? I cannot eat any delicious food because my health is poor and one more thing – I don't have enough money to afford different meals.' (Da, Village B)

In addition to health issues affecting food use and utilisation, many participants also reported problems accessing clean or safe foods, especially because those bought in markets were 'dirty' and 'exposed to chemicals'. Nevertheless, participants mentioned 'having no choice' but to buy such foods or even consume grown or foraged food that they considered unsafe. Vibol, for example, explains how his children ate the 'Thai snails' that ravaged rice farms despite knowing they were bad for their health:

'Yes, these are snails that we collected. My child boiled them for eating. Some people that know about this kind of snail don't eat them. I've been told it affects your health. We just go with the flow, eat what we have. We can't say we have enough food like other people.' (Vibol, Village A)

Another factor affecting the use/utilisation of food was the inability people had to store food. As described in the counter-part Cambodia focused research report (Guermond et al., 2022), rice needs to be dried soon after reaping or else becomes spoiled within a few days. As many farmers lacked storage facilities, they had no choice but to sell their rice immediately after harvest at undesirable market rates, barely able to pay back the money they had borrowed to buy fertilisers, pesticides, petrol, and rent the harvesting machines. At a household level too, participants remarked how they are unable to keep leftovers as they would quickly become 'rotten' with some like Sok Mean even giving any leftovers to the 'dog to eat'.

Overall, the research data paints a picture of unstable food security with many facing inadequate supplies of food and clean water. As Kong put it, food provisioning is irregular and unpredictable, 'sometimes we have enough food and sometimes we don't have enough food.' Dietary insecurity is something many articulated as having no 'choice' over. As a result, many study participants feel unable to lead active and healthy lives over the longer-term due to food insecurity.

Sacrifice, sharing and borrowing are being used to bolster food security
As a result of threatened food security, some participants make a number of dietary sacrifices in order to cope.



For 21% of households surveyed, this entails eating smaller meals, reducing the number of items or ingredients consumed in each meal, or making their own products such as fish paste instead of buying more expensive alternatives. For others, like Waan, eating less is done to prioritise provision of children, grandchildren or sick members of the household. In terms of sacrificing quality, 56% report that at least one household member is not able to eat their preferred food due to lack of resources and 41% of households have problems accessing a diverse diet. This is often expressed as a decrease in the ability to eat 'healthy', 'delicious', 'tasty', 'yummy' or 'preferred' foods, or eating foods that are 'simple' or 'nothing special', 'just filling' or 'affordable'. Some participants explained that they have to consume foods they dislike. For example, Vimean saves frogs that she forages for her own consumption, despite not liking them and Da reports eating chicken because she is 'hungry' even though she is 'afraid' to after being instructed not to by her doctor due to her high blood pressure. Boupha reports having 'no choice' but to have leftover rice and dried/marinated fish for breakfast instead of the noodles she desires. Once in a while she does spend 10,000 Riel [US\$2.4] on food when she 'just wants to enjoy a delicious meal' and compensates by using a lot of water with more expensive ingredients such as chicken to make soup go further.

Like Waan, many participants also employ a range of other strategies such as relying on family and friends to share food, especially rice, fruits and vegetables that they grow and forage. Crucially, and as the report shows in greater detail below, many report taking on debt including formal interest loans or informal ones from suppliers, family and friends to make ends meet in meeting daily food needs.

Vimean, saves frogs that she forages for her own consumption, despite not liking them.



Summary

The Cambodian government is committed to a vision of sustainable food systems for all by 2030' (CARD, 2021). However, food insecurity is particularly acute in rural areas where 25–28% of the population are experiencing food insecurity for about 2–3 months each year with some households experiencing even more prolonged periods of such insecurity (Chheng & Resosudarmo, 2021).

The study too suggests that rural, poor Cambodians remain in a situation of sustained food insecurity, in particular non-farming households. Changes to the climate, namely heavy rain and rising temperatures are further undermining food security. What remains missing in the Second National Strategy for Food Security and Nutrition (2nd NSFSN) 2019-2023 and related development and agriculture policies is acknowledgment that as a result of deficient food and nutrition landscapes, many are relying on debt to maintain their nutritional needs. It is this food-related debt which is in turn fuelling the health poverty trap even further.

'Honestly, this amount of food is not enough for us, if we had money, we could afford more than this, but for now we have no choice and we have to accept this little food. I always feel dizzy now because we don't have enough food to eat.'

Chan, Village C



Sacrifices made to repay debt
As a result of sacrificing food, health
and basic living standards to meet
debt obligations, many rural poor
Cambodians remain unable to secure
good health in the immediate term.



Sacrifices made to repay debt

Microfinance has been put forward as a potential new initiative that could tackle upstream social determinants of health (McHugh et al., 2017: 209). However, more often, as in the Cambodian context, the high burden of debts taken to cover everyday living expenses means people are over-indebted, whereby payment of the costs of both informal and formal loans inflicts an unduly high and ongoing set of sacrifices on people (Schicks, 2013). The over-indebted are often in more precarious positions which comes into especially sharp relief in the face of shocks.

This part of the report evidences the increased vulnerability of our participants as a result of their over-indebtedness. It shows how many people are servicing high levels of debt just to manage life in the 'here and now' and the undue high and ongoing set of sacrifices they make to do so. As a result of sacrificing food, health and basic living standards to meet debt obligations, many rural poor Cambodians remain unable to secure good health in the immediate term. In the face of one-off illnesses or economic shocks such as the COVID-19 pandemic, participants were subject to a cascading effect of ill-health, having to resort to taking on even more debt to cope in the absence of other available and more resilient coping strategies. Precarious debt (Green & Estes, 2019) is therefore fuelling the health poverty trap even further.

Amar's story

'I always think that I am the pillar of the family, so I have to work harder for my children. Two weeks ago, at work, a tree branch fell down from the roof onto my feet. My feet are cut and I am unable to go anywhere. I am so worried because my feet hurt terribly. It has been two weeks already. I used to earn 1 million Riels [US\$240] in a month but now I do not have even 100 Riels [US\$0.02] in my pocket. We do not have enough food to eat and my grandchildren are so hungry. We are a family, I have to raise them, even though we do not have enough, we must find something for them to eat...

We feel anxious because we need money to repay a bank loan and the bank doesn't usually delay the due date for us at all. Now I have an injury, our income is dramatically lower and because of COVID-19, we don't get much money in overtime anyway. I have three children but there are only two who got married and work in Phnom Penh. They have left their children with me, so that they can go to work easily. They send us money for the milk formula for the younger ones but I pay for the oldest one to go to school...

My wife cannot earn anything, she only stays home. My oldest daughter is disabled from an accident 10 years ago. My family gets worried because I am the one who earns money to support the whole family. Sometimes, when I go to bed, there are many things appearing in my head and it is so hard to fall asleep. I always get anxious and it makes me feel pain inside my body but I do not tell my children about it because I never want them to worry about me. Only me and my wife know about all the problems. If we are not able to sleep well, she and I will discuss the problems with each other. I tell her that I cannot sleep because I am thinking about income and debts and our problems.' (Amar, Village B)

'Now I have an injury, our income is dramatically lower and because of COVID-19, we don't get much money in overtime anyway.'

Amar, Village B

Amar is a construction worker and lives in Village B with his wife, one daughter and his three grandchildren. As he describes, the double shock of a sudden work-related major injury combined with the COVID-19 pandemic, has plunged him and his family into a very vulnerable position in a matter of days. Goodwin (2003) describes five kinds of capital reserves people can draw on including: financial (economic resources), natural (ecosystem resources), produced (physical assets), human (individual capacities) and social (shared relationships and knowledge). With few of these to draw on, Amar and his family are forced to sacrifice their health, food and everyday living standards just to cope with the high burden of their multiple pre-existing loans. In this time of crisis, people like Amar are left living on the edge, just one health condition away from complete collapse and subject to a cascading effect of ill-health as a result.

People are sacrificing health, food and living standards to service debt

Even before the COVID-19 pandemic, the research data shows that the majority of participants have experienced decreases in their food and health over the last 10 years and that this been accompanied by a decrease in income, reduction in savings and increase in borrowing as a coping strategy (see Table 2). As described above, a significant number (22.3%) – nearly 1 in 4 participants – surveyed between October – November 2020, report that loans are used to feed their household; and 9.3% and 4.7% report that loans are used for health expenses and to pay other debts respectively. The most common source of loans used to service other debt is from microfinance institutions (MFIs) while more informal lenders (i.e. local money lenders, employers and wealthy individuals) tend to be used to borrow money for food and health. Although loans from various sources ensure survival for many in the short-term, it was clear that for most of our participants, as soon as they do have some money at their disposal, paying back loans is their priority, even over securing basic healthcare, food and living needs, worsening their health even further.

Areas (Ind level) (%)	Changed over 10 years	If change has decreased	If change has increased
Food	52.8	98.5	1.5
Health	60.6	98.9	1.1
Income	87.2	97.2	2.8
Saving	8.7	81.8	18.2
Borrowing	7.6	14.3	85.7

Table 2. Temporal changes in various areas of survival/life. Data collected in October–November 2020.

As Rachana from Village C puts it, people have to be careful with expenses, just to 'be alive temporarily'. To survive in the moment, some make dietary sacrifices such as selling their chickens or rice rather than eat them, despite then not having enough food for their families, all to raise money to repay debt(s). For non-farming households, making dietary sacrifices to cope with debt is even more pronounced.

As well as sacrificing food, some participants sacrifice seeking health treatment to repay their debts. Da and her husband are unable to earn enough income from farming and selling foraged vegetables to get by. This makes it 'hard to pay the debt'. As well as having to go 'hungry' on regular occasions, Da delays seeking treatment for her pain and high blood pressure to avoid taking on even more debt to go to the hospital. This makes her illness worse:

'When I have a little money, I don't spend it on our food, I only keep it for when the [loan repayment] date is coming and I have to repay the debt. Yes, it is bad! Whenever we are sick there is always a problem! Sometimes I must be patient and stay still with the pain at home until we find money to go to the hospital. I must be patient until I think I cannot be patient anymore – then I go to borrow more money from others. If we were not poor and we had more money I would not let my illness become so serious. Maybe it would have been treatable a long time ago if I had the money to pay the treatment fee.' (Da, Village B)

As well as foregoing treatment, because of debt, many participants report sacrificing basic amenities such as electricity, solar power, gas or fresh water supplies in their homes making life 'difficult', 'hard', 'scary' and 'sad'. Others avoid purchasing items (from motorbikes and farming machinery to fans and washing machines) that would enhance their health and wellbeing, particularly in response to the effects of climate change. Many describe how they lacked enough money due to the burden of debt repayments to make basic improvements to their homes, ranging from fixing roofs to building shade, making their living conditions especially difficult in the face of bad weather such as heavy rain, wind, and hot temperatures:

'If there is any money left from repaying for the debt, I spend it on food not the house. When there is no rain, my house is very hot. It is difficult to live. When it rains, it is leaking. Because of the rain, we are afraid of the house falling down because the poles of the house are rotten. I worry a lot about the wind. My house is not strong. When there is wind, it shakes. My mother is looking sad here because we could not make much money to pay for the house and we are always sick.' (Saachi, Village B)

With few resilience measures to draw on people are forced to take on more debt

It has been well-documented that the COVID-19 pandemic caused a steep decline in Cambodia's significant engines of growth—tourism, manufacturing exports, and construction—which combined account for more than 70% of the country's growth and almost 40% of paid employment (USAID, 2021). The economy registered negative growth of – 3.1% in 2020, the sharpest decline in Cambodia's recent history and the World Bank (2021) estimates that among the formerly poor, 4.5 million people are still living on the margins at risk of falling into poverty in the event of such shock or crisis.

As described above, it is clear that for many, the pandemic has worsened their situation with the majority reporting further decreases in food, health, income and savings and even higher increases in borrowing as a coping strategy following the pandemic. The main coping strategies put in place by individuals include: reducing household expenditures (74.2%), applying for government schemes, such as IDPoor (29.6%) and increasing support from remittances (15.5%). Approximately 6% are borrowing or using their savings to get by (see Table 3). With few options available to secure favourable outcomes (Hall & Lamont M., 2013) some, like Saachi, are considering taking on more debt to finance their everyday living expenses such as health costs and food which they are struggling to maintain as a result of the pandemic:

'We are thinking about going to borrow someone's money ... The important things are food consumption and our health. If I don't have work like this, where can I get money to support my family?' (Saachi, Village B)

Others have already taken on more debt, usually to service their existing debt they are struggling to repay because of the pandemic. As Vibol says, they just 'don't know what else to do.'

Since the outbreak of the pandemic, which coping strategies did you put in place?	%
Reduction of household expenditures	74.2
Borrowing	5.6
Selling assets	2.9
Wage advance	0.1
Child labour	1.3
Spouse labour	8.8
Elder labour	0.6
Diversification of income	4.4
Savings	5.9
Send someone (abroad or elsewhere in the country) to send remittances	4.1
Remittance (support from outside family members)	15.5
Help from relatives	1.0
Government scheme	29.6
Eating less food	1.9
Other (please specify)	0.4

Table 3. Coping strategy put in place with COVID. Data at individual level collected in October – November 2020

Summary

Rather than help alleviate the structural determinants of health and food insecurity, in the Cambodian context, the use of debt for non-productive purposes (Liv, 2013), is only heightening the vulnerabilities of the rural poor (Bylander, 2015). As has been argued elsewhere, this report suggests that those in debt are over-indebted, having to increasingly rely on a networks of social dependency to meet obligations (Green & Estes, 2019). Precarity, whereby a person's life is always constituted by relations of dependency (Butler, 2004, 2009; Green & Estes, 2019) puts people at greater risk of experiencing shocks (e.g. a loss of income or ill-health) and suffering a cascade of ill-effects when they do (McKee et al., 2017). Their precarity comes into sharp relief in these moments as people see their 'social resilience' depleting fast, i.e. the capacity to secure favourable outcomes under new circumstances and, if need be, by new means (Hall & Lamont M., 2013).

This study in Cambodia confirms how over-indebtedness through servicing so much debt just to manage life 'in the moment', is inflicting an unduly high and ongoing set of sacrifices on rural, poor Cambodians. Specifically, research participants regularly sacrifice food quantity and quality, health and basic living standards to meet debt obligations, both informal and formal, and thus remain unable to secure good health in the immediate term. In the face of shocks whether they be one-off illnesses, or a pandemic such as COVID-19, rural villagers are suffering a cascading set of problems, having to resort to debt taking in the absence of other available coping strategies. Precarious debt (Green & Estes, 2019) is therefore contributing to the health poverty trap even further.

'Nowadays our country is developing but I am still poor so I think a lot about that. I don't know what else I can do.'

Vibol, Village A



Embodied suffering

Men, women, and their children struggle to escape the burdens of servicing debt repayments. Working often to exhaustion, living with stress and anxiety and being excluded from aspects of social life, participants are suffering worsening physical, psychological and social pain.

Embodied suffering

In conditions of over-indebtedness, debtors do not live with the prospect of a future – imagined or real – which is guaranteed to be debt-free (Adkins, 2017). Being trapped in this sort of speculative uncertainty, is associated with a range of negative indicators of health and wellbeing (Lenton & Mosley, 2008; Richardson, Elliott, & Roberts, 2013; Turunen & Hiilamo, 2014). Over time, poverty conditions and associated financial stress directly depress physical and mental status as well as productivity in a negative feedback loop. In addition to causing people to suffer in the short-term, in the long-term, this leads to the embodiment of inequality meaning negative social experiences are incorporated biologically and expressed in population patterns of ill-health, compounding marginalisation (Krieger, 1999). Once inequalities are embodied, they are even harder to address.

This part of the report evidences how men, women, and their children struggle to escape the burdens of servicing debt repayments. Working often to exhaustion, living with stress and anxiety and being excluded from aspects of social life, participants are suffering worsening physical, psychological and social pain. While some of the adverse results of debt are acute and quite literally made visible in the research through participants' words and images, others remain hidden and will likely only manifest in a matter of time unless urgent action is taken.



'I took this picture to show I felt miserable. I am always thinking about tomorrow and what I should do about the debt.'

Waan, Village B

Champey's story

'In the past, I borrowed a lot of money. I did anything I could to get money to pay it back. It did not matter how hard the jobs were as long as I could earn money. I was so tired but I tried to work and never rested. I stayed in the brick factory, sometimes I got so sick that I could not get up. One time, I had to call a doctor to come over, then I went back to work¹⁶. I was so thin and only weighed 45kg. I thought about running back home but since we had so many debts, I could not do anything...

It's getting better since I started working with a kind boss. I can tell [him] whenever I need money. I am just worried because I'm a debtor so when we work in a brick factory, even if it's our time off, our boss can ask us to help him with other work like collecting the bricks to fill in the truck. As we are a debtor, we can't say no...

My husband is working even harder everyday and rarely stays home. He not only works in the brick factory but also in other sectors, he just follows the boss' orders. I also ask my children to borrow some money from their bosses if we do not have money to repay our debts. If we do not pay them on time, they will come to our house and we will be penalised...

It is so difficult to repay the bank loans but we do not tell anyone, we keep it to ourselves. We think about it a lot, me and my husband. We cannot be as happy as we want. We do not go when people invite us out for drinking. We are afraid of getting sick and afraid of having no money if we do. My husband listens to me and does not go out or drink with friends, he only does that at home. We are so stressed and do not know what to do, it is so hard.' (Champey, Village B)

Champey and her husband live in Village B and work in brick factories. They also run a small home-based shop to supplement their income. The couple has a long history of taking out multiple debts from various sources, mainly to finance numerous bouts of illness in their family, as well as support their everyday lives and livelihood activities. As with many of the research participants, being in the inescapable service of so much debt is taking its physical, psychological, and social toll on Champey and her husband. Suffering for debt is causing inequality to be embodied over the long-term as social experiences manifest as bodily illnesses making the rural poor unable to escape the health poverty trap.

'I was so tired but I tried to work and never rested. I stayed in the brick factory, sometimes I got so sick that I could not get up.'

Champey, Village B

Living in an inescapable cycle of servicing debt repayments

The study evidences in the three case study villages how rural, poor Cambodians are trapped in an endless cycle of having to work, not just to live, but to repay debt. The data suggests that men spend most of their time (21%) and expend most of their energy (43%) engaged in employment activities especially growing/collecting crops, raising animals, construction, business and making, processing and selling goods. While women spend less overall time (11%) and energy (20%) on paid work, they are more involved than men in the production of goods for household use and crucially domestic/care work which also represents a considerable amount of their time (21%) and total energy expenditure (35%), namely preparing and serving food, cleaning and maintaining households and engaging in child care (children and grandchildren). Women are conducting a double shift of work: productive and reproductive. For men and women however, the burden of works feels inescapable:

'When I know that I have borrowed money from the banks, I must commit myself to earning money for paying it back. I save every single penny I have just for the debt.' (Srey Pich, Village B)

Nevertheless, many participants pointed out how the obligation to work is made more difficult due to the ill-health they experience, either from sickness or injury or because of poor diets which decreases their productive potential. In turn, ill-health is being directly exacerbated by the burden of working giving people no way out of the debt-ill-health spiral (Lenton & Mosley, 2008):

'We have had financial problems for two years already. I always think too much, so that I have a loss of appetite. My husband also suffers from sleep deprivation because he overthinks. Sometimes, when you have a sleep deprivation, it will cause physical problems such as fatigue but I have no choice. I have to strive to earn money to repay the loan.' (Boupha, Village B)

This obligation to work for debt extends to other members of the household, namely parents and children who are also responsible for servicing repayments, the burden of which is also taking its toll:

'It is difficult for my daughter; she does not have enough time to rest as she needs to work overtime at the factory until 10 pm. It is challenging for her too.' (Kunthea, Village A)

With such collective responsibility to pay debt, several participants take up additional – often physically demanding and dangerous – jobs or even work against doctors' recommendations to be able to keep up with payments:

'If I was sick, I told my mind not to be sick. If I was sick, there was nothing for the whole family. If I had a headache, I still went to find the vegetable. Even though

43%

of male participants energy expenditure is devoted solely to employment activities

35%

of female participants energy expenditure is devoted to domestic/care work

the doctor asked me to stop, I still went to find it for my life and my children and grandchildren' (Waan, Village 2)

As the Coordinator for the Center for Alliance of Labor and Human Rights (CENTRAL), highlights:

'This is the experience that we are having when we meet with workers at the grassroots level, in different places, in different sectors, when we are talking about what is the problem that you are facing nowadays? Just talking outside of work. And this is about indebtedness. I think that is clear that workers really pressure themselves to work harder, trying to find jobs and some have to undertake overtime jobs to get extra money. Vulnerability in terms of they don't have so much time to relax. They don't have so much time with their families. They have to get up early in the morning, travel, and do extra work for 12 hours, but then when they come back, they don't have enough sleep. They don't have anything to eat. They don't have spare time with their families. So, those are really indicative of how it creates anxiety and depression. It's not just about work, but, at the end of the day, what their mental focus is about.'¹⁷ (Coordinator, Center for Alliance of Labor and Human Rights (CENTRAL), Cambodia)

Overall, like Champey, both men and women in the study felt they had little choice in engaging in paid work even if it is '*hard*', '*tiring*', '*exhausting*', or '*dangerous*' and posed a risk to their own health in order to meet living costs including debt obligations, as Montha explains:

'I usually work for 6 and a half days per week. If we don't work everyday, we will face a shortage in the family. It is difficult because I need to work even if I don't feel like it or it is my day off at the time because we need to pay for the debt. Working as a construction worker is tiring because we use so much energy. We also face the risk of getting an accident.' (Montha, Village B)

This extends to unpaid domestic work, namely caring for grandchildren so that children could migrate for work, which older participants described as '*exhausting*', '*tiring*', '*difficult*' and '*a struggle*', such as Vimean:

'Sometimes I owe money for food and my children send me money and I pay the loans back. It difficult to look after my grandchild but I must be very patient and do what I can do as long as my daughter can earn money for us.' (Vimean, Village A)

Physical, psychological, and social pain is worse as a result of servicing debt

Many rural, poor Cambodians in the case study are experiencing a range of physical, psychological, and social forms of suffering in this context of prevalent over-indebtedness. This undermines the coherence of their lived experiences in the short-term (Seligman, 2010) and contributes to chronic ill-health in the long-term (Krieger, 1999). The burden of working for debt exposes both men and women to hazards and risks that impact their physical health ranging from exhaustion and pain to work-related accidents and chronic illnesses, as Champey's story exemplifies. Equally, for those engaged in non-paid work, domestic and care work is also geared towards paying debt, and is taking its toll on people's physical health:

'I always do housework and take care of my grandchildren. I feel tired. I never relax in the afternoon. Their parents have to work or have their own business to pay the debt, so I should look after the grandchildren' (Boupha, Village B)

The exposure to toxic chemicals from fertilizers and pesticides was also often mentioned by participants engaged in farming activities. The use of highly toxic pesticides is one of the most significant hazards among agricultural workers in low-income countries and a wide range of acute health effects have been reported (Jensen, Konradsen, Jørs, Petersen, & Dalsgaard, 2011). The participants in the villages report transformations to their bodies under such 'chemical regimes' (Murphy, 2008) which sees the more intensive use of chemicals to improve yields. The consequences range from skin problems and vomiting to chronic headaches and respiratory conditions. Prak's experience is typical of many farmers:

'I was spraying pesticides for worms, root cultivation, and snails. It did affect my health because the chemical substances are poisonous if we don't protect ourselves properly. I just wore a mask and raincoat. However, according to the rule, you needed to wear a rubber raincoat but it was too hot for me, it made it too hard to breathe. After spraying the pesticide, I came home to shower with shampoo but it was itchy and mostly it made my legs feel like they were burning.' (Prak, Village A)

As well as physical suffering from the burdens of work to repay debt, the vast majority of study participants experience direct emotional and psychological suffering related to over-indebtedness. Most are suffering from serious stress and anxiety around payments describing debt as 'always being in their heads' as Seda from Village C puts it. This manifests in a range of issues such as headaches and weight loss. The vast majority also report sleep problems and insomnia with both men and women surveyed experiencing 30 – 40 minutes of insomnia and sleeplessness a night, often related to financial worry. For some, the psychological stress of debt can exacerbate serious chronic conditions:

'It is difficult. I used to earn more money. Now I do not have enough money for food and not enough money to pay for the debt. I think a lot about it. I must take the medicine regularly for heart disease. I always have a headache because I am thinking a lot now. When I think a lot, it starts to give me a headache and feel dizzy. My heart runs faster and quicker. I must take heart medicine and then it goes down to normal.' (Saachi, Village B)

For the majority of participants in debt, over-indebtedness leads to negative effects on their lived experience and sense of self. The burden of work means they miss out on time with their families or participating in social or group activities. In fact, the data shows men and women both spend very little time and energy on non-work activities such as self-care (men: 4% time, 4% energy; women: 5% time, 5% energy); socialising (men: 7% time, 8% energy; women: 7% time, 9% energy); cultural leisure activities (men and women: 0% time, 0% energy) and sports (men and women: 0% time, 0% energy) with women in particular spending half the amount of time compared to men engaging in community participation (men: 2% time, 2% energy; women: 1% time, 2% energy). Conversely, a common theme among men is their inability to spend as much time as they would like to eating together with their families.

Participants time and energy spent on non-work activities

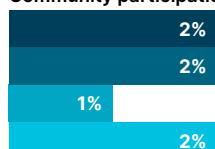
Self-care



Socialising



Community participation



- Male time expenditure
- Male energy expenditure
- Female time expenditure
- Female energy expenditure



As Prak explains, the ability to eat together, especially in the evenings is rare:

'I wanted to show you that I just came back from work and had dinner with my wife. I felt embarrassed – look at the picture of what I was eating. I just wanted to show my family situation and that we didn't argue like some people do. It is a bit hard to explain to you. My wife has never left me to eat by myself like some others, she is always waiting for me even though she is hungry, she waits until I arrive and we eat together. For me, I felt so excited to know my wife was there waiting for me to eat together and she does no matter how late I came home.' (Prak, Village A)

Overall, like Champey, many participants experience serious social suffering as a result of the burdens of debt repayments. This is evidenced in their exclusion from many aspects of social life. As a result, many experience lingering feelings of unhappiness, 'sadness', 'loss of control', 'shame', 'embarrassment', 'helplessness' and even 'emptiness'.

**'It was dinner time.
I had it with my
family and I took
this photo because
it does not happen
very often'**

Devi, Village C



Summary

In Cambodia, evidence regarding the ill-effects of debt remains scant but a picture is emerging of its association with increased labour at work (including sending children to work) and depleted physical and mental wellbeing, especially among the poor (Comins, Bajracharya, Bellows, & Saha, 2015). In the 'social causation pathway', poverty conditions and associated financial stress directly depress physical and mental status as well as productivity in a negative feedback loop. In addition to causing people to suffer in the short-term, over time, this leads to the embodiment of inequality whereby social experiences are incorporated biologically and expressed in population patterns of ill-health and wellbeing (Krieger, 1999).

This study confirms this picture as men, women and their children struggle to escape the burdens of debt repayments. Many have no choice but to work to exhaustion, which is further fuelling their health/food insecurity and precarity. As a result, participants are suffering worsening physical, psychological and social pain. While some of the ill-effects of debt are acute and quite literally made visible in the research through participant's words and images, others are likely to take time to manifest (Comins et al., 2015). It is crucial that debt is taken seriously in public health policy so that the health poverty trap can be tackled.

'If I did not have debt, it would change my life for the better.'

Kunthea, Village A



Conclusion

The study evidences that Cambodia's debt crisis is a public health crisis. Poor, rural individuals and households are being trapped in an inescapable cycle of health poverty characterised by health and food insecurity that is being fuelled by debt and together exacerbated by the reported effects of climate and environmental change on villagers' health.

Key recommendations

1

Tackle debt to achieve 'Health for All'

Cambodia's debt crisis is a public health crisis. It needs to be explicitly acknowledged – and addressed – as so. This is crucial given that debt plays a significant role in fuelling different facets of the health poverty trap. Yet debt is currently unrecognised in policy strategy (e.g., the Social Protection Policy Framework 2016-2025; Second National Strategy for Food Security and Nutrition 2019-23; and Cambodia Climate Change Strategic Plan 2014-23). Debt forgiveness and supporting community-based institutions (Guermond et al., 2022) should be considered as a direct intervention for achieving 'Health for All'.

2

Initiate structural reforms to reduce the need for debt

Urgent structural reforms are needed across multiple policy areas that directly improve financial, health, food and climate insecurity and mitigate the need for rural, poor individuals and households to sustain their health through debt, enabling them to escape the health poverty trap.

3

Adopt a 'health in all policies' approach

A 'Health in All Policies (HiAP)' approach should be adopted that systematically takes into account the health and health systems implications of different decisions and avoids harm in the design of inter – and multi-sectoral approaches to tackle the social determinants of health across multiple policy areas in tandem. Tackling climate-driven health and food insecurity in tandem with poverty-alleviation strategies is a key example of this approach.

4

Consolidate support

International donors and humanitarian agencies should champion and fund 'Health in All Policies (HiAP)' as a route to achieving 'Health for All' through inter – and multi-sectoral approaches to ensure accessible and sustainable public provision of care for the rural poor in Cambodia.

Acknowledgements

'Depleted by Debt? Focusing a Gendered Lens on Climate Resilience, Credit, and Nutrition in Translocal Cambodia and South India' (2019 – 2022) was funded by the UK Research and Innovation's Global Challenges Research Fund [ES/T003191/1]. We are sincerely thankful to research participants for the sharing of their time, energy, and life experiences with the research team. Thank you to Dr Sopheak Chann from the Royal University of Phnom Penh (RUPP) for his environmental profiling research, and Mr Monin Nong from the Cambodia Development Resource Institute (CDRI) for the village-level stakeholder research undertaken.

About the authors

Katherine Brickell

Katherine is Professor of Human Geography at Royal Holloway, University of London. From January 2023 she will be Professor in the Department of Geography at King's College London. For two decades her research in Cambodia has focused on gendered experiences of precarious home and working lives, including domestic violence, forced eviction, debt bondage in the brickmaking industry, and most recently the impact of the COVID-19 pandemic on women garment workers (www.refashionstudy.org). Katherine is Principal Investigator of the research study this report is based on. She is also the author of *Home SOS: Gender, Violence and Survival in Crisis Ordinary Cambodia* (Wiley 2020) and co-editor of *The Handbook of Contemporary Cambodia* (Routledge 2017). Follow on Twitter: @k_brickell

Vincent Guermond

Vincent is a Leverhulme Early Career Research Fellow at Royal Holloway, University of London. His research and teaching interests are in the areas of the geographies of debt, finance and market making, migration and development, climate adaptation, and social reproduction. He has published in leading academic journals in geography, development studies, and international political economy, including *Progress in Human Geography*, *Geoforum*, *Environment and Planning A*, *Review in International Political Economy*, *World Development*, and *Development and Change*. His new book *Remittances and Financial Inclusion: Contested Geographies of Marketisation in Senegal and Ghana* is forthcoming with Routledge. Follow on Twitter: @vincent_guermond

Dalia Iskander

Dalia is Head of Medical Anthropology and a Lecturer (Teaching) in Medical Anthropology at University College London. Her research focuses on malaria and infectious diseases in Southeast Asia and the UK, especially the effects of power, politics, inequality, and environmental-change on human-animal-plant-pathogen relations. She is interested in the methodological tools for capturing these relationships and has over a decade of experience working with visual participatory research methods, namely photovoice. She is author of *The Power of Parasites: Malaria as (un)conscious strategy* (Palgrave Macmillan 2021).

Long Ly Vouch

Long is a freelance researcher in Cambodia. Since 2008, he has been working for the Royal University of Phnom Penh on issues concerning rural-urban livelihoods, and for King's College London and Royal Holloway, University of London on multiple studies concerning climate change. He is currently working with Michigan State University (MSU) as a researcher and fieldwork supervisor on the interdisciplinary Mekong Culture WELL project on the Tonle Sap Lake. His main skills are fieldwork logistics and planning. He has considerable experience of organising large-scale surveys, particularly at the household level, and of facilitating qualitative interview and photo voice research. Follow on Twitter: @long_vouch

Sébastien Michiels

Sébastien is a CNRS Postdoctoral Research Fellow at CREST (ENSAE, Institut Polytechnique de Paris), under the MOBILISE project. His research aims to explore the labour market dynamics in South India, focusing on social inequalities, gender and caste discriminations and migration practices. For more information: <https://faculty.crest.fr/smichiels>

Nithya Natarajan

Nithya is a Lecturer in International Development at King's College London. Her work focuses on South India and Cambodia, and explores agrarian change, rural-urban livelihoods, labour precarity, gender and debt. She completed an Economic and Social Research Council (ESRC)-funded PhD at SOAS, University of London, and a postdoctoral research position at Royal Holloway as part of the ESRC-FCDO funded 'Blood Bricks' research project. Follow on Twitter: @nith1989

Laurie Parsons

Laurie is Lecturer in Human Geography at Royal Holloway, University of London and Principal Investigator of the projects *The Disaster Trade: The Hidden Footprint of UK Imports and Investment Overseas and Hot Trends: How the Global Garment Industry Shapes Climate Vulnerability in Cambodia*. A researcher of Cambodian livelihoods since 2008, his work explores the experience of climate change in the global economy, exposing the hidden environmental impacts of global production and unequal landscape of exposure to climate change impacts. Follow on Twitter: @lauriefdparsons

Fiorella Picchioni

Fio is a Senior Research Fellow in Gender and Diversity in Food Systems at the Natural Resources Institute, University of Greenwich. She is an applied development economist and her work is positioned at the intersection of food systems thinking, nutrition and agrarian change. Her research interests include social reproduction, the prevalence of industrial diets and their interconnections with nutrition and wellbeing in the Global South. She has published her work on *World Development*, *Canadian Journal of Development Studies*, *Food Security*, *Clinical Nutrition*, *Sustainability*, *Nature Research*. Her work has featured in the *Routledge Handbook on Sustainable Diets* (2022). She is the co-chair of the Agriculture-Nutrition-Health working group on the Political Economy of Agri-Nutrition.

Giacomo Zanello

Giacomo is Associate Professor in Food Economics and Health at the University of Reading (UK). His main research has been concentrated on efforts to better understand how agriculture, food, nutrition, and health interact in low- and middle-income countries. He currently serves as a core member of the Independent Expert Group for the Global Nutrition Report. For more information: <http://giacomozanello.com>

References

- Adkins, L. (2017). Speculative futures in the time of debt. *The Sociological review (Keele)*, 65(3), 448-462. doi:10.1111/1467-954X.12442
- An, Y., Yi, S., Fitzpatrick, A., Gupta, V., Prak, P. R., Oum, S., & Logerfo, J. P. (2013). Appropriate body mass index and waist circumference cutoff for overweight and central obesity among adults in Cambodia. *PLOS ONE*, 8(10), e77897. doi:10.1371/journal.pone.0077897
- Asante, A. D., Ir, P., Jacobs, B., Supon, L., Liverani, M., Hayen, A., . . . Wiseman, V. (2019). Who benefits from healthcare spending in Cambodia? Evidence for a universal health coverage policy. *Health Policy and Planning*, 34(Supplement_1), i4-i13. doi:10.1093/heapol/czz011
- Bigdeli, M., & Annear, P. L. (2009). Barriers to access and the purchasing function of health equity funds: Lessons from Cambodia. *Bulletin of the World Health Organization*, 87(7), 560-564. doi:10.2471/BLT.08.053058
- Bird, K. (2013). The Intergenerational Transmission of Poverty: An Overview. In A. Shepherd & J. Brunt (Eds.), *Chronic Poverty: Concepts, Causes and Policy* (pp. 60-84). London: Palgrave Macmillan UK.
- Brickell, K., Lawreniuk, S., Chhom, T., Mony, R., So, H., & McCarthy, L. (2022). 'Worn out': debt discipline, hunger, and the gendered contingencies of the COVID-19 pandemic amongst Cambodian garment workers. *Social & Cultural Geography*, 1-20. doi:10.1080/14649365.2022.2055778
- Brickell, K., Picchioni, F., Natarajan, N., Guermond, V., Parsons, L., Zanello, G., & Bateman, M. (2020). Compounding crises of social reproduction: Microfinance, over-indebtedness and the COVID-19 pandemic. *World Development*, 136, 105087. doi:https://doi.org/10.1016/j.worlddev.2020.105087
- Brickell K., Parsons L., Natarajan, N., & Chann, S. (2018). *Blood Bricks: Untold Stories of Modern Slavery and Climate Change from Cambodia*. Retrieved from Royal Holloway, University of London.: https://www.projectbloodbricks.org/publications
- Butler, J. (2004). *Precarious Life: The Powers of Mourning and Violence*. New York: Verso.
- Butler, J. (2009). *Frames of War: When Is Life Grievable?* New York: Verso.
- Bylander, M. (2015). Credit as Coping: Rethinking Microcredit in the Cambodian Context. *Oxford Development Studies*, 43(4), 533-553. doi:10.1080/13600818.2015.1064880
- CARD. (2021). *Cambodia's Roadmap for Food Systems for Sustainable Development*. Retrieved from Council for Agriculture and Rural Development and the Technical Working Group for Food Security and Nutrition: https://summitdialogues.org/wp-content/uploads/2021/09/FS-Roadmap_Cambodia_Final-for-submission-1.pdf
- Chheng, K., & Resosudarmo, B. P. (2021). Land property rights and food insecurity in rural Cambodia. *Regional Science Policy & Practice*, 13(6), 1911-1929. doi:10.1111/rsp3.12418
- Chhinh, N., & Millington, A. (2015). Drought Monitoring for Rice Production in Cambodia. *Climate*, 3(4), 792-811. Retrieved from https://www.mdpi.com/2225-1154/3/4/792
- Comins, C., Bajracharya, A., Bellows, B., & Saha, J. (2015). *Mental Well-being among the Poor: Do health equity funds protect them from stress and financial hardship?* Retrieved from Population Council, National Institute of Public Health: https://giz-cambodia.com/wordpress/wp-content/uploads/Policy-Brief-mental-health-and-lending_En.pdf
- FAO. (2002). *The State of Food Insecurity in the World 2001*. Retrieved from Food and Agriculture Organization of the United Nations. Rome: https://www.fao.org/publications/card/en/c/62e4c9ae-f1e7-508e-8207-ff283a65d9ec/
- Fernandes Antunes, A., Jacobs, B., de Groot, R., Thin, K., Hanvoravongchai, P., & Flessa, S. (2018). Equality in financial access to healthcare in Cambodia from 2004 to 2014. *Health Policy and Planning*, 33(8), 906-919. doi:10.1093/heapol/czy073
- Gama, E. (2015). Health Insecurity and Social Protection: Pathways, Gaps, and Their Implications on Health Outcomes and Poverty. *International journal of health policy and management*, 5(3), 183-187. doi:10.15171/ijhpm.2015.203
- Goodwin, N. R. (2003). *Five Kinds of Capital: Useful Concepts for Sustainable Development* Retrieved from Glonal Development and Environment Institute Working Paper: https://core.ac.uk/download/pdf/7051857.pdf
- Green, W. N., & Estes, J. (2019). Precarious Debt: Microfinance Subjects and Intergenerational Dependency in Cambodia. *Antipode*, 51(1), 129-147. doi:https://doi.org/10.1111/anti.12413
- Guermond, V., Chann, S., Parsons, L., Ly Vouch, L., Nong, M., Brickell, K., . . . Picchioni, F. (2022). *The Climate Adaptation Trap: Microfinance and Over-Indebtedness in Rural Cambodia*. . Retrieved from Royal Holloway, University of London. :
- Hall, P. A., & Lamont M. (2013). *Social resilience in the neoliberal era*. Cambridge.
- Ir, P., Jacobs, B., Asante, A. D., Liverani, M., Jan, S., Chhim, S., & Wiseman, V. (2019). Exploring the determinants of distress health financing in Cambodia. *Health Policy Plan*, 34(Supplement_1), i26-i37. doi:10.1093/heapol/czz006
- Ir, P., Men, C., Lucas, H., Meessen, B., Decoster, K., Bloom, G., & Van Damme, W. (2010). Self-reported serious illnesses in rural Cambodia: a cross-sectional survey. *PLOS ONE*, 5(6), e10930-e10930. doi:10.1371/journal.pone.0010930
- Jacobs, B., de Groot, R., & Fernandes Antunes, A. (2016). Financial access to health care for older people in Cambodia: 10-year trends (2004-14) and determinants of catastrophic health expenses. *International Journal for Equity in Health*, 15(1), 94. doi:10.1186/s12939-016-0383-z
- Jensen, H. K., Konradsen, F., Jørs, E., Petersen, J. H., & Dalsgaard, A. (2011). Pesticide Use and Self-Reported Symptoms of Acute Pesticide Poisoning among Aquatic Farmers in Phnom Penh, Cambodia. *Journal of Toxicology*, 2011, 639814. doi:10.1155/2011/639814
- Joe, W. (2014). Distressed financing of household out-of-pocket health care payments in India: incidence and correlates. *Health Policy and Planning*, 30(6), 728-741. doi:10.1093/heapol/czu050
- Kolesar, R. J., Pheakdey, S., Jacobs, B., Chan, N., Yok, S., & Audibert, M. (2020). Expanding social health protection in Cambodia: An assessment of the current coverage potential and gaps, and social equity considerations. *International Social Security Review*, 73(1), 35-63. doi:https://doi.org/10.1111/issr.12227
- Krieger, N. (1999). Embodying inequality: a review of concepts, measures, and methods for studying health consequences of discrimination. *Int J Health Serv*, 29(2), 295-352. doi:10.2190/m11w-vvxe-kqm9-g97q
- Lenton, P., & Mosley, P. (2008). *Debt and Health* Retrieved from Sheffield Economic Research Paper Series: 2008004: https://eprints.whiterose.ac.uk/9978/1/SERP2008004.pdf
- Liv, D. (2013). *Study on the drivers of over-indebtedness of microfinance borrowers in Cambodia: An in-depth investigation of saturated areas*. Retrieved from Phnom Penh: <https://responsiblefinanceforum.org/wp-content/uploads/2014/06/Incofin_Drivers-of-OID-Cambodia.pdf>
- Ly, S. (2016). *Cambodia is now a lower-middle income economy: What does this mean?* Retrieved from World Bank Blogs. Washington, DC: https://blogs.worldbank.org/eastasiapacific/cambodia-is-now-a-lower-middle-income-economy-what-does-this-mean
- McHugh, N., Biosca, O., & Donaldson, C. (2017). From wealth to health: Evaluating microfinance as a complex intervention. *Evaluation*, 23(2), 209-225. doi:10.1177/1356389017697622

McKee, M., Reeves, A., Clair, A., & Stuckler, D. (2017). Living on the edge: precariousness and why it matters for health. *Archives of Public Health*, 75(1), 13. doi:10.1186/s13690-017-0183-y

Monthivuth, K. (2011). *Scoping Study on Food Security and Nutrition information in Cambodia*. Retrieved from Asian Alliance Against Hunger and Malnutrition (AAAHM): https://www.ipcinfo.org/fileadmin/user_upload/eufao-fsi4dm/docs/Cambodia_Food_Security_Information_Scoping_Study.pdf

Murphy, M. (2008). Chemical Regimes of Living. *Environmental History*, 13(4), 695-703. Retrieved from <http://www.jstor.org/stable/25473297>

Natarajan, N., Brickell, K., & Parsons, L. (2021). Choosing to be Unfree? Aspirations and Constraints among Debt-Bonded Brick Workers in Cambodia. In W. Monteith, O. Vicol, & P. Williams (Eds.), *Beyond the Wage: Ordinary Work in Diverse Economies* (pp. 163-184). Bristol: Bristol University Press.

Nyakato, V. N., & Pelupessy, W. (2008). *Not by money alone: The health poverty trap in rural Uganda*.

ReFashion. (2021). *How is COVID-19 impacting food security for workers in Cambodia's garment industry?*. Retrieved from <https://www.refashionstudy.org/publications>

RGC. (2017). *National Social Protection Policy Framework 2016–2025*. Retrieved from Royal Government of Cambodia. Phnom Penh:

Richardson, T., Elliott, P., & Roberts, R. (2013). The relationship between personal unsecured debt and mental and physical health: A systematic review and meta-analysis. *Clinical Psychology Review*, 33(8), 1148-1162. doi:<https://doi.org/10.1016/j.cpr.2013.08.009>

Schicks, J. (2013). The Definition and Causes of Microfinance Over-Indebtedness: A Customer Protection Point of View. *Oxford Development Studies*, 41(sup1), S95-S116. doi:10.1080/13600818.2013.778237

Seligman, R. (2010). The Unmaking and Making of Self: Embodied Suffering and Mind-Body Healing in Brazilian Candomblé. *Ethos*, 38(3), 297-320. Retrieved from <http://www.jstor.org/stable/40963251>

Sok, J., Borges, J. R., Schmidt, P., & Ajzen, I. (2021). Farmer Behaviour as Reasoned Action: A Critical Review of Research with the Theory of Planned Behaviour. *Journal of Agricultural Economics*, 72(2), 388-412. doi:<https://doi.org/10.1111/1477-9552.12408>

Turunen, E., & Hiihamo, H. (2014). Health effects of indebtedness: a systematic review. *BMC Public Health*, 14(1), 489. doi:10.1186/1471-2458-14-489

USAID. (2021). *Cambodia: Nutrition Profile*. Retrieved from The United States Agency for International Development https://www.usaid.gov/sites/default/files/documents/tagged_Cambodia-Nutrition-Profile.pdf

WHO. (2013). Health in All Policies. Seizing Opportunities, Implementing Policies. Retrieved from https://www.euro.who.int/__data/assets/pdf_file/0007/188809/Health-in-All-Policies-final.pdf

WHO. (2018). Heat and Health. Retrieved from <https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>

World Bank. (2020). \$70 Million ADB Loan to Strengthen Agricultural Value Chain, Food Safety in Cambodia.

World Bank. (2021). *Cambodia Overview*. Retrieved from World Bank. Washington, DC: <http://www.worldbank.org/en/country/cambodia/overview>.

World Bank. (2022). The World Bank In Cambodia. Retrieved from <https://www.worldbank.org/en/country/cambodia/overview>

Zanello, G., Srinivasan, C. S., & Nkegbe, P. (2017). Piloting the use of accelerometry devices to capture energy expenditure in agricultural and rural livelihoods: Protocols and findings from northern Ghana. *Development Engineering*, 2, 114-131.

Endnotes

- 1 See Guermond et al. (2022) for full detail on the relationship between credit-taking and climate change adaptation in the three study villages.
- 2 Interview with a senior representative of the Cambodia Microfinance Association (February 2022).
- 3 Out-of-pocket expenses (OOPE) refer to costs that individual pay out of their own cash reserves for healthcare. In Cambodia OOPE is by far the largest source of funding for the health system, constituting around 60% of total health expenditure. OOPE is largely made up of spending for private sector services at pharmacies and clinics and in the public sector, official user fees raise funds principally to support operational costs at government hospitals and health centres (Asante et al., 2019).
- 4 Suffering is typically used to refer to physical, psychological, or social pain caused by anything from illness and disability to institutionalized discrimination that has the potential to undermine the coherence of lived selves and create the experience of internal conflict, disjunction, or fragmentation (Seligman, 2010).
- 5 Health in All Policies (HiAP) is defined as 'an approach to public policies across sectors that systematically takes into account the health and health systems implications of decisions, seeks synergies and avoids harmful health impacts, in order to improve population health and health equity' (WHO, 2013).
- 6 'Catch-22' refers to an impossible situation where one is prevented from doing one thing until they have done another thing that they cannot do until they have done the first thing. Here, people are prevented from achieving good health until they repay debt but they cannot repay debt until they have achieved good health.
- 7 Accelerometry devices are wearable movement tracking devices that detect and record both speed and direction of movements. Algorithms are used to translate data into aggregate measures of activity intensity (light, moderate, vigorous and very vigorous activity) and energy expenditure in kcals. This study employed the research-graded tri-axial ActiGraph GT3X+ accelerometers. More information on fieldwork protocol and data management can be found in Zanello, Srinivasan, and Nkegbe (2017).
- 8 Interview with a Senior Health Specialist at the World Bank, Cambodia (February 2022).
- 9 Interview with a Senior Health Specialist at the World Bank, Cambodia (February 2022).
- 10 The Identification of Poor Households Program (IDPoor) was introduced in 2011. It comprises identification of poor households and provision of Equity Access Cards.
- 11 Data from quantitative survey conducted in the three study villages.
- 12 Interview with a Senior Health Specialist at the World Bank, Cambodia (February 2022).
- 13 Developed by the USAID's Food and Nutrition Technical Assistance (FANTA) project, HFIAS method is based on the idea that the experience of food insecurity (access) causes predictable reactions and responses that can be captured and quantified through a survey and summarized in a scale. For more information please see: https://www.fantaproject.org/sites/default/files/resources/HFIAS_ENG_v3_Aug07.pdf
- 14 A CAR greater than 1 means that the calorie intake is higher than energy expenditure.
- 15 Calculated using the BMI cut-off point of $\geq 23.0 \text{ kg/m}^2$ recommended for Cambodians aged 25 and 64 years old (An et al., 2013).
- 16 Life working in Cambodia's brick factories is both difficult and dangerous. Debt bondage is commonplace in Cambodian brick factories, and it is extremely difficult to repay debts given the physical decline that arises from working in the factories. (For more information see Brickell K., Parsons L., Natarajan, & Chann, 2018; Natarajan, Brickell, & Parsons, 2021).
- 17 Interview with a senior representative of the Cambodia Microfinance Association (February 2022).

